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THE FARMER'S ADVOCATE

AND HOME MAGAZINE

PERSEVERE SUCCEED

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

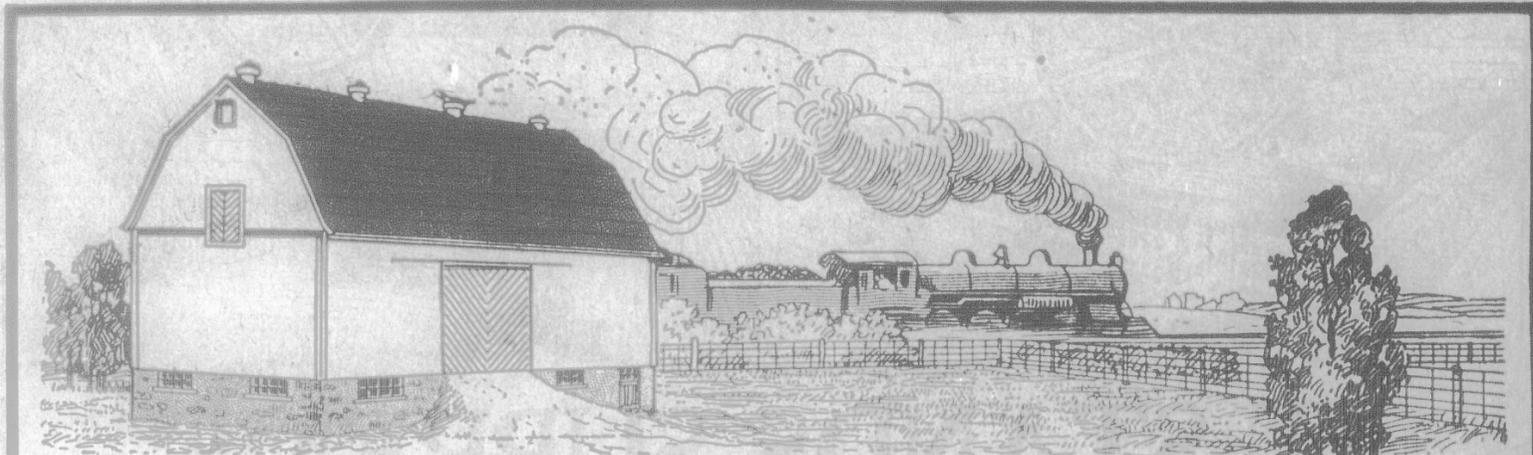
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LV.

LONDON, ONTARIO, SEPTEMBER 2, 1920.

No. 1458



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—25 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—unequaled for damp-proofing and wind-proofing purposes.

Brantford Roofing Co. Limited

Head Office and Factory: BRANTFORD, CANADA

Branches at Toronto, Montreal, Halifax



IT STANDS SUPREME

in the eyes of all progressive farmers who know and use ensilage cutters

FROM the first the Gilson Silo Filler has proved an unqualified success. It set new standards—in design, construction, operation. To-day, it is acknowledged everywhere as the premier silo-filler. It enjoys the largest sale of any blower-cutter under the British Flag. Farmers there are in every community who own a Gilson. In less than a decade this pre-eminence has been achieved. And it has not come by chance! The Gilson leads in sales because it leads in service and satisfaction.

Four H.P. Elevates 28 Feet

I have had no experience with other Silo Fillers, but I am sure it would be hard to beat the Gilson. My gasoline engine is only 2½ h.p. and as it wasn't convenient for me to get a larger one, I got my brother's 1½ h.p., put wooden pulleys on our engines to bring the speed up to what was required, run a belt from the small engine to the larger one, and from it to our 10" Gilson Silo Filler, and say, it just worked splendid, no trouble in blowing it to the top of my 28 ft. Hylo Sylo.

Yours truly,
J. E. CHAMBERS,
Carnarvon, Ont.

"No Trouble Whatever"

I like my 10" Gilson Silo Filler fine. I had no trouble whatever, everything runs fine. I filled fourteen silos this Fall. I could fill a 12 x 28 ft. in ten hours easily with a 6 h.p. engine. I did put twenty-five feet in a 12 ft. silo in eight hours with two men in the silo tramping, and filled a 10 x 24 ft. in five hours, and I run the outfit myself. Everybody was surprised to see it work so fine.

Yours truly,
Jos. E. Long,
R.R. No. 1,
Holland Centre, Ont.

THE success of the Gilson Silo Filler is but the reflection of our business policy. The Gilson factory has become established in the eyes of progressive farmers as an institution devoted to producing only farm equipment of dependable quality and unmatched value. The Gilson Silo Filler is our proudest triumph. It is backed by the strongest guarantee ever written. And the mechanical principles of the machine back up our guarantee.

The Gilson has broken all records for high elevation and rapid work. It operates with less power than any other. Your own 4 H.P. engine or larger will run it! The steel-bound cutting wheel has six fans and revolves at slow speed. Hence, the Gilson throws as well as blows—in a steady stream—and will not plug the pipes. The semi-steel frame is built for a lifetime's service—it cannot twist, warp or get out of alignment. The Gilson is permanently set-up—more compact and convenient, more readily adjusted and lasts longer than any other!

Send for our new book, "The Silo Filling Problem," just off the press. Shows why a Gilson makes possible a full silo of prime ensilage and full returns from your silo investment. Shows why it pays to "own your own Gilson." Illustrates our three sizes, 10-inch, 13-inch and 16-inch. Contains scores of illustrated testimonials—some from your own neighbors! The most up-to-date book published on the ensilage question. Send for your copy to-day—it's free.

Gilson Mfg. Co., Ltd. 239 York St., Guelph, Ont.

"Never Choked the Pipe"

For some years we had great difficulty in getting our silo filled. Therefore we determined to buy an outfit of our own, and after looking into the matter carefully we decided to buy a Gilson. It has given me the best of satisfaction. The neighbors laughed at our idea of filling a 14 x 35 ft. silo with the 10 h.p. Gilson engine and 13" Gilson Silo Filler, but we did it in a short day without a hitch. We put a load through in three minutes, and five loads in twenty minutes. This was wet corn (it having rained the night previous) without cob, and the pipe never choked once. The boys at the barn did not know they were timed. When we got through threshing we placed our Gilson engine and silo filler behind the straw stack and saved all our straw by blowing it inside.

Yours truly,
R. H. Rupp,
Kincardine, Ont.

Eight Feet an Hour in 12-foot Silo

With our 14 h.p. steam engine and 16" Gilson Silo Filler we filled a 14 x 33 ft. silo in eight hours and one 12 x 40 in eight hours. In one instance we put 8 ft. in the 12 ft. silo in one hour. And our Gilson Silo Filler runs lighter by at least one-quarter than a neighbor's which we had last year on our engine.

Yours truly,
Edwin Land,
Thamesford, Ont.

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En-ar-co Products Are All Power Getters

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Gives greater power and puts "pep" into your engine.

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For differentials—gears—transmissions, on motor cars and tractors.

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Takes the grind and squeak out of axles and ensures smoother running and longer wear.

Order En-ar-co Products from your local dealer. If he hasn't got them, write us and we'll see you are supplied promptly.

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General Offices: Toronto, Ont.

The Supreme Test

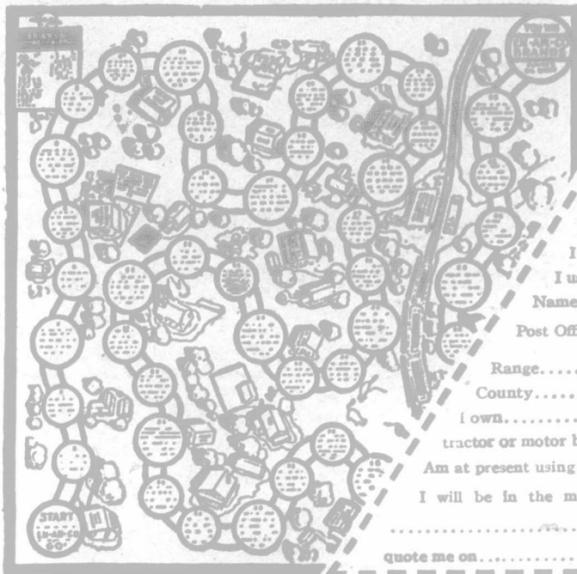
During the war En-ar-co Motor Oil fulfilled the exacting demands of powerful airplane motors, where absolute smooth-running *must* be ensured. Thousands of gallons were used in army airplanes.

To-day, thousands of farmers are finding it indispensable for their tractors, automobiles, trucks, stationary and other engines.

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Scientific processes carried on by trained workmen produce En-ar-co Motor Oil from selected crude petroleum. That is the secret of its perfection.

It coats all moving parts of the engine with a velvety film that withstands pressure and removes friction. That means greatest power and longest life for the engine.



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I use.....gals. Motor Oil per yr.
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County.....Province.....

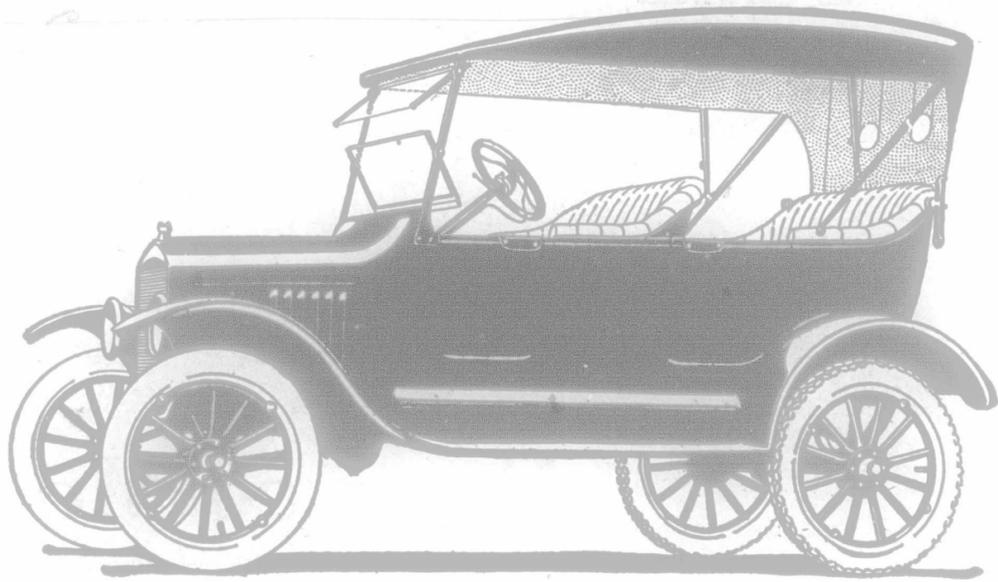
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quote me on.....gals. En-ar-co Motor Oil.



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The Ford Touring Car, Sedan, Coupe, Runabout and Truck will all be there.

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Demountable rims.

Tire carrier.

Non-skid rear tires.

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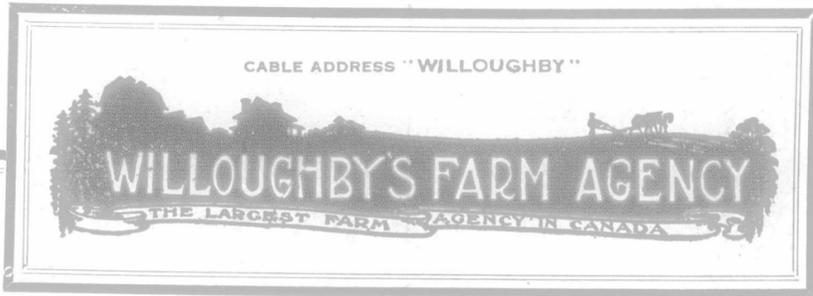
Horn button mounted on top of steering column.

Seating space re-arranged to give maximum riding comfort.

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Ford Motor Co. of Canada, Limited
Ford, Ontario



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Willoughby Farm Agency
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Ask your dealer to show you his stock of Eddy's Indurated Fibreware

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116A

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“Premier Leader” STEEL RANGES



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A contact reservoir can be supplied to attach to either left or right end. Steel Persian closet at top is an extra convenience.

An exceptionally moderately-priced range of thoroughly reliable quality.

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EMPIRE WATER SUPPLY SYSTEM

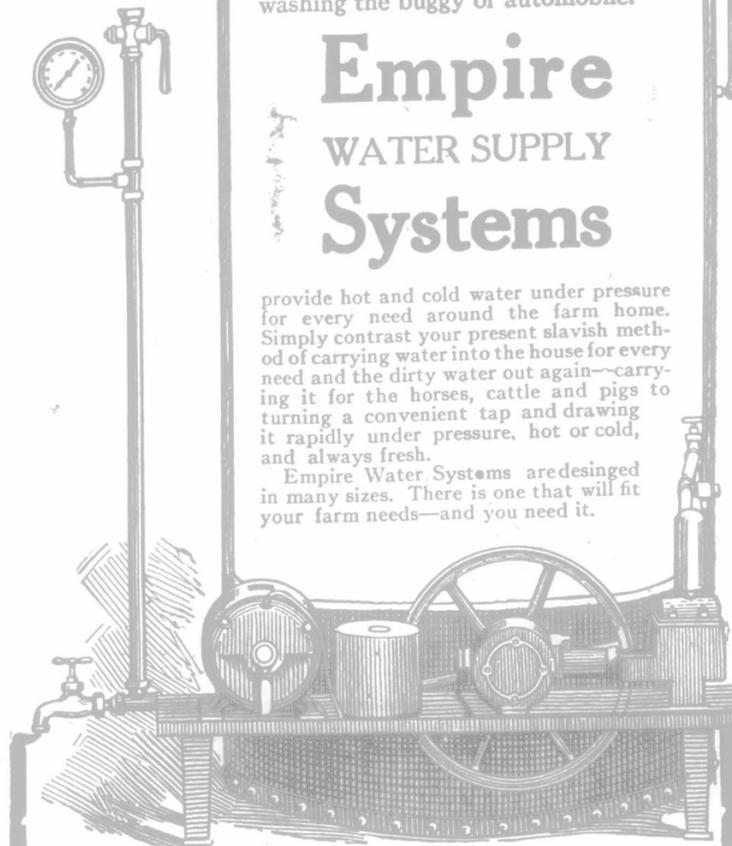
Put City Conveniences In Your Home

RUNNING hot and cold water is a necessity on the farm—in the house hot and cold water is needed every hour of the day for cooking, drinking, washing dishes, clothes or bathing the kiddies. It is required for the stock in the barns and for washing the buggy or automobile.

Empire WATER SUPPLY Systems

provide hot and cold water under pressure for every need around the farm home. Simply contrast your present slavish method of carrying water into the house for every need and the dirty water out again—carrying it for the horses, cattle and pigs to turning a convenient tap and drawing it rapidly under pressure, hot or cold, and always fresh.

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A FREE BOOKLET ON FARM WATER SUPPLY

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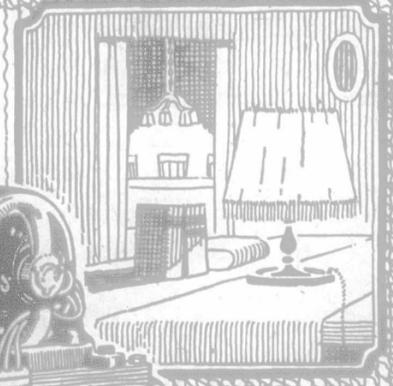
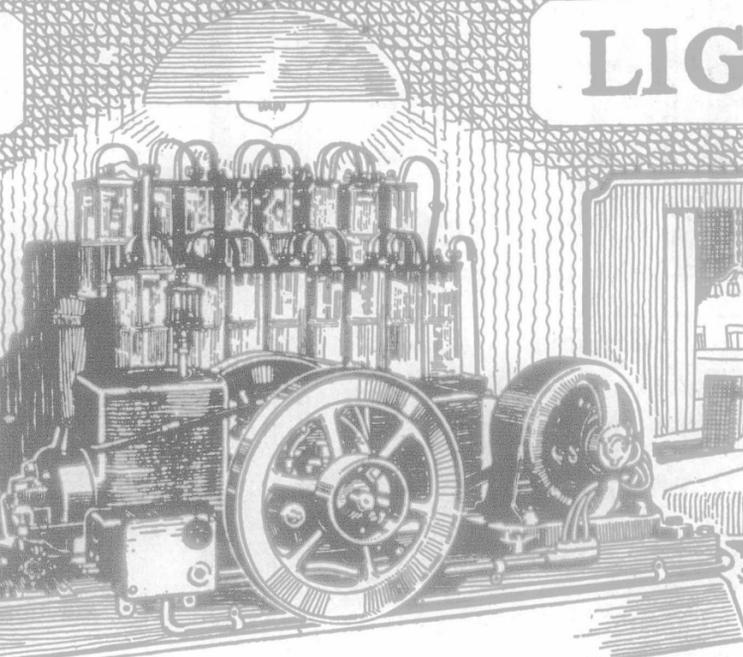
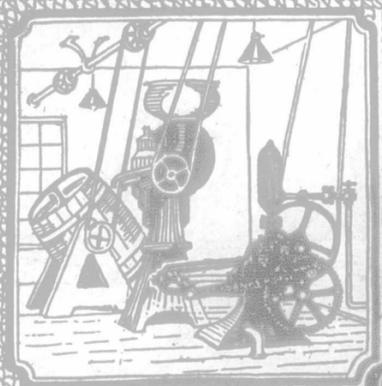
It never pays to buy an inferior article. That is particularly true of fencing. The cost of erecting a good fence is not more; it lasts longer, looks better, gives years of satisfaction. Sarnia Farmers Friend Fencing is made of highest quality, open hearth, full gauge, heavily galvanized steel wire. We positively assert that no better grade of fence wire can be bought than what we use. We have the best powerful looms for weaving fencing, modern equipment for handling, experienced men for operating—in fact, everything is done to produce quality at the greatest economy of production. You get bright, new fencing when you buy the Sarnia, fresh from the loom, shipped direct from factory to user. Thousands of satisfied farmer customers testify to the superior quality of Sarnia Fencing. No middle profits. All explained in our literature, price list and order blanks. They are yours for the asking. Address nearest office.

SARNIA FENCE COMPANY, Ltd.
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Install an "F" Power and Light plant now and enjoy the advantages it makes possible. You will immediately benefit, and find greater pleasure and satisfaction in your home and on your farm.

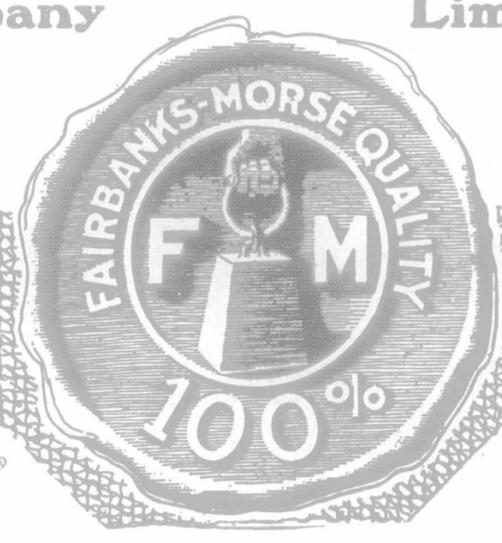
Mail the coupon to our nearest office, to-day, and the "F" Plant catalogue will reach you in a few days, giving complete information.

Made in Toronto, Canada, and guaranteed by

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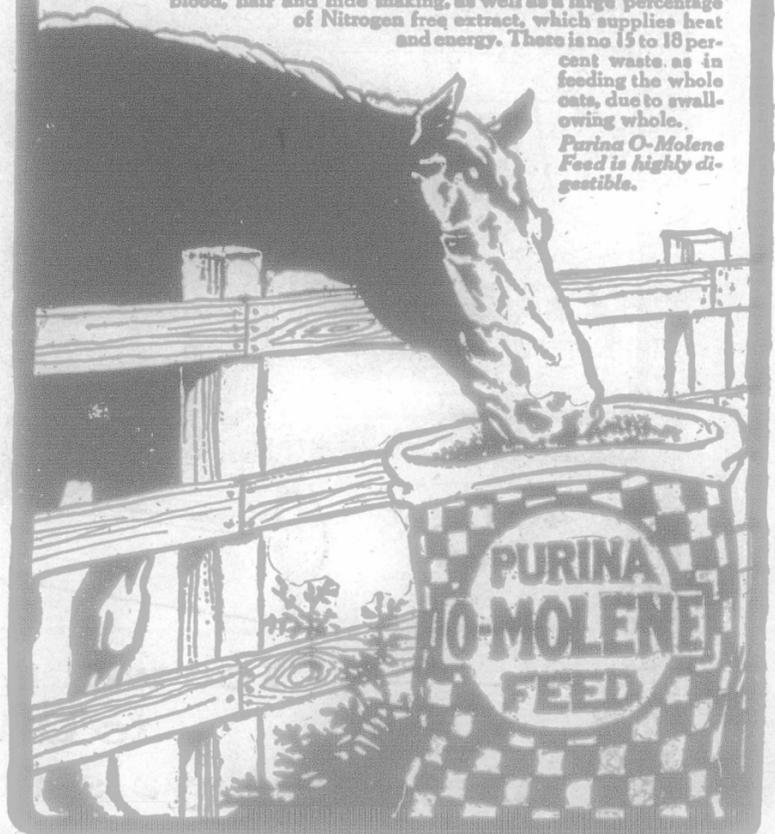
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HORSE SENSE in horse feeding.

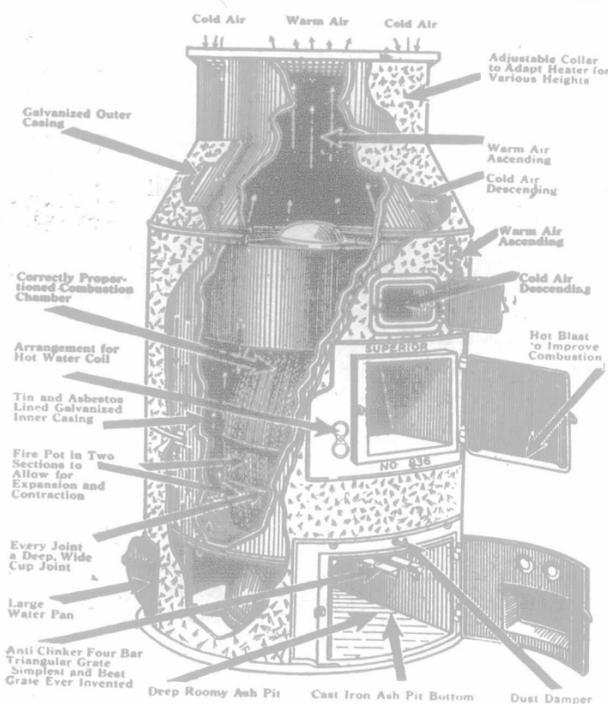
It is shrewd common sense to feed a horse a *balanced* feed, which will develop every part of its body. Analysis of *Purina O-Molene Feed* shows that it contains in proper proportion *all* the elements for muscle, blood, hair and hide making, as well as a large percentage of Nitrogen free extract, which supplies heat and energy. There is no 15 to 18 per-

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Ask your dealer or write the Chisholm Milling Co., Ltd., Toronto
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Radiated heat as transmitted by stoves and other inadequate heating arrangements. The house is warmed in limited spots around the heaters only. The upstairs rooms receive practically no heat. Waste of fuel, discomfort and even sickness result from this method of heating.

Circulated heat as transmitted by the Pilot Superior Pipeless System. The entire house is evenly heated by the natural circulation or convection of air currents. Every room, upstairs and down, is kept warm and comfortable. Cellar perfectly cool; can keep vegetables next to furnace. A great saving of fuel, together with increased comfort and convenience result, from this method of heating.

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Write For Booklet

See Our Exhibit in Stove Building at Toronto and London Fairs.

The Farmer's Advocate and Home Magazine

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SUCCEED

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1866

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LV.

LONDON, ONTARIO, SEPTEMBER 2, 1920.

1458

EDITORIAL.

Boost the local fair!

Better kill the weeds now than fight them all next summer.

The live stock judge who can please everybody is yet unborn.

The four requirements of a good judge are knowledge, sagacity, fearlessness and honesty.

Every good live stock show is a blow to the scrub bull. You don't see any of his progeny in the list of winners.

The mechanical end of farm operations is becoming very important. Do not fail to study the latest designs while at the fair.

Some show experience will not harm the boy. Start him off with something good and allow him to have all the responsibility of preparing and showing it.

This is the time of year to strenuously "carry on." We must even prepare for next year's production before the harvest of 1920 is safely garnered. Speed the plow!

When the young folk are not allowed an occasional holiday because the farm work is so pressing, they are likely to look around for another occupation which is not quite so exacting.

West Zorra Township went after the scrub hens with a vengeance. A farmer in the township said, "what next?" This question may well be extended to, "what township will be next?"

The fall season promises to be a fairly interesting one. With a big crop to harvest, plenty of fairs to attend and once in a while a real snappy political meeting thrown in, life will not be dull on the farm.

The distinguishing features of the various breeds can be jealously guarded without emphasizing fads and fancies to the extreme. It is live stock products that will pay off the national debt; fads will not even help to pay the interest.

Send the boy to one of the larger exhibitions, and commission him to bring home information regarding the live stock exhibits and farm crop displays. If the parents attach some importance to these vital things the young people will soon become interested.

One can help the community by helping the school. In days gone by about all the equipment required in the school was a beech rod or a leather strap. Education is changing, and with this change comes an increasing demand for equipment. Help the teacher to make the school efficient.

In no school can one acquire as much education in a few hours or a few days as at one of the large industrial exhibitions. The products of forest, farm, mine and factory are there on exhibition, and the intricate machinery that turns out the necessities of life may there be seen in operation. We, in our various spheres, specialize in some particular line of work, but there is a big world all around us, and it is full of people whose minds run in other grooves and whose hands are trained for other tasks. It is at the larger exhibitions where we see beyond our own line fence and get a faint conception of this world, its peoples and its industries.

Live Stock Illustrating.

A departure from the ordinary has been made on this occasion in the matter of live stock illustrating. We have attempted through the use of the camera, to give readers some idea of the quality of live stock bred and maintained at the three leading agricultural colleges in Eastern Canada. At this season of the year it is customary to reproduce the photographs of the winning animals at the larger exhibitions, and this line of illustrating will be continued, for the reason that champions usually represent the preferred types in the various breeds and may be taken as ideals or guides in breeding operations. The show animal, however, is very often highly fitted and frequently so dressed up for the occasion that the average breeder cannot compare it with individuals in his own herd with justice to the latter.

The animals chosen for illustrating in this issue were led out in their work clothes, so to speak, and are presented here in the uniform that one would expect to find them in if they visited the institutions represented. They may not be the best of their kind in the country and they may not fully conform to the high ideals of some of our best breeders in every regard, but they are here set forth that all interested in the live stock maintained at these educational institutions may gather at a glance a pretty good impression of the quality of these herds and flocks. It is difficult for an agricultural college to maintain herds and flocks of all the popular breeds and keep them up to the highest standard of excellence. Governments are not sufficiently liberal in their grants to permit of that. A successful effort is being made, we believe, to have fairly typey specimens of many breeds for class-room purposes, and in some cases constructive breeding of the first rank is being pursued.

Animal breeding is a fascinating enterprise, and farmers generally would take a greater interest in their own herds and flocks if they cultivated an acquaintance with the animals maintained at publicly-owned establishments, and made a study of their breeding and production. This would create an interest in the various breeds and increase the pleasure and profit incident to live stock farming.

Government Printing.

It is a very common criticism of government publications that they usually reach the public so long after they have ceased to be timely as to make them to a considerable extent valueless. We have had occasion to notice this particularly as regards reports and bulletins of an agricultural nature, and it is not at all unusual for the annual report of some agricultural organization to be distributed about the time members are beginning to look forward to the next annual meeting. Bulletins very frequently appear too late to be of any use until another year, and the result is a reception not altogether appreciative. Government printing in Ontario costs far in excess of \$100,000 annually; and the reports probably have an efficiency under the very tardy handling they receive of about 25 per cent. We understand that there is no guarantee on the part of the firm who has the government printing contract as to the time of delivery of any piece of work. In fact, there is a pretty general feeling among government officials with whom we have talked that government work is executed principally when no other work is pressing. If this is true, there should be some immediate jacking up of printing contracts so that the efficiency of public documents would be increased. Moreover, there is a strong possibility that the channel through which such a document must pass in order to be printed is not always marked by that harmony between officials which makes for speed and efficiency.

Just at the present time the new postal regulations imposed by the Federal Government have apparently

bewildered those in charge of the distribution of government documents by depriving provincial governments of the franking privilege. Undoubtedly there is something to be said for and against this new regulation, but we do not see the wisdom of holding all newly-printed documents from the mails and making a bad situation still worse until Ottawa and Toronto, for instance, can reach some leisurely agreement. Each one of these reports probably costs, all told, some thousands of dollars, and there is no reason why they need be held up in the basement of the Parliament Buildings for two or three months, all ready in the mail bags, for lack of mailing or other distribution. One such report has been held up in this manner that we know of, and there are others that have been held for varying lengths of time. If they cannot be mailed they can be expressed in bundles, so as to get at least a reasonable distribution and prevent further inefficiency in the distribution of government publications. It costs the people too much for compiling and printing these documents to have them rendered valueless by an unreasonably slow distribution.

The Live Stock Situation.

Never in the history of Canada has the live stock situation, from the viewpoint of market experts, been more complicated, and never has the course to pursue been more obvious. These may seem like contradictory statements, but those factors which confuse the market analyst are not of a permanent nature, while the circumstances and conditions which should direct us in mapping our live stock policy are plain beyond question. A continued measure of food control in Britain, the exchange situation, and the inability to buy on the part of some consuming countries, creates a condition that is temporarily confusing; however, beyond and overshadowing all this is the promise of a bountiful harvest in Canada and the necessity of live stock to make farming a permanently profitable pursuit. We must do our part to ensure future production, and there is no better type of crop insurance than the maintenance of live stock on the farm. Good crops are the basis of profitable farming, but the soil is not inexhaustible and requires the conditioning and upbuilding influence of herds and flocks to make it permanently productive. Markets may fluctuate, and conditions may vary at home and abroad, but the farmer who clings to live stock as the chief outlet for the products of his land is sure to be master of the situation. The problem may be an intricate one for those who essay to study it in detail, but to the farmer it is simple. There is only one course to pursue.

Our Exhibition Number.

This special number is presented to "Farmer's Advocate" readers as a prelude to the fall fair season, which is now about to begin in Eastern Canada.

The season has been, on the whole, a good one, and out of the bountiful harvest of 1920 a certain portion of the best should be set aside to exhibit at the local and at the larger fairs. These time-honored institutions are worthy of support, and farmers are helping to develop the industry by exhibiting the best from their fields and stables. The product of farm, factory, mines, forests and fisheries are given equal prominence at the large industrial exhibitions, and it is here that exhibiting calls for the best material and the most skill. We are indebted to those who keep agriculture to the front by leading into the ring the best that the live stock industry has to present, or display the great variety of products that husbandmen, by dint of thought and toil, may coax from mother earth. The township or the county fair is not so exacting, but here, too, a certain sacrifice must be made in order to compete

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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.—30 cents per line, agate, flat. Live-stock advertising rates given on application.
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London, Canada.

successfully with others in the same line, and to depict agriculture as the basic and the dominant industry in the community.

When one counts his gains in terms of money prizes only, showing is seldom a profitable enterprise. The exhibitor to be fully rewarded must derive considerable satisfaction from the knowledge that he has helped to make the fair a success and has given prominence to that particular phase of the industry in which he is most interested. It is in this spirit that showing at the fall fair should be undertaken, and not with monetary gains uppermost in mind. Everyone can help in one way or another, and the community as a whole will enjoy the local fair better when all have done their bit.

This issue is dedicated to the cause of better fairs and better farming. Let us all do our part to boost the former and thereby assist in the improvement and upbuilding of Canadian agriculture.

How the Scotch Instituted Fall Fairs.

By SANDY FRASER.

The fall o' the year is an unco' busy time on the farm, what wi' the threshing o' the grain an' the silo filling an' the plowing an' the ither three hundred and seventy-nine smaller jobs that ye find waitin' for ye ilka mornin' before ye've had time tae swallow doon yer breakfast. And in the middle o' all this rush comes the fall fair. (It was just a plain "cattle-show" in my young days.)

Wi' hired help but little better than a memory o' days gone by, and the crop o' small boys on the farm being mair or less o' a failure these years, it speaks well for oor farmers that they have kept the county fairs going as well as they have, and that they still bring out their live-stock and ither produce for the edification o' their neebors an' the general public. They find the time, some way, scarce as it is.

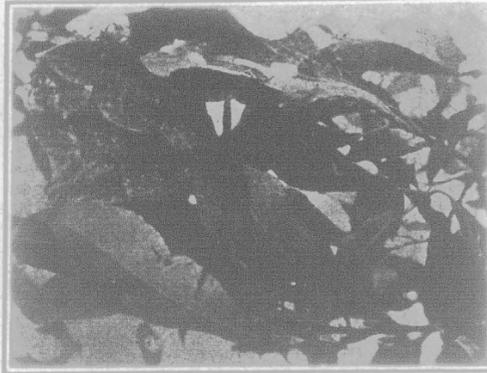
This thing we call "time" has something queer about it. Ye may think ye haven't a minute tae spare for anything but yer regular wark and then something happens that compels ye to leave it for maybe a couple o' weeks or mair. And when ye get back to it ye find that things hae been rinnin' along, while ye were away, the same as if ye had never been oot o' sight o' the barn, or taken time tae straighten yer back.

I ken a young chap that comes o' a family o' great workers and who isna likely to disgrace the name, sae far as earning his living by the "sweat of his brow" is concerned. And here, what does he do, this year, but ups an' gets married right in the middle o' the harvest time, and gaes awa' on a wedding-trip, tae boot.

And I hae na doot that when he gets back an' comes tae think it over, he'll come tae the conclusion that it was the maist profitable time he ever spent in a' his life. The work gets done, some way or ither, and ye are ahead by the value o' the extra experience, whatever it was.

And so it is wi' the fall fairs. We hae the time to take a day or twa from the work, gin we only think so. And maybe, dae oor share as exhibitors an' prize-winners as well. I'm afraid there's mair farmers comin' tae the exhibitions noo to show off their new Overlands or McLaughlins, than come wi' their Clydesdales or Shorthorns, however.

It puts me in mind o' somethin' I was readin' the ither day. One city chap was sayin' to anither: "Here's more talk in the papers about free seeds from the Government. Do you think the farmers really care for the free seeds?" "I don't know," says the other, "Most of them would rather have a free distribution of automobile parts, I guess."



The Dark Dolomedes on Her Nursery Web.

I hae been wonderin', lately, how the first cattle-show came intae existence and who was responsible for startin' it. They tell us that Adam was the first man and that he was given the job o' christening all the animals. He had to gie each o' them a name, but we hae no record o' where he pinned ony red ribbons or medals on the ones that belonged to his particular friends. Cain would likely hae made a mair up-to-date cattle judge than his auld father.

But as to who got the idea first, o' an exhibition, I hae been wondering, as I said. In the natural course o' events, thinks I, it ought to hae been a Scotchman. We ken where he has always stood in "all the arts o' peace and war." And some o' us have heard the real truth about the discovery o' the North Pole, as to the time Peary got there and found a Scotchman juist ahead o' him. Mack had climbed the Pole and was nailing to it the tartan o' the Clan McGregor, but the matter was hushed up an' a Yankee got the credit, as usual.

I hae a set o' auld books by me that used to belong to my grandfather, or John Knox, or somebody, and which are supposed to be able to supply ye with reliable information on any event that took place bein' the time o' the flood, and maybe a wee bit later than that. When



A Turn in the Road.

I get stuck on ony point I generally gae to them to see gin they can help me oot. Sae, the ither day, when I was meditating on this question o' the origin o' the fall fair I thought I wad juist look the thing up and see whether the auld books or the cattle-shows were born first. And here is what I found. I'll juist gie it to ye word for word: "As early as 1723, a 'Society of Improvers in the Knowledge of Agriculture in Scotland' was instituted. This had a short existence, but the necessity of such an association was felt and another arose in 1755. This also did not succeed well, but in 1783 a number of gentlemen met in Edinburgh and founded one destined for permanency, the well-known 'Highland Society'. Originally intended for the general improvement of the Highlands, it gradually extended the sphere of its operations over the whole of Scotland, and confined its efforts more and more to the advancement of agriculture."

Further on I read that some o' the mair important objects o' the Society were as follows:

Agricultural meetings, and general shows of stock, implements and dairy produce, held in the principal towns of Scotland. Encouraging a system of district shows for the improvement of breeds of stock most

suitable to the different parts of the country. The promotion and encouragement of a proper system of agricultural education, and to grant diplomas to students who shall pass the requisite examinations. The establishment of an agricultural Museum, illustrative of the vegetable products of the country. Monthly meetings during the winter session for the discussion of agricultural subjects. The periodical publication of reports and prize-essays on all branches of agriculture.

It wasna lang after this that organizations o' a somewhat similar nature were started in England and elsewhere, but, according tae the record, the "sons o' auld Scotia" were first again. And when we visit some o' our big provincial fairs, this fall, we might dae worse than to remind oorselves o' the debt we owe to a generation that is gone, and without whose work and thought the farmer woulna be the man o' influence he is to-day.

But I must say na mair aboot farmers, (or Scotchmen) for gin their ability is great their modesty is even greater, and we all ken that when a man falls in love wi' himsel' he's in little danger o' rivals.

But as the chap wi' the Ford car said to me the other day: "How are people going to ken ye're there gin ye dinna toot yer horn."

Nature's Diary.

By A. BROOKER KLUGH, M. A.

A large spider which is fairly common along the borders of lakes and streams, in late summer and early autumn, is the Dark Dolomedes, (*Dolomedes tenebrosus*). This is the largest of our Canadian spiders, often having a body seven-eighths of an inch in length and legs with a spread of four inches.

The Dark Dolomedes does not make a web for the securing of prey, but runs about on the banks, on rocks and logs, and captures insects by springing upon them. It can run as easily on the surface of the water as on land, and can also dive and remain under water for some considerable length of time.

While this species does not construct a web for capturing insects it makes one for quite another purpose, for it is one of the nursery-web weavers. The female, late in the summer, lays from 250 to 400 eggs in a silken egg-sac. She then carries this egg-sac about with her, holding it up under her body by means of silken threads which run from the hinder end of the egg-case to her spinnerets and also by means of the claws of her chelicerae (a pair of mouthparts). As soon as the eggs begin to hatch she hangs the egg-sac in a shrub, or in the top of a tall herb, and weaves a large tangled nursery-web about it. The spiderlings remain in this web for several days and the mother remains on the outside of the web on guard. Though usually very timid, when Dolomedes is guarding her nursery she shows no fear and is, in fact, frequently decidedly aggressive. The young, after having molted, leave the nursery-web and shift for themselves. The adults die in the late fall and the young hibernate in sheltered places, emerging in the spring and becoming full-grown by the summer.

The Dark Dolomedes is dark brown in color, with gray and black markings, and on the hinder end of the body there are three black chevrons.

This species is one of which people are often much afraid, believing it to be venomous, and it is sometimes erroneously called a "tarantula." As a matter of fact it is entirely harmless and I have handled dozens of them with my bare hands, though from the vicious manner in which they seize a stick when it is brought near them when they are guarding their nursery, I deem it advisable to keep one's fingers away at this time. I have, however, cut the branch on which a Dolomedes had her web, and carried the web, with the mother on the outside, and the children within, to my tent.

One of the most exquisite of the many beautiful webs which are woven by our various species of spiders is that of the Filmy Dome Spider, (*Linyphia marginata*). The web of this spider is usually found on low bushes and tall herbs in shady places. In such places these webs are often very common, but they are so fine and delicate that they are almost invisible unless the light falls upon them at the most favorable angle. When seen against a dark background, with the sun shining on them, their marvellous delicacy can best be appreciated and they shine like inverted bowls of fine-spun silver.

This web consists of a maze of threads extending in all directions, and in the centre of this maze is a dome-like sheet from two to five inches in diameter. The spider hangs beneath the apex of the dome, and when an insect strikes the maze of threads and falls upon the dome, the spider pulls it through the dome and feeds upon it.

The spider which makes this wonderful web is only about one-sixth of an inch in length. Its cephalothorax (the front division of the body) is yellowish-brown, margined on each side with a light stripe, while the abdomen (the hinder division of the body) is yellowish-white marked with dark bands and stripes.

The condensed history of Shorthorn families given in the Shorthorn Annual is excellent, and might advisedly be read by every-one interested in the breed. This is but one of the many good things published in this year's annual.

Pure-bred seed is within the reach of every farmer, and it brings results in crops just as it does in live stock.

THE HORSE.

Action in Horses.

By WHIP.

CERTAIN peculiarities of action are desirable in each class of horses, and certain defects undesirable and objectionable in any breed or class. The general type and conformation of a horse does not in all cases indicate the degree of action he possesses, but in most cases it indicates his general style of action. Horses that naturally hold high heads, have good length of neck, well-developed muscles especially along that portion of the neck just above the jugular vein, a fairly oblique shoulder, fore-arms long and set well under the chest, have, as a rule, free and extensive shoulder action, and in many cases high knee action; while those of the opposite conformation are usually deficient in shoulder action, although the knee action may be high; but in order to get the desirable action in the heavy horse he must have excessive shoulder as well as knee action. A horse that gets his knees high, but is apparently cramped or tied in his shoulders is undesirable for, while he is apparently expending considerable energy and pounding the ground, he has little speed or length of tread; in other words "he does not get away."

The manner of attachment of the fore legs to the chest has marked influence upon action. Those with fore-arms quite close together are deficient in width of chest, and usually go with legs and feet too close, also are apparently cramped in action from want of muscular development, while those whose fore-arms are very wide apart, with a very broad and usually rather flat breast between them, the limbs apparently as though they were attached to the outside of the chest, usually have a clumsy, awkward, shuffling way of going. While the muscular development in this case appears at first sight to be great, a close observation will reveal the opposite, and the fact that the limbs are not placed well under the centre of gravity. When we use the word "chest" we, of course, mean that part of the anatomy of which the ribs are the lateral boundaries. The term is often used to express the space between the fore-arms, this portion is properly called "the breast."

The direction of the fore limb from the elbow to the foot influences action to a marked degree. In order that action may be true, the limb should be perpendicular, a plumb line extending from the centre of the elbow joint should reach the ground directly behind the centre between the heels. Horses whose limbs deviate downward and outward from the elbows cannot have true action, but go wide and ungainly with the fore feet, while those with the opposite direction of the limbs have too close action. The manner in which a horse stands on his fore feet, provided the limbs take the proper direction from above downwards, will, with few if any exceptions, indicate the line of foot action. In order that this may be true and straight a horse should stand with his fore feet straight forward and backward. A straight line commencing at the centre of each toe should pass backward through the clefts of their respective frogs, and continue backward at exactly the distance apart as that at which they started. A horse that when standing turns his toes outward, called "out-toed" or "soldier-footed" will, when in motion, roll his feet, that is each foot will roll or wind itself toward the opposite limb, and in many cases strike the fetlock, cannon, knee or above the knee, according to the height of action. This is called "speedy stroke," but it is no indication that the horse is speedy.

This peculiarity of conformation and action may be due entirely to the feet or to a deviation of the limb from the fetlock down. The latter form is the most undesirable and usually indicates weakness. From whatever cause it arises, the defect is, very hard to correct. Various methods of shoeing have been tried with indifferent results. In a horse that strikes his knee it can often be rectified by shoeing very light, in order that action may be lower. In some cases when a horse strikes lower down, relief can be given by using a shoe heavy on the inside of the foot, but in most cases little can be done to rectify the defect, as it is very hard to alter action due to mal-conformation. What will be effective in some cases fails in others, and usually the only safe plan is either drive slowly or wear boots.

A horse that stands with his toes turned inward is said to be "in-toed" or "squaw-footed," and when in motion will paddle or dish, that is his feet will wind outward, he goes wide, his foot describes a segment of a circle outward at each step. This defect, while undesirable, does not tend to injury. While perfectly straight and true front action is desirable, it is seldom seen, especially in horses with excessive action. We seldom notice perfection in this respect. It will be noticed that the fore feet of most high actors deviate a little one way or the other. Some go practically straight when going fast, but either roll or paddle a little at a

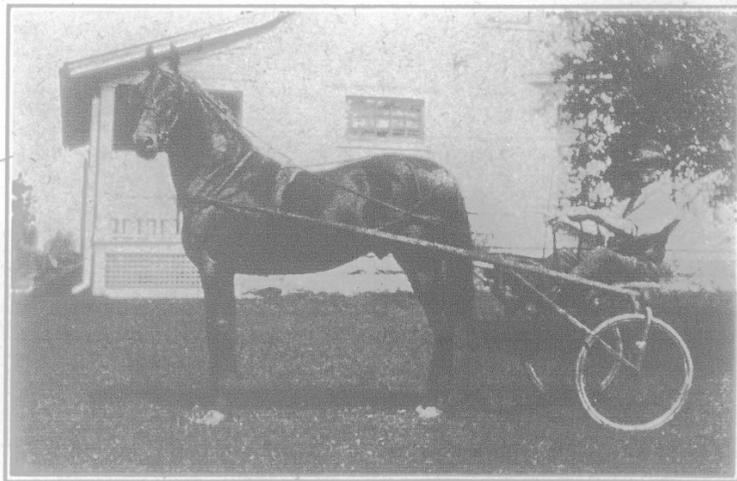
slower gait, and vice versa, even though the defect may not be suspected when the animal is standing. Horses whose limbs deviate outward considerably and stand "soldier-toed," sometimes, when viewed from the front while in motion, appear to go almost straight. They stand with feet wide apart, and when in action the rolling motion of the feet fetches them sufficiently inward to give them almost the proper appearance, without striking the opposite limb, but just before reaching the ground the toe again turns outward and the foot is planted wide. On the other hand, a horse whose limbs deviate inward and whose toes turn inward, will not show the paddling gait as marked as one whose limbs are perpendicular. The true fore action is when the foot is lifted from the ground without the slightest deviation latterly, and brought forward in a straight line.



Craigie Masterstroke.

First aged Clydesdale stallion at the Highland, 1920.

Another defect in action is "forging," that is the striking of the shoe of the fore foot with that of the hind foot of the same side. This makes a click, click, click, that to a horseman is very annoying. Some horses forge while jogging, but not when going faster. Others forge at mostly all gaits faster than a walk. The tendency to forge is indicated by a very short back, especially what is called a "roach back," where there is quite a noticeable elevation in the region of the loins. While all short or roach-backed horses do not forge, we seldom see a forger that is not of this conformation. The defect can often be remedied by shoeing heavy and rather short at the heels in front, and light behind, or by shoeing with tips or half shoes in front. While too short a back is undesirable, too long a back is probably worse; the former may indicate defective action, but indicates strength, while the latter indicates not only weakness and want of constitution but also defective action. A very long-backed horse has usually slovenly, awkward action. It must always be remembered that, while certain conformation indicates certain action, there are always exceptions, and it is necessary in all cases to see the horse in motion to verify our suspicious or discover our mistake. In some cases



Captain Aubrey 2.07 1/4.

This splendid Standard Bred stallion, by Peter the Great, is owned by the Nova Scotia Agricultural College. He has sired at least three in the 2.10 class.

from reasons that we cannot explain, well-marked indications are at fault. A short, drooping croup indicates defective, stilty hind action, with lack of flexion in nearly all joints. When the croup is of fair length too much obliquity is not so serious.

The conformation of the hocks is material. A horse should stand and move with his hocks fairly close together, the points rather closer than the anterior surfaces, that is, with a slight deviation outward. What is called "cow-hocked," that is, with the hocks quite close, especially the points and the limbs deviating downward and outward, and the feet planted wide, usually causes ungainly and a rather shuffling gait,

while the opposite, the hocks wide and feet close together and somewhat in-toed indicates a cross action in the planting of each foot towards the opposite fore foot. A well-marked angle at the point of the hock indicates good hock action, while a poorly marked angle indicates the reverse. The well-formed horse stands with his hind feet fairly close together, and the toes turned slightly outward. Too much of this deviation is undesirable as it usually indicates too wide action, and the reverse indicates too close action, hence a tendency to "interfere", or strike the opposite fetlock with the shoe of each foot.

Wide action behind is undesirable in most classes. It is allowable to a limited degree in the Standard Bred or Roadster, but cannot be tolerated in the heavy harness or carriage horse. We often notice road horses whose conformation is nearly or quite correct, who, when going fast go wide behind, but even in this class closer action is now generally preferred. Interfering is generally hard to correct. In many cases colts interfere when first shod or worked, but cease when they become stronger and accustomed to shoes. In other cases the defect continues, and while various devices and methods of shoeing have been tried, the manner of shoeing depends greatly upon the particular foot, or shoe that strikes. There are many cases that cannot be rectified by shoeing, and the only means of protection is the wearing of boots.

Feeding and Fitting Show Horses.

By DR. GEORGE H. CONN.

THIS is in itself a subject that would require many pages to discuss intelligently, but there are several fundamentals that can be mentioned briefly that may be of interest to those who have not had a great deal of experience in showing horses. First of all every one who is intending to show horses should keep in mind always that while it requires first of all an animal with show-yard qualities if you would fit it successfully, it also requires as much from the one who fits it and shows it. Many an animal has won in a show-ring because the man who fitted it and handled it was an expert.

The first requirement of a show horse should always be soundness. Never should an unsound animal be shown for if a competent judge is in the ring the animal will be disqualified and sent out. The next requirement is that the animal shall be in condition; that does not only mean that he should be well-fleshed, but that the horse should also have a healthy looking, smooth, glossy coat, as well as plenty of lustre in the eye and plenty of life. A horse that has not the bloom that many men like in the ring is very seriously discriminated against. There are several reasons why this happens. In the first place animals that are in this condition never show at their best; there is something lacking and to the experienced judge this is very noticeable. We have seen animals in the ring that were refused a place more on this one point than any other one thing. Such horses never show their characteristic action, which is, with many judges, one of the most important requirements of a successful show horse of almost any kind.

Men who are in close touch with the horse shows year after year know quite well that many horses lose their bloom much sooner than do other animals; this is often due to the care and feeding that they get. Too much stuffing of a horse to get it ready for a show is in most cases very likely to send your horse into the ring, lacking the ability to make a good appearance or a favorable impression upon the judge.

Horses should above all other things be well mannered for no horse can be shown to the best possible advantage which has not learned to do those things that the attendant must expect of the horse in the ring. It reveals a lack of preparation when a horse enters the ring that must be pushed and shoved around and fussed with in order to get it to maintain a given position, while the horse that is well trained will after placed in a pose maintain this position for some little time. Much more time could profitably be spent with many horses in getting them accustomed to being handled and to accustom them to the confusion and noise that they must encounter while being shown. A horse that is taken into the ring and has his mind on every thing but the groom is not at all well schooled. The well-mannered horse will not be taking in all the scenery and watching everything that is going on, but will stand there watching every move that his groom is making. Always teach your horse to keep his attention on you and it will save you much worry when in the ring with him. Nothing detracts as much from the showing of a horse in high class company as the mere fact that it cannot keep its attention centered on the business at hand and must observe everything happening about it.

It has been the practice with some individuals when getting a horse ready for a show campaign, to exercise it only when weather conditions are favorable; usually during the cool part of the day. There is some danger in doing this as it frequently happens in the showing that considerable time is required to make the awards, and a candidate that is soft and washy may enter the contest looking good and possibly has a very good chance of winning but if enough time is consumed in making the decision, the exertion will get the animal in such a heated condition and will produce enough changes in the horse to lose it the decision. Animals which are exercised sufficiently so that their muscles are hard and firm will stand up under a gruelling test, which is often necessary where a hard class is being placed. Do not be afraid of giving them plenty of exercise and do not be caught with a horse that is not in good enough condition to stand a hard show.

Continued on page 1550.

LIVE STOCK.

William Duthie—The Shorthorn King.

BY ARCHIBALD MACNEILAGE.

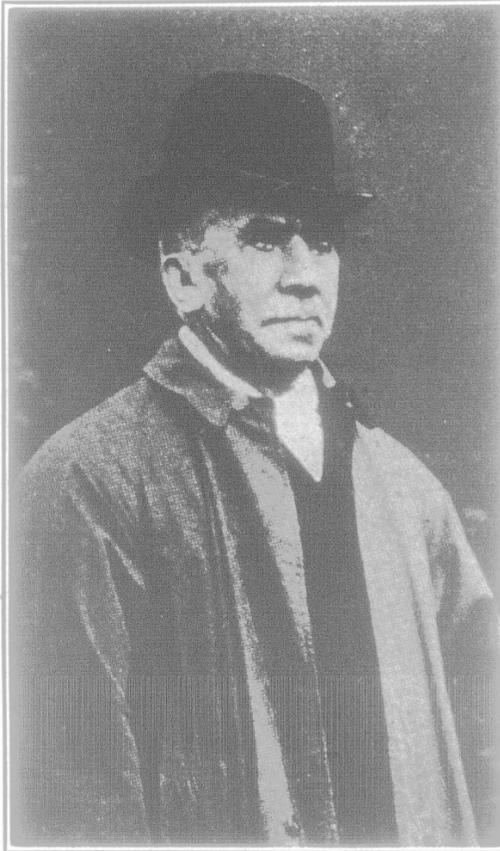
I AM asked to write something for the Exhibition number of "The Farmer's Advocate" regarding William Duthie. The task is not easy. The one man who will tell you very little about William Duthie is the man who knows most about him. As a self-advertiser the most eminent Shorthorn breeder in the world does not shine. Some men are very eager to be in the lime-light. They cultivate the press under all circumstances, and apparently are never happier than when their names appear in the newspapers. To this order William Duthie does not belong. We have known him more or less for about forty years. If his name appears in the newspapers, it is not because he has personally taken any steps to that end, but because his labors are so abundant and his interests so varied that it is impossible for him to evade publicity.

William Duthie is an Aberdonian, a native of the great North-Eastern County famous for its granite and for the very high average of merit achieved by its sons. Although known to the world chiefly as a stock breeder, Mr. Duthie is at once a farmer, a banker, a country merchant, and a stock breeder. In addition, he takes a keen interest in religious and social movements, is an ardent supporter of movements for social reform, and while characteristically cautious in the volume of his contributions can always be depended on as a supporter of movements for the improvement of the social condition of the people. He is an outstanding elder in the Presbyterian church and has for the greater part of his life, if not for the whole of it, been identified with a historical congregation in Aberdeenshire known as Craigdam.

In his business relationships, Mr. Duthie exhibits the keen, shrewd foresight of the Aberdonian. When opinions are invited on difficult problems he would be a very successful cross-examiner indeed who would draw from Mr. Duthie a definite and dogmatic deliverance. We have never known him to be a witness in a law court, but if he were the attorney who would seek to pin him down to anything very definite would be clever indeed. His capacity for assuming the non-committal attitude is hard to beat. This has frequently been conspicuously seen in connection with public questions affecting the interests of stock owners. Recently an unpleasant episode has taken place in connection with the breeding of Shorthorns. A party deeply interested was anxious to obtain the very best advice possible, and the story goes that she consulted Mr. Duthie. She indicated her desire to have his considered opinion as to her line of duty. The story is that the advice he gave was in these terms: "My advice is that you take the best advice on this matter that you can possibly obtain." Whether this be true or not, its currency indicates the prevalent opinion regarding Mr. Duthie, and his capacity for assuming the non-committal. Time and again efforts have been made to draw him with respect to methods and opinions affecting the breeding of Shorthorn cattle. On one occasion he was the guest at an agricultural dinner, which is held annually during the winter months. It is very largely attended, and the committee having control on the occasion referred to were regarded as having made a big capture in securing Mr. Duthie as leading speaker. His theme was generally expressed in terms which suggested a discourse on some points in stock breeding. What the audience received was an admirable lecture on various aspects of conduct, especially with reference to the supreme importance of following a high moral standard, studying punctuality, and throwing oneself with energy and perseverance into every task. It was all very excellent, and very fine, and most useful, but it was not quite what the audience expected. During the attendance of overseas men at Aberdeen agricultural classes, lectures on various classes of stock were delivered by gentlemen chosen from the ranks of breeders and other experts. On the Shorthorn day the leading speakers were William Anderson, Saphock, Old Meldrum, and James Durno, Rothiebrisanne, Fyvie. Both gentlemen acquitted themselves first-rate. Their advice and counsel were in the highest degree useful; their papers full of practical hints. At the close, Mr. Duthie was called on to speak, and received a hearty ovation. He delivered a very racy speech containing some choice reminiscences of early breeders in Aberdeenshire, and in particular eulogizing his two neighbors who had delivered the leading addresses. But again his audience were disappointed; the great breeder was strangely reticent with respect to his own methods and the experiences which had led to his world-wide success as a breeder of Shorthorn cattle. In truth, like so many other great breeders of this country, Mr. Duthie would seem to proceed more by

intuition than by any standards which can be expressed in terms so that others can profit.

In order to discover the keynote of his success, one must get William Duthie in private. Personally, we can never forget a long conversation we had with him when seated in the middle of the parade ring at a Highland and Agricultural Society Show. Taking as his text the animals we saw on parade, and simply following up the association of ideas which one after another suggested, it was our strange good fortune to obtain an insight into our friend's methods and his lines of thought. The impression then made has never been effaced. When a young man, Mr. Duthie came much under the influence of the famous Amos Cruickshank. A formula impressed on his mind by the shrewd Quaker was this: "When thou goest to examine a bull, with a view to



William Duthie.

purchase, first of all study him carefully all over, for what I will call general goodness. If he pleases thee, in respect of general goodness, then go further and examine him closely lest there should be in him any defects which would mar that usefulness. If, however, the bull does not please thee in respect of general goodness, go no further; such an animal can never be a good bull for thee." It is when one meets Mr. Duthie under conditions such as these that he obtains a glimpse into the working of that master mind, and is enabled to form some opinion as to the causes which have led to his unique success as a breeder of Shorthorn cattle.

We do not think Mr. Duthie is personally much carried away by the craze for so-called "families."



An Old Country Farm Homestead.

Although his opinion on the subject has never reached our ears, one can draw his conclusions by observing the purchases which Mr. Duthie makes at public sales. He quite appreciates the value in the market of fashionable pedigree, but we cannot recall any case in which he was seen to buy an inferior animal because it possessed a fashionable pedigree. In nine cases out of ten, perhaps it would be more correct to say in ninety-nine cases out of a hundred, if William Duthie begins to bid for an animal at a sale he buys that animal. We cannot recall ever seeing him bidding under any other conditions, and as it is chiefly females that he purchases

at public auction, his opponent requires to be a very good stayer indeed if he obtains the mastery over the proprietor of the Collynie herd.

Mr. Duthie fills so large a place in the world's eye as a breeder of Shorthorns that his eminence in other departments of agriculture is very apt to be overlooked. As a farmer—that is a cultivator of the soil—and a student of nature in connection therewith, he occupies a foremost place in a country in which men of that stamp are not rare. He has a wonderful gift for securing the confidence and respect of his employees, and we imagine that anything like a labor dispute is not only unknown but would be simply impossible in the ranks of those employed by William Duthie. He is a born leader of men, and awakens confidence among all ranks. But we are digressing from the point immediately in hand; not only does Mr. Duthie excel as a farmer, but he has few equals as a judge of a Clydesdale. It would be difficult in the whole County of Aberdeen to find a stable of better work horses than that on either of Mr. Duthie's farms. As a judge of a young growing Clydesdale gelding, William Duthie is a leader amongst many experts in that department. His ideal is a big horse with plenty of weight and good back and ribs and big quarters, and standing on the soundest of feet and limbs. Visitors to Collynie or Tillycairn make a grand mistake when they omit to visit the stables. Certainly the fields and boxes where the Shorthorns are to be seen are full of abiding interest, but the stables, suppose there were no Shorthorns, are well worth going far to see.

Mr. Duthie has spent a long life amongst his own people; none to whom we have addressed the question can remember the time when his name was not identified with the village of Tarves, in which stands the bank and the merchant premises in which are being carried on, we think for more than one or two generations, the business identified with the name of Duthie. As is well known, Mr. Duthie is a bachelor, but we know no one who more enjoys the company of young people, and we could relate anecdotes of the man illustrative of his kindly interest in young Aberdonians who have gone to the Metropolis to push their fortunes. As a typical Scot, and an Aberdonian Scot at that, William Duthie is worthy of all honor.

Hogs—The Mortgage Lifters.

The despised hog has been termed "the mortgage lifter." No doubt it has aided in buying many a farm, and even though the spread between the cost of production and sale price is small at present, the porker may at no distant future again be the aristocrat of the barnyard. One thing is certain, it will manufacture a good deal of what might otherwise be waste material about the farm into high-quality hams and Wiltshire sides, which, when served on the table, please the palate of the producer and his family.

A resume of market receipts shows a falling off in number of hogs marketed as compared with previous years. A good many farmers liquidated their stock, or nearly so, and consequently there is believed to be fewer hogs in the country. Those who have them may not be placed in the profiteering class, but come what may they have a few hogs to market at intervals during the year and are more likely to have something to sell when the price is high than those who plunge heavily into hogs when the prices are ascending, but who as quickly clean out of porkers when the market is bearish. Every cloud has a silver lining, and already the light is dawning for the pig men. There is every prospect of a lowering of feed prices, and the Dominion Government is, we understand, laboring assiduously to secure the decontrol of Canadian bacon in England. Rumors regarding this are optimistic, and if that market will pay for Canadian bacon anything like it does for Irish and home-grown bacon, the price of live hogs in Canada would naturally go considerably higher than it is now. The quality of Canadian bacon meets with favor in England, and much would be consumed if an open market could be established. In the meantime producers should select their breeding stock to further improve the quality of the finished product. This is an age when quality counts. Some producers complain about choice bacon hogs and thick fats bringing the same price, and declare that the packers offer no inducement to breeders to produce the bacon hog. Our system of marketing may be at fault. If a man sells on an F. O. B. basis what opportunity is there for grading? This local hog buyer may not be qualified to grade the hogs and pay accordingly; this is the work of an expert with years of training. Hogs are graded before leaving the stock yards and the different grades go to supply the various markets. Until such time as hogs can be marketed on a graded basis, the producer of the highest quality bacon will not secure the price he should for his live hogs as compared with that paid for the thick fat hogs.

Producers cannot force the decontrol of Canadian bacon in England, neither can they compel packers to pay more than market price for their hogs, but they can keep quality to the front and be prepared to cater to the best bacon market in the world. It must be remembered that in order to hold an export trade quantity with quality is essential. We cannot prophesy as to the future of the hog business, but it is believed that every effort is being made to secure more favorable conditions on the world's markets. In the meantime hog production, regulated to conform with conditions on the farm, is and will be a remunerative enterprise. In every district where mixed farming is carried on the hog population ought to be maintained at a reasonable level year in and year out. When bred and fed in this manner hogs pay, and pay well.

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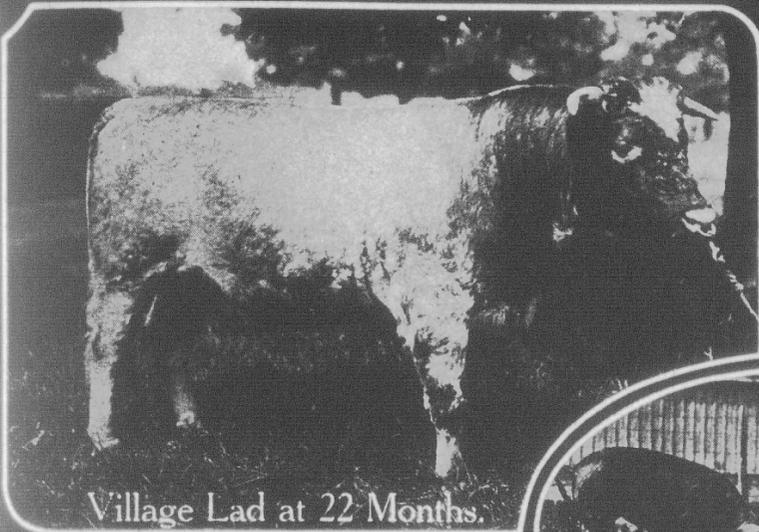
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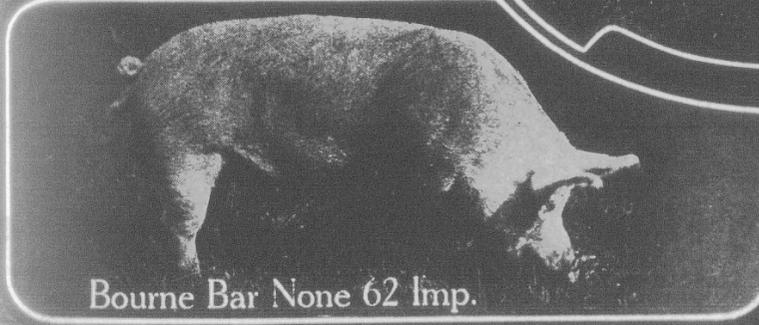
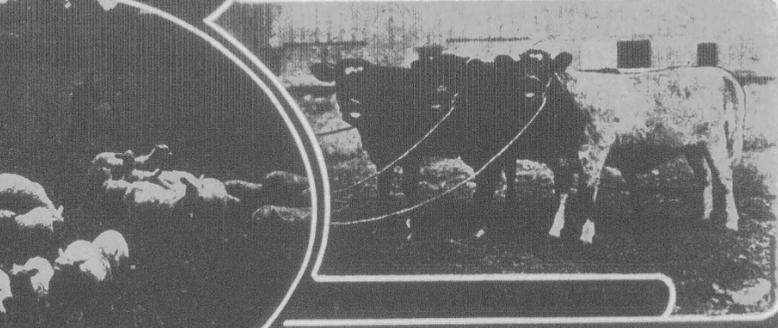
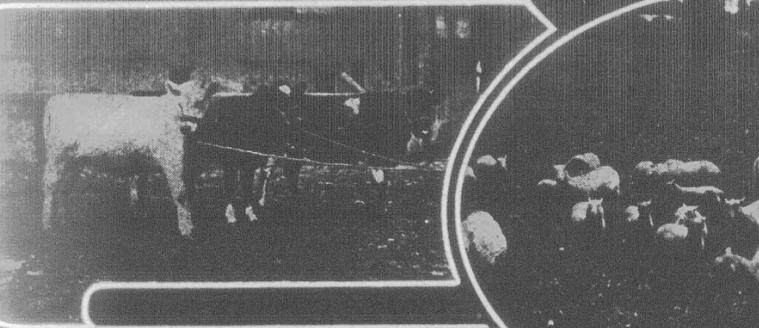
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Village Lad at 22 Months.



Three-year-old Hereford Heifer.



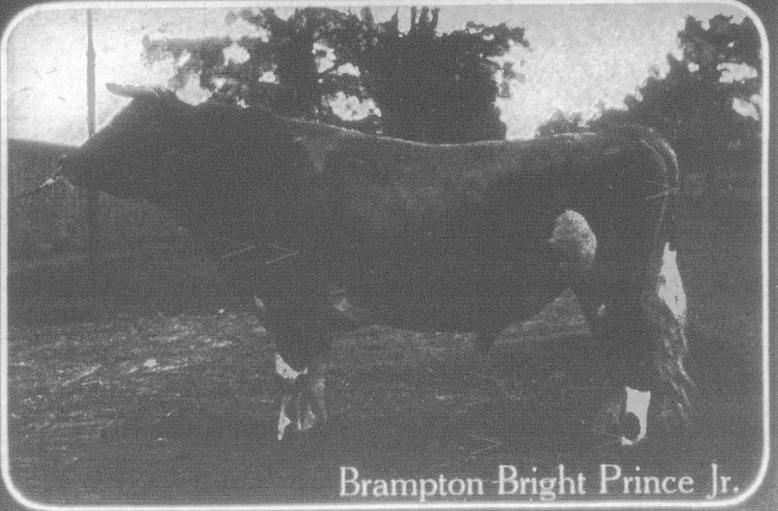
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Berkshire Sow.



Springburn Golden Morn.



Brampton Bright Prince Jr.

Boosting Live Stock at the Fall Fairs.

TOO many of the local fall fairs have deteriorated from first-class agricultural events into third or fourth class horse races. Farm crops have been subordinated to cheap and questionable entertainment, and live stock has been kept in the background. This is not true in every case, but there are few township and county shows that will not permit of improvement, especially in the live stock department.

The founders of the agricultural fair aimed at bringing together the products of stable and field, that comparison might be made and a standard of excellence set. It was an event of unusual interest and educational value. These annual events held in many localities have played an important part in the development and improvement of the live stock and farm products of the country. The show-ring has created public competition, which has stimulated breeders to develop their herds, flocks and crops to the highest point of excellency and efficiency. Great as has been the service rendered the country by the agricultural fairs, too many of the smaller societies, and some of the larger ones, too, have failed to attain the worthy object for which they were created and have deteriorated into an affair where horse racing, side-shows, and games of chance are given precedence over live stock and farm products. This may return a larger revenue to the fair board, and please some of the visitors, but fairs which cater to things savoring of the shoddy are on the down grade, and unless there is a revival of the real thing the funeral dirge of the local show will soon be chanted. There is a saying that all the people can be fooled some of the time, but all the people cannot be fooled all the time. Horse races and wholesome amusements are all right in their place, but they should not be given precedence over that which is of educational value and tends to build up and improve the basic and fundamental industry of the country.

There are fairs which are purely agricultural, but they are in the minority. However, the majority of the fair boards have a classification for the principal breeds of live stock kept in the district, and lack of interest on the part of the breeders is as much to blame as any negligence on the part of the fair board to make the live stock and farm products sections more attractive to the public. Too many exhibitors at local fairs apparently show their stock to lift the prize money, rather than to assist in making the show of greater educational value. Most of the smaller shows can be greatly improved by better facilities being provided for the housing, handling and showing of stock, and by the animals being fitted for competition. The keen competition of the larger shows makes it imperative for breeders to bring the animals out in good form. But no matter where shown, any animal worthy of competing for prizes should be conditioned.

The show-yard may be termed the mirror of public opinion as it largely reflects what breeders at home and abroad demand in any breed of stock. If it were not for the competitive spirit among breeders which culminates in the show-ring, it is doubtful if many of our present-day recognized breeds would have reached the perfection they have. It may well be said that some credit at least must be given to the shows, especially the larger ones, for aiding in improving the symmetry of all breeds of live stock, for establishing greater uniformity of type, conformation, evenness of fleshing, condition for showing, method of showing, etc., all of which have tended to improve the appearance and utility of the breeds. Without the show-ring breeders would each go their own way, resulting in a multiplicity of types in each breed and the perfecting of none. Public competition has been a stimulant to the highest efforts of the breeder.

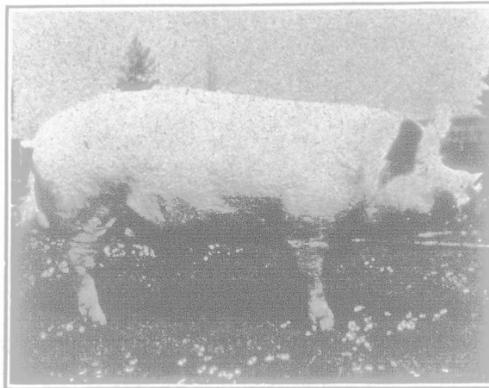
WHAT THE FAIR BOARDS CAN DO.

Good as are many of our shows, there is room for much improvement at the local fairs in order that the purpose for which the fair was created be served. Where there is to all intents and purposes but a one-day show, a fair board scarcely feels like providing housing accommodation for the live stock, but they can have tying posts for the cattle and insist that all cattle be haltered and tied, then led before the judge when the awards are being made. At some fair grounds in what are recognized as live towns in the most progressive counties, several pens are fenced off and the cattle are turned in loose. If there are several exhibitors in some classes and competition is close, the entries may be driven out into the open for the inspection of the judge, but the writer has been at several quite large fairs where the owners accompanied the judge on his rounds of the cattle pens, each pointing out his animal in the different classes. What chance had the judge of giving a just decision, and what encouragement was there for new exhibitors to come out, or for a crowd to watch the judging? The officials were to blame for not providing accommodation, and the judge was at fault for working under such adverse conditions. If posts and a railing could not be put up for tying cattle to, the stock could at least be secured to the fence. Uneven ground is not conducive to good showing. A suitable judging ring is not difficult to provide on most fair grounds, and the space selected should be roped off so as to give exhibitors and judge a chance. A comparison of points cannot be made unless all the entries are standing on even ground and stool in line. Then, too, seats might advisedly be placed around the ring for the accommodation of spectators.

At very small expense pens or hurdles could be constructed for pigs and sheep. No judge can do justice to his work when he has to climb into a wagon in order

to see the entries in the different classes. This will entail the expense of building an unloading platform so that exhibitors can load and unload their exhibits with ease and without risk of injury to the animals.

The prize list is important. The classification should be arranged to serve the district, not because some other fair uses a similar classification. In a dairy district the classes for cattle should principally be allotted to that section, and vice versa in beef raising sections. Instead of giving prizes for animals of different ages of the less popular breeds, one or two sections might be included so as to give breeders an opportunity of bringing out their stock and having them passed upon by a judge. The same might apply to sheep and swine. Having a class for beef cattle where representatives of all breeds compete is not justice to any one breed in a breeding class, although perfectly justifiable in a class of finished bullocks. A classification for long-wooled sheep and another for short-wooled breeds does not give a judge

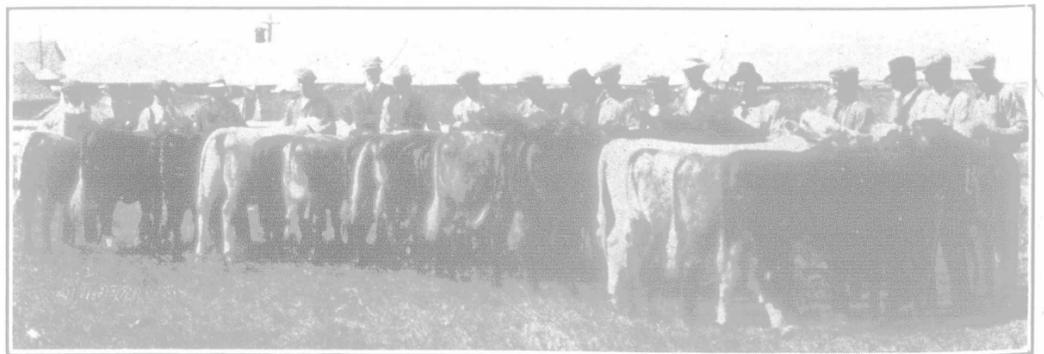


Dalmeny Marengo.

A Yorkshire boar bred from winning stock in Great Britain, and imported by A. Dynes, Ottawa.

a chance, as it is difficult to compare two sheep of a different breed. If one, two or three breeds are popular in the vicinity, then make classes for each, and if finances won't permit of giving prizes for animals of different ages in each breed, then make a class for females and a class for males in each breed and give exhibitors an opportunity of competing against individuals of the same breeding as their own entries. Prizes for grade stock in the breeding classes might well be eliminated.

The classification at some fairs could be improved so as to better serve the public. For instance, a copy of Picton prize list is on our desk, and we notice that in Holstein cattle there are eighteen sections and eleven in Jerseys, as these are the two principal dairy breeds in the county. There is only one class for beef cattle, but one breed is specified, and a full quota of sections are given. There are six sections for each of three breeds of hogs and five breeds of sheep. Then, too, we notice that a program is printed and circulated so that visitors and exhibitors know exactly what is going on at any hour of the day. This expense may be met by selling the programs at a nominal figure. There are many other fairs of high order which provide exhibitors and visitors with splendid accommodation, and have an educative fair from an agricultural standpoint. If there is united action on the part of the board, it is surprising what can be accomplished. It depends on the men at the helm. The prevalent idea that it is the midway and other frivolous features which draw the crowd and make the event a financial success is wrong. The majority of fair patrons look for something real—something of value. Too many directors of local fairs apparently consider the position as an honorary one



Senior Yearling Shorthorn Calves at a Western Fair.

Placing and keeping the animals in line greatly facilitates the work of the judge.

rather than one demanding work if the event is to succeed. Holding regular meetings of the board is advisable so as to keep the work in mind that ways and means of improvement may be discussed and inaugurated. Men appointed as chairmen of different committees should deem it a responsibility, to be met to the best of their ability. Drones on the fair board should be dismissed from their honorary position and wide-awake hustlers put in their place.

THE JUDGE HAS A RESPONSIBILITY.

Upon the shoulders of the judge rests a good deal of responsibility. He very often has more difficult classes to judge than at the larger fairs, owing to less extensive classification. The stock is not usually in such high condition, nor so carefully trained. Many of the exhibitors are amateurs, and the type of animal picked by the judge to head the class may influence their whole career of stock breeding. Thus the necessity of the judge having a thorough knowledge of the type of animal in favor on the pure-bred as well as commercial market, and of sticking to that type throughout. There must be just and fair dealing. Any favoritism or partiality shown may do untold harm. The judge has the privilege of withholding prizes from animals which he deems unworthy; this he should exercise more than is usually done. It does harm to pin a ribbon to a poor individual, just because there is no competition. The man officiating has a splendid opportunity to encourage and help beginners. A word of advice, or a suggestion regarding fitting, training, etc., or pointing out defects which one might overcome by careful selection of breeding stock may start a young man on the highway to successful stock breeding. The giving of reasons, especially where there is close competition, would be a big help and there is generally time for such at the small fairs.

A GOOD DEAL RESTS WITH THE EXHIBITOR.

The other interested party who can do much to make the live stock end of the show a success is the exhibitor. The event is of importance to him as an advertising medium, and the prizes remunerate him for bringing out his stock; therefore, he should do what he can to help the fair. There is enough stock in most localities to fill the classes at the local fair, if breeders were enough enthused over the annual event. However, showing anything just to fill classes is poor practice. A careful selection should be made and then the animals conditioned and trained to lead. The exhibitor owes this to the fair board, and to the visitors, to say nothing of his own reputation. It takes time to fit for the show, but if it is worth while showing at all it is worth doing it right. At comparatively few township or county fairs are the cattle shown properly halter broken, which may be the cause of many being shown in an open pen, rather than on the halter. The exhibitor should know what he is going to show and make his entries early, so as to give the secretary an opportunity of knowing beforehand the probable extent of the live stock exhibit so that accommodation may be provided. The stock should be on the grounds early, and the attendant ready to lead out the animals promptly when the classes are called.

The success of the fair depends a good deal on local interest. If that is lacking the fair board has an uphill fight. One or two men, or even the whole fair board, cannot by themselves make the fair a success. It requires the support of the entire community.

The Excuse for Nurse Cows.

EDITOR "THE FARMER'S ADVOCATE":

In the issue of August 19, on page 1456 the following question appears. "Why so many nurse cows?"

Your inquirer, in his paragraph following the above question, gives the reason very plainly, both from point of economy and method of producing the show calf, but he does not go far enough. Possibly, like the old maid who gives advice on bringing up children, he never brought up a show calf. Next time our friend visits the "out-of-the-way barns," let him wait around till nursing time. He will then see that most of the senior calves are quite well developed. Looking at the big fair's catalogue he will note that most of these calves are crowding the twelve months, and if he doesn't believe the catalogue "look at er's teeth." It may then dawn

on him that it would be rather a long time for "mama" to be nursing her "baby". Perhaps, after all, the showman-breeder is practicing economy by having the show calf's dam occupy herself with her "next baby." If our friend waits long enough around the "nursing barns" he may see a junior yearling come along and nurse "the other fellow's" mother. Its own mother by that time would be at home nursing her second "baby."

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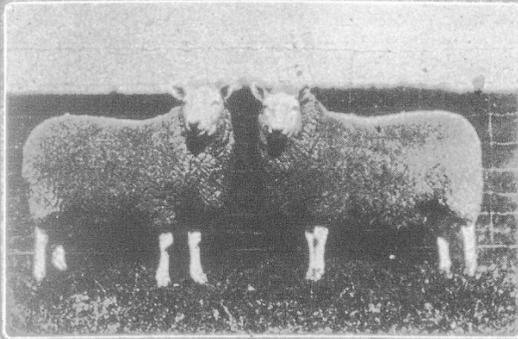
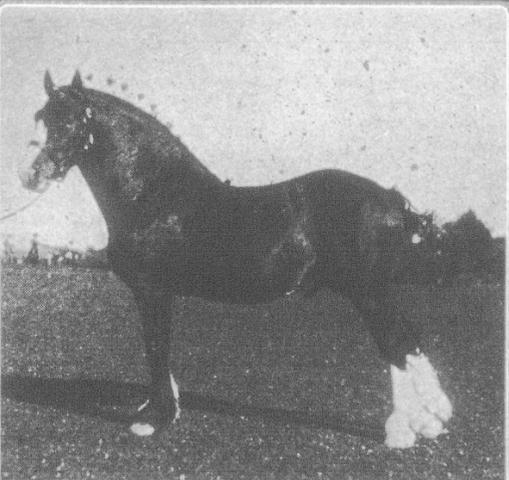
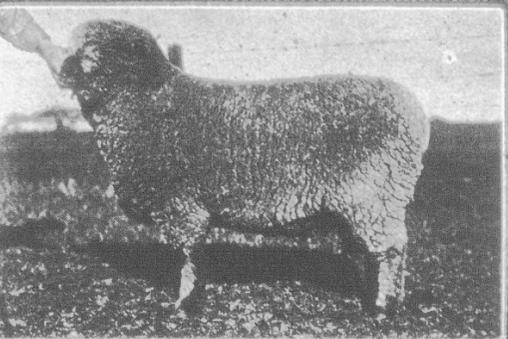
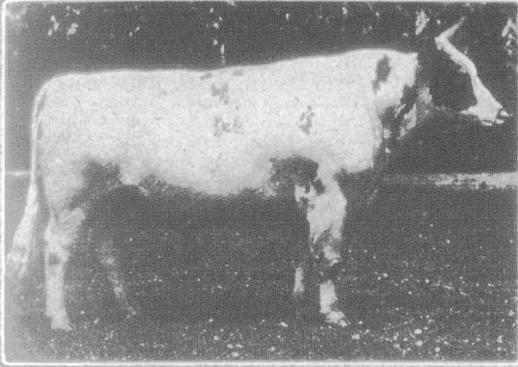
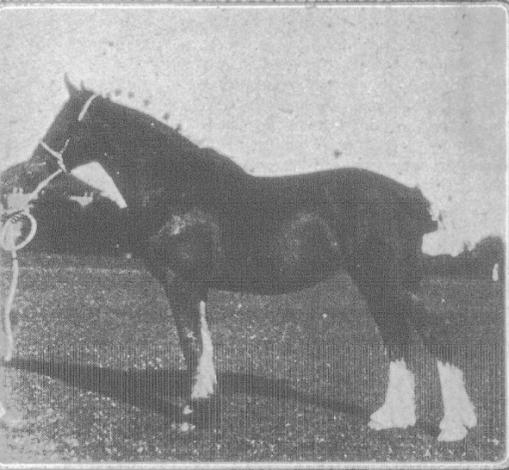
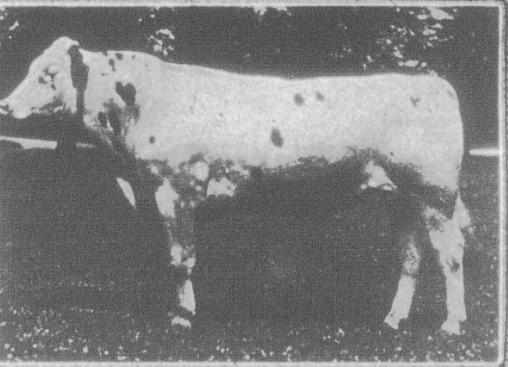
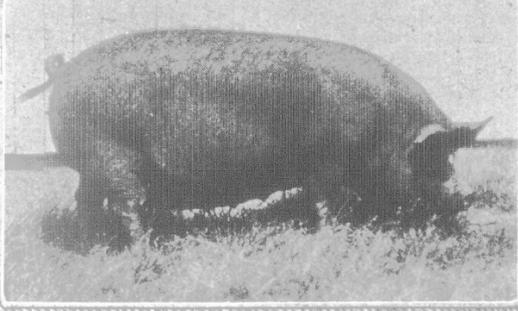
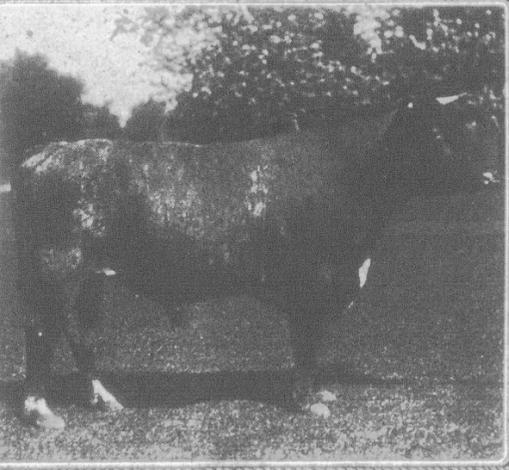
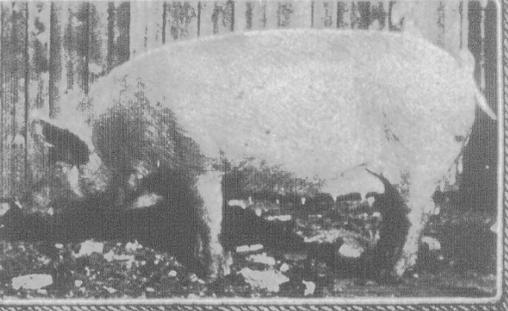
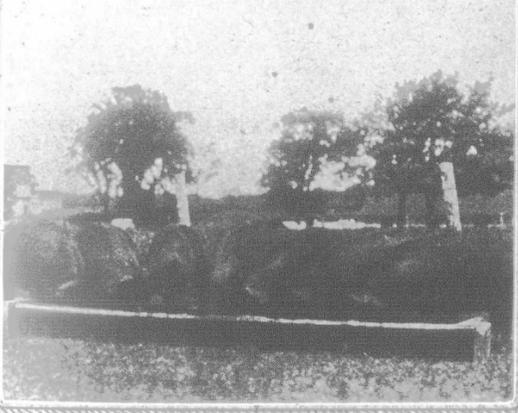
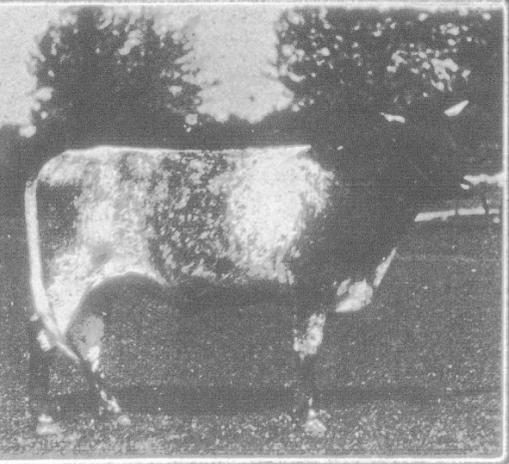
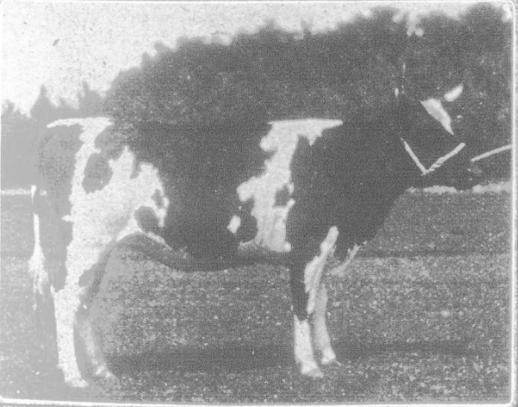
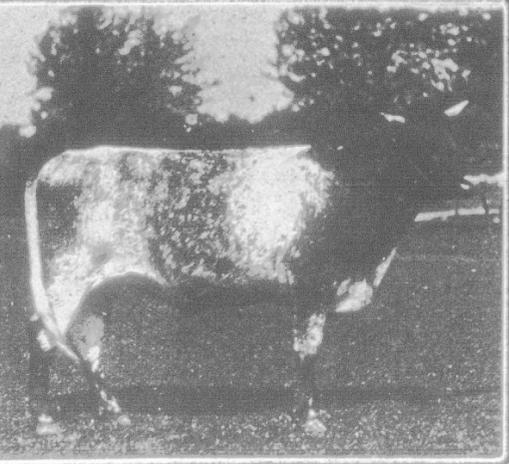
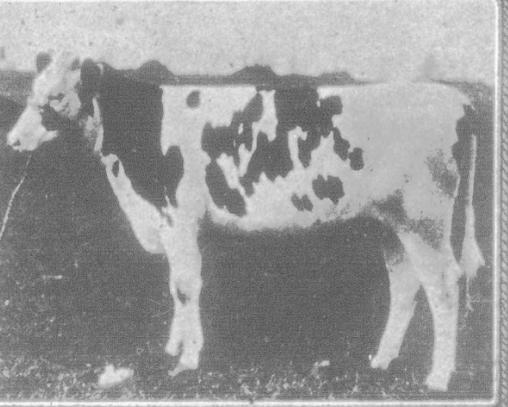
se Cows.

1456 the following y nurse cows?" ollowing the above ly, both from point ing the show calf, ssibly, like the old o children, he never e our friend visits n wait around till most of the senior Looking at the big ost of these calves f he doesn't believe It may then dawn



y time for "mama" after all, the show- y having the show ext baby." If our "nursing barns" e along and nurse yn mother by that second "baby." HITE AND RED.

FROM MACDONALD COLLEGE HERDS AND FLOCKS

 <p>A PAIR OF CHEVIOTS</p>	 <p>MACDONALD SIR SPENCER</p>	 <p>ONE OF THE "SHROPS"</p>
 <p>MACDONALD COMPETITOR</p>	 <p>MACDONALD LUCY MAC</p>	 <p>SIR RIVERDALE ECHO HENGERVELD</p>
 <p>COLLEGE FLOSSIE 26TH</p>	 <p>ROYAL HERO, THE DUAL-PURPOSE SHORTHORN SIRE</p>	 <p>MACDONALD PRINCESS 24TH</p>
 <p>YOUNG BERKSHIRE SOWS - ALL FLOSSIES</p>	 <p>MACDONALD DUCHESS EMMA</p>	 <p>YORKSHIRE SOWS IN GOOD PASTURE</p>
 <p>STONEY CROFT JEAN</p>	 <p>MACDONALD DUCHESS EMMA</p>	 <p>MACDONALD NANCY WAYNE</p>

Save the Sheep.

By Prof. Wade Toole.

FROM that day in 1834 when Geo. Miller, of Markham, Ontario, landed the first pure-bred sheep in Canada right up to the present, Canada has never had too many good sheep. It is true that prices for wool and mutton have seen ups and downs and sometimes the returns from the flock have seemed small, but on the whole the profits from the sheep when labor and expense have been fully considered have compared favorably with those from other classes of live stock and farm products, and the man who has stayed with the sheep business has generally found it good business. From 1911 to 1919 the numbers of sheep in Canada increased by 1,247,658 head, and even after such advancement this country had only two sheep per hundred acres of land in farms. This more or less rapid increase was due to the enhanced prices for lamb, mutton and wool incident to the great conflict which necessitated greater production. The producer ran true to form. It has always been the practice of the man on the land to go more heavily into any line of production on a rising market and to go more rapidly the other way the moment prices show a tendency to break. Going in on a high-market and out on the first sign of lower prices has lost many a producer considerable money and has meant disaster to most who have tried it. Such has been and is the condition of the sheep trade at present. Higher prices during the past few years have stimulated the business, but just now prices are falling and people are asking: "What is going to happen to the sheep trade?" Wool, compared with the prices of the past few years has shown a decline. Lamb and mutton at the time of writing are comparatively cheap. What will happen?

The mutton type of sheep is the type which seems specially adapted to this country and in the past mutton form has been the main consideration. Phenomenal prices for wool during the war made this product exceedingly important. The producer wants a sheep which will give him a fairly heavy fleece of the quality of wool in demand, as well as producing the highest quality of lamb and mutton. When a period of lower prices comes, quality counts even more than when demand is keen. We must pay more attention to quality.

September and October have always been heavy selling months on the lamb and sheep markets. A very large proportion of the lambs sold go out in these months. It would seem that a little care should be taken not to overcrowd the markets at this period. There is nothing to be gained and much to be lost by panicky selling. This is a good season in which to keep this point in mind. There is an abundance of rough feed and coarse grains in the country this year. It might pay to stretch out the lamb marketing a little this fall, do not send all the sheep and lambs out at once.

The wool situation is not as bad as at first thought. To one who has sold first-class wool from the backs of pure-bred Shropshires at 10 cents per pound the prices of from 43 to 55 cents per pound recently obtained for Western range wool, sold through the Canadian Co-operative Wool Growers Ltd., look attractive. Ontario wool has sold even higher than these prices, up to 58 and 60 cents having been obtained for finest qualities. Of course, this wool was all graded, as all wool marketed in this country should be.

The man who has had experience in any branch of the live-stock business knows that he has never gained anything by going in and out with every up and down. It has always paid better to go in and stick. So it will again. The sheep breeder must keep his ear to the ground and form his policy according to the trend of the times. He must consider market demands and their bearing on his business.

The trend of the wool market is such as to lead one to believe that the finer grades of wool are likely to be a little more profitable than the coarser grades. There is a big margin in price per pound between coarse wool and wool of fine medium staple. The demand seems to be for fine wool, however. Some of the coarse wool breeds shear a great deal heavier fleece than sheep of the finer medium wool breeds. This must always be borne in mind.

The market of the present day demands a light lamb. The finished lamb which goes on the market at 80 to 90 pounds is most in demand. The consumer asks for light cuts of quality, and the butcher likes to satisfy his customers. The light lamb and the fine wool both come from the same breeds of sheep. With the lamb as with the wool it is often found that the heavier lamb will bring more dollars even at a smaller price per pound than will the light lamb at the higher price. Nevertheless, the light lamb of quality is the lamb in demand.

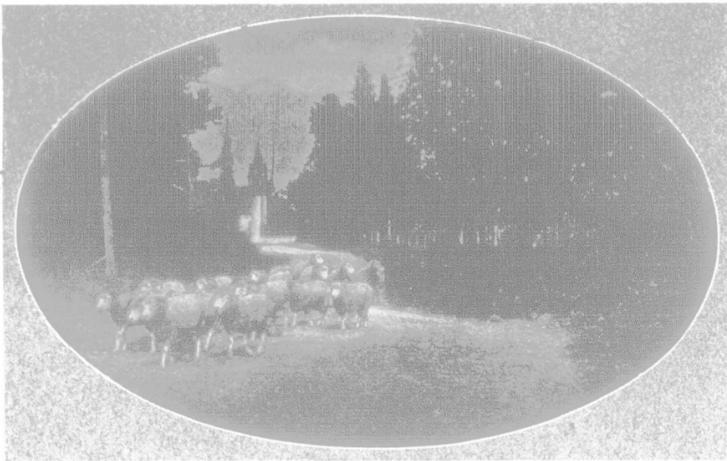
There is no good reason why breeders should be afraid of the sheep business. If sheep, lambs and wool drop it is more than likely that other things will show a similar tendency. The writer has just as much faith in the sheep business as he ever had. What business is there that does not have its ups and downs? What man is there who makes a success who does not go into a business and stick to it? There are, however, a few

points to which the sheep man must pay attention. The crux of the whole business is quality. Quality will mean profit and the lack of it, loss. We must breed more carefully, feed more judiciously and place our product on the market in the best possible form. Every male lamb for market purposes should be castrated before three weeks old, and all lambs male and female should be docked at two weeks old. These simple operations mean a difference of a dollar per hundred-weight on the market. All wool should be produced under the best possible conditions to avoid chaff and dirt in the fleeces, and it should be all marketed through the associations now in existence where it is sold on grade and the seller gets out of it just what it is worth.

This is no time to go out of sheep. Breeders should make a rigid selection of their breeding stock, keeping only the best ewes for breeding purposes and always mating them with a pure-bred ram of good type for his breed. There are too many grade and scrub rams used and where they are used carelessness is often found in all the details of flock management. Carelessness is always costly. Cull the flock. Keep all the good breeding ewes. Mate with a pure-bred ram of their own breed. Dock and castrate the market lamb's next spring. Keep the flock well fed and the fleece clean, and next year plan to market the wool co-operatively. Canada was never better organized for successful sheep breeding than right now. In the meantime, do not glut the market. There is no need of panicky selling. Hold fast to a good thing.

The Live Stock Judge at the Fall Fairs.

THE judge or judges at the large live stock shows, or the local fairs are important personages; or at least should be, for the success of the exhibit depends to a certain extent upon their judgement. Most judges are chosen to officiate because of their experience with a certain breed of stock and their ability to size up animals and make just awards. Some, however, are chosen because of their standing in the community, or with the fair or breed officials. It is not an enviable position to fill at any time, and especially when there is a certain amount of antagonism between breeders or strong antipathy to the judge. However, at every show there must of necessity be judges and at



Sheep end scenery near Chilliwack, B.C.

the large fairs in particular the men chosen for the work are those who have had a wide experience with the breed they are to work on, and who are known for giving just and unbiased opinions. The placings may not satisfy all exhibitors and spectators—the man has not been born yet who could—but where the man knows his work, goes about it systematically and has a reason for every move, the confidence and respect of the spectators and exhibitors are assured. It is when a judge shows by his actions that he is hazy in his own mind about how the animals should be placed, or who goes out of his way to favor a certain breeder's stock, that dissatisfaction arises, and if this kind of work is continued the show is seriously injured. The spectators should always bear in mind that the judge is in the best position to size up the animals. "One cannot judge a horse by the harness on it," says an old proverb. The close-up view reveals points of excellence, and defects also, much more clearly than the long range view. The task may look easy from the ringside, but let one critically examine a line-up of fifteen or twenty individuals in varying degrees of condition and possibly of slightly different type and quality and the proposition of rendering just judgment is work of the most trying kind.

A great deal depends on the man who places the awards. If a mistake is made it is an injustice to the exhibitor and may mean a large financial loss to him in his sales. But the judge is human and liable to make mistakes, or at least his views or opinions may not coincide with those of other breeders. Judging is largely a matter of comparison and depends to a certain extent upon how a man views the class of animals. A considerable improvement could be made were there greater uniformity of ideas among our live stock judges. It is not uncommon to see an animal placed first at one fair and possibly go down the line two or three places at the next under the work of a different judge. Where animals are of like conformation and are to all intents and purpose about equal in quality and fitting, there is some

excuse for placings being reversed. Animals may be a little off color at one fair, but there is too much variance as regards the type and character of animals selected to head the classes by different judges. A training class for judges going on to the fall show circuit should be of material advantage, and would result in the same type being selected throughout. Two judges may differ as to the correct type, but there is no excuse for one type going to the top in one class and a different type being picked on in the next class of the same breed and at the same show.

The exhibitor who blames the judge, because his animal does not win, is very often at fault himself. He does not present the animal before the judge so it will show to the best advantage. He may allow it to stand in an careless manner, and instead of watching his animal is gazing about the ringside. Then, too, there are some exhibitors who are always late in getting their stock into the ring, thus holding up the work and trying the patience of the judge and spectators. The first man in the ring usually has the choice of position and is able to place his animal to better advantage than the late-comer. Some exhibitors are anything but courteous to the judge, even when their stock is in the ring. This does not get them anywhere.

The true sportsman takes the bitter with the sweet and endeavors to find out from the judge wherein the entries were, in his opinion, deficient. In many instances the final decision rests upon points which are not discernible to any but the judge. If the exhibitor is in the right frame of mind he will learn something of value in every show-ring, whether his animals win or not.

At most fairs the time for showing each class is limited and the judge must work quickly. In a comparatively short time a score or more of animals must be critically gone over and the ones which fill the eye separated from the others. It is a foregone conclusion that where twenty or thirty are competing for six placings only a few can get into the money. All would like first place, but alas, this is impossible. It is a pleasure to watch the work of an experienced judge. His alert eye quickly discovers the good points, and the likely winners are lined up for final inspection. Where to the average spectator and exhibitor the top few are as nearly alike in type, conformation and quality as peas, a word or two of explanation by the judge would very often be of material value. To be of greatest educational value the judge should have time to give intelligent reasons for the placings of the winning animals, and probably point out defects which could be overcome by fitting and experienced showing. But even when there is not time for this, the judge should retain in mind a clear conception of the animals he has worked upon so as to be able to give the exhibitor some pointers after the judging is finished. Some judges are very systematic. This looks like good business and gives those interested greater confidence than when the work of placing the awards is done in a rambling, more or less haphazard manner. There are certain fundamentals, as type, breed character, quality, condition, and size for age, which must be taken into consideration. But no judge is expected to play the role of prophet and surmise what an animal will or will not be in a year's time or what it would look like in different conditions. There are degrees of excellence in each of these fundamentals which the judge must analyze himself. The points must be weighed carefully, and a decision arrived at quickly in a conscientious and unbiased way. If this is done, and the judge is given an opportunity to point out the outstanding features which led him to arrive at such a decision, there is little room for criticism.

The custom of having two or three men to make the awards is passing away, and in its place there is the one-man system. As a rule, this gives greater satisfaction and the work is done much more expeditiously. The onus falls upon one man; there is no opportunity of giving way in one class that a friend may be benefited in the next, as is too often done with the three-judge system. The best men available should be utilized for this work at the local fairs, as well as at the larger exhibitions for the judging is equally important and may have as far-reaching results.

A Herdsmen's Competition.

In order that our readers may hear from the herdsmen who are largely responsible for bringing the herds at the exhibitions out in such fine condition, and may profit by their experience, "The Farmer's Advocate" will give prizes for the best articles on the subject: "Fitting and Showing Beef Cattle." In this the following points should be given consideration: Selecting individuals and herds for the show-ring; fitting; getting to and from the show (requirements and methods); what to do in the show-ring, and letting the stock down after the show season is over. This competition is open to all readers of "The Farmer's Advocate" who have had experience in preparing beef cattle for the show circuit. The essay should not exceed two thousand words, and must be submitted to the Editor by September 30. The writer who sends in the best article on the subject mentioned will receive \$25; the second prize is \$20; third \$15, and fourth \$10. All other articles of publishing value will be printed and paid for at a liberal rate. Let us hear from many herdsmen. Those of wide experience who have had signal success with their stock in the keenest of competition can give many pointers of value to the beginner. We want the writers to describe the practices and methods which contribute to success and yet are not known to the average cattle man. Put all the information you can into these articles. There is just about a month in which to collect your thoughts and put them on paper. Remember the competition closes September 30.

THE FARM.

Hessian Fly—The Enemy of the Wheat Crop.

BY H. F. HUDSON.

IT is some years ago now that the Hessian fly caused serious injury to the wheat crop in Western Ontario. Probably the years 1900-1901 were the worst which have been experienced by the present-day farmer. It was frequently reported during the succeeding years up to 1906, then the fly apparently disappeared or was kept in check by its natural parasites, until the year 1917, when the writer noticed it in small numbers in several fields of wheat in Western Ontario. Since that time the fly has steadily increased in numbers, until now it has become a pest of first rate importance. It has been responsible for ravages varying from a slight injury to the crop to its complete ruination. It seems now that the fly has secured the upper hand, and in order to prevent a recurrence of the injury inflicted in the years of 1900-1901, it is imperative that every effort be made now to prevent the further increase, for we must not forget that once a field is infested nothing can be done to save the crop.

In order that farmers may become thoroughly conversant with this most important pest it seems fitting that a fairly complete account of its life-history should be written so that farmers themselves may be able to recognize readily any stage of the insect, and thus be in a position to judge for themselves the best and safest time to plant their wheat.

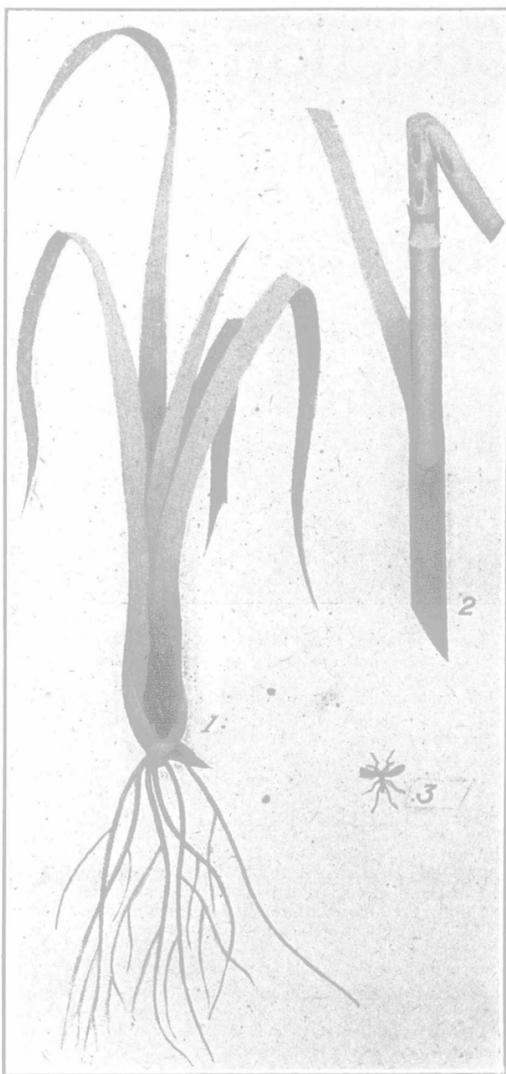
The female fly is very small, being only about one-tenth of an inch in length, with rather long legs, body of an obscure dark color, and similar in form to a small midge or mosquito. The abdomen of the female is red or yellowish-red, but darkens with age. The male is much smaller and can be readily recognized by the small body. How long the adult flies live has not been determined, but kept in confinement they only live from three to five days, their mission appearing to be to reproduce their kind and die. The eggs are laid in regular rows on the upper surface of the leaf, occasionally on the lower side, or in the case of the spring brood they may be deposited at the base of the leaf and the stem. As many as 500 eggs may possibly be laid by a single female, for under observation in confinement we have had single females lay as many as 200 eggs, and their ovaries were not then "spent." The eggs are very small, approximately one-fiftieth of an inch in length, and they hatch in from three to five days. The young maggot apparently obtains entrance to the leaf sheath through the agency of moisture. The larva on hatching is very minute, smaller than the egg with a distinct reddish tinge; later as it increases in size it becomes white, then greenish-white clouded along the sides by flaky white. Embedding themselves between the leaf and the stem and feeding on the substance of the plant, they cause more or less distortion and bulbous enlargement at the point of attack. It is doubtful if the maggot moves after finding a suitable feeding ground.

In a few weeks, the maggot contracts into a "flax-seed;" this object is known as a puparium. In the case of the fall brood the winter is passed at the base of the plant, and around the roots in the flax-seed stage. In the case of a heavy infestation the wheat plant is killed outright. With the spring brood the maggot works above ground and can usually be located at the first or second joint above ground. There are thus two broods in a year, one in the autumn—early August and September, and another in the spring—the latter part of April and early May.

Now the spring brood is the one that is going to do the greatest damage. A field may not be infested this fall, and yet be infested in the spring, for the reason that some farmer may have sown early the previous fall, and having wintered over successfully the fall brood is increased possibly 100 per cent. This, I think, will make it clear why every effort should be made this fall to starve out the fall brood. About the time that maples are in bloom one may look for the fly in the spring, but it is too late then to do anything. While there may be no wheat to infest, barley is very likely to be injured, and in some cases rye is also affected.

The eggs may be readily located by the ordinary observer. Usually they are placed in grooves on the upper side of the leaf, and if this be examined in bright sunlight a small reddish object will reveal the presence of the egg. The young larva as soon as it is hatched makes its way down the leaf between it and the sheath. Infested wheat is usually of a dark green color with a tendency to tiller, and to the ordinary observer appears to be exceptionally healthy. By tearing away the leaf from the stem the presence of the greenish maggot or the flax-seed will reveal the insect.

Generally speaking, the Hessian fly is fairly well distributed in Western Ontario and with a lack of sufficient natural parasites, we might reasonably expect that the situation next year will be much more aggravated, provided of course that weather conditions do not interfere with the insect breeding. The weather is such an important factor in the matter of increase or control that it is impossible to predict what the situation will be next spring. But it is better to be safe than sorry and attempt the destruction of this fall brood. There were enough "flax-seeds" in the wheat stubble at harvest time to completely ruin thousands of acres. Wheat is usually sown at the rate of six pecks of seed to the acre. This gives us 2,304,000 plants to the acre, and if every plant contained 5 flax-seeds this would give us over ten million flies to the acre. Some wheat plants contain 15 puparia. This matter is certainly too serious to consider lightly.



Hessian Fly Injury. 1, Spring wheat plant destroyed in early June; 2, Pupae in wheat plant, late July; 3, Adult fly.

Fertilizers for Fall Wheat.

BY B. LESLIE EMSLIE, AGRICULTURAL CHEMIST.

TO others be appointed the task of determining the responsibility for the introduction of the Hessian fly. Whether this or another more domesticated insect accompanied the Hessian troops from Europe does not concern us at present. Whatever its origin, the Hessian fly has made itself thoroughly at home on this continent, and its ravages are occasionally disastrous. Nor is it appointed to me to prescribe a remedy for the attacks of this insect, but, incidental to the recommendation that fall wheat, in badly-infested



An Expert Plowman. Albert E. Pay, Niagara-on-the-Lake, and the trophies won by him at Ottawa and Chatham, 1919.

districts, be sown considerably later than usual—to suggest means for inducing a fairly rapid, vigorous growth of the young crop, enabling it to overcome the handicap imposed by the late seeding.

Commercial fertilizers of suitable composition suggest themselves as a means towards the accomplishment of this purpose. Let me emphasize those two words, "suitable composition," for they merit more consideration than is usually accorded them by the average farmer. As I have remarked on a former occasion, the farmer too often selects his fertilizer by the price rather than by its composition as indicated in the statement of analysis.

A word of caution on this point is perhaps timely, for fertilizer agents are busy taking orders for fall

delivery. If the agent knows as much as he ought concerning the goods which he offers for sale and possesses besides the rare quality of honesty, he may talk in this wise: "Yes, we can supply you with a lower-priced fertilizer than this 4-8-4 brand. Here is a 1-8-1 brand, but we don't recommend it. Pound for pound—the plant food in the 1-8-1 costs considerably more than that in the 4-8-4 brand. You see, the 1-8-1 brand contains about 800 pounds of sand to the ton and, of course, this 'filler' adds to the cost of handling and freight."

The foregoing is not fictitious, but represents the gist of a statement made to me by the representative of a fertilizer manufacturer. However, the object and limits of this article restrict my remarks to the subject of fertilizers for fall application to wheat.

With the possible exception of soils enriched by recent liberal manuring, the application of well-chosen fertilizers is likely to prove profitable. What are the special requirements of wheat in this respect? Data from numerous experiments show nitrogen to be the dominant constituent in a fertilizer for wheat, though phosphoric acid and, sometimes, potash may exert a notable influence on the yield. The physiological function of nitrogen in the young plant is in promoting the development of stem and leaf and, up to a certain point, the growth of the crop is proportionate to the supply of available nitrogen. The assimilation of the mineral food constituents, phosphoric acid, potash, etc., proceeds according to the rate of growth induced primarily by the nitrogen. Phosphoric acid exerts a wonderful influence on the development of the young seedling and enables the root system particularly to become early and strongly established. Except on very light soils, potash in the fertilizer for wheat will be unnecessary and its purchase, at present prices, unwarranted.

"In what forms, then," queries the farmer, "should I furnish the nitrogen and phosphoric acid to my wheat this fall?" As stated, there are numerous brands of mixed fertilizers on the market, containing varying proportions of nitrogen, phosphoric acid and potash. Low-grade materials, such as a 1-8-1 brand (1 per cent. nitrogen or ammonia, 8 per cent. of available phosphoric acid and 1 per cent. potash) should be strictly avoided. A ton of high-grade (16 per cent.) superphosphate (acid phosphate) contains twice as much phosphoric acid and costs much less than a ton of the 1-8-1 goods. The farmer who means to purchase a ready mixed fertilizer should select one having not less than 3 per cent. of nitrogen and about 8 or 10 per cent. of available phosphoric acid. Of this mixture he may apply from 200 to 300 pounds at seeding time and a like amount, as a top-dressing, next spring.

As to the separate materials, nitrate of soda furnishes nitrogen in the form—nitrate—preferred by wheat, and I have obtained remarkable results from a spring application of nitrate alone on fall wheat. Be it remarked that I speak of spring, not fall, application. The rather meagre data available on the question of spring versus fall application favor spring; yet there are farmers who regularly apply nitrate to wheat in the fall and are satisfied that the practice is sound and profitable.

There is a danger to guard against in making fall applications of nitrogen in any form. An over-dose of nitrogen would tend to cause too rapid growth and consequent excessive succulence or tenderness of the young plant tissues, a condition undesirable if prolonged until frost threatens.

The peculiar conditions confronting farmers in Hessian fly infested districts warrants a departure from rules established by precedent, the object being to provide the young, late-sown crop with a healthy stimulus, so that it may develop a sturdy "top" of sufficient height before the advent of winter.

To furnish the nitrogen necessary, nitrate of soda may be applied at seeding time, at the rate of 50 pounds per acre. In spring a similar or slightly larger amount may be given as a top-dressing. Together with the nitrate applied in fall, a phosphatic fertilizer—either superphosphate or basic slag—should be applied at the rate of from 200 to 300 pounds per acre.

While superphosphate is most widely used, basic slag, as a source of phosphoric acid, is undoubtedly gaining favor among growers of fall wheat in Ontario. Both materials encourage the tillering and extension of the root system of wheat, but basic slag is remarkably influential in promoting the growth of clover with which the wheat may be seeded down.

In Europe the autumn or winter is considered the natural time for the application of basic slag, so that it may be ready to exert its maximum influence when growth commences in spring. Where basic slag is to be applied to late-sown fall wheat areas, I would recommend that, if possible, it be put on a week or two prior to seeding.

Seeding Dates.

Enough has been written in these pages to explain the necessity of late seeding of fall wheat. It is impossible to forecast the climatic conditions that will obtain this autumn, and one, therefore, cannot name a fly-free date or say just how long it would be safe to defer seeding. We intend to sow our wheat at Weldwood Farm about September 20. West and south of that point, the beginning of the next week would not be too late if the fly is to be successfully combatted; even October 1 would not be unreasonably late for Essex County and parts of Kent. East of Middlesex County, growers might not feel inclined to defer seeding beyond September 20, and, of course, the necessity of a deferred date will depend upon the seriousness of the infestation. An effort should be made to starve out the fall brood of the fly where it is present, and in this farmers must cooperate in order to get results.

Putting Crop Production on a Pedigree Basis.

ONE would be an extremist indeed who would recommend that all the live stock produced in Canada should be pedigreed, but it is within the realm of possibility and practicability to have all our standard field crops produced from seed which is either registered or eligible, and this goal attained within a decade.

Such terms as "pure-bred," "registered" and "pedigreed" have no hidden or uncanny meaning to the breeders and raisers of live stock. There is a sort of sanctity about the documentary piece of paper that accompanies a pedigreed animal through the various channels of trade, or is carefully laid away in the farmer's container for valuables when the pure-bred animal comes into his possession and is added to the herd or flock. A certificate of registration tells a long and useful story; it is a guarantee of ancestry, a compilation of sworn statements and truths that inform all and sundry who look upon it how and by whom the animal described, and its ancestors were bred and born. Improvement and development in the live stock industry has its foundation in the associations that guard the purity of the various breeds, or seed stock, and why should the day be far distant when crop production will be put on the same or a similar basis of purity and guarantees?

What the Canadian National Live Stock Records are to the live stock man of Canada, the Canadian Seed Growers' Association should be to farmers generally. In fact, the latter institution can go further than its confrere. The National Records can guarantee purity of blood, but they do not promise individual excellence or freedom from disease. The Seed Growers' Association is pledged to insure purity of breeding, disease-resisting powers, and freedom from noxious weeds which might infest a farm and which correspond to the serious contagious diseases often introduced with pure-bred live-stock, to the detriment of the whole herd. This comparison between two worthy organizations is not made with ulterior motives, but rather to reveal the possibilities of placing crop production on a sounder and safer basis by invoking the aid of an institution whose purpose is to safeguard farmers not only against fake varieties, but against plant diseases and serious noxious weeds.

In the different varieties and strains of seed there are varying degrees of purity, vitality, disease-resisting powers, and ability to produce, just as there are in breeds and strains of live stock. The man who sows scrub seed is no more entitled to success than the man who breeds scrub live stock. One is sure to reap after the manner in which he sows. There are wonderful inherent possibilities wrapped up in the germ life of the little kernel, and upon this depends the future of agriculture in this country—we can make it what we will.

THE CANADIAN SEED GROWERS' ASSOCIATION.

Twenty years ago this season the Macdonald Seed Grain Competition was begun, and during the three years of its existence about 1,500 farmers competed. The object of this competition was to stimulate an interest in the growing of pure and productive seed throughout Canada, and to demonstrate the practical advantages which may accrue from the use of such seed. At the close of the competition the Canadian Seed Growers' Association was organized (1904) with a view to promoting, through organized effort, a continued interest in this question. During these sixteen years the Seed Growers have been laying the foundation for a big enterprise, and the reason we have not heard more about it may be due to a rather conservative program and a policy that was, in parts, too rigid or severe. The demand for pure seed now exceeds the supply, and



Selecting Individual Potato Hills.
From these Elite Stock Seed is produced.

the Association is attempting to quicken its pace in order to adequately meet the increasing requirements of the seed trade. The Canadian demand would have taken 100 car loads more of registered oats alone had they been available from last year's crop. The seed firms are anxious to deal more extensively in pure seed, and the Seed Purchasing Commission are ready to utilize the machinery of that institution in the distribution of pedigreed seed. These recent developments and modern demands have encouraged the Seed Growers' Association to popularize their work and open up to the organization a broader field of usefulness. The first step in this direction was a change in the rules of registration which are now quite democratic, as can be learned from the regulations now prevailing:

In order to be eligible for registration as registered seed the following is required: (a) The said seed must have been produced either from "elite stock seed" or registered seed; (b) the growing crop producing seed seeking registration must have been inspected and approved by a duly-authorized representative of the Association, and (c) the harvested seed must be up to standard as regards quality, purity and vitality.

When evidences of deterioration, degeneration or lack of purity appear in the variety or strain under consideration, a fresh start must be made by (a) securing elite stock seed or registered seed from another grower or institution, or (b) selecting a number of typical heads, panicles, pods, ears or hills (in case of potatoes) to furnish seed for a plot of any size the following year, the crop from which plot, if approved, being entitled to registration as first generation registered seed, or (c) securing elite stock seed out of the present variety by means of the separate culture system.

The regulations now permit a grower to purchase registered seed (as he would purchase registered live stock) and propagate it in quantity. It is conceded that by careful farming and the inspection of the growing crops pedigreed seed can be propagated and maintained in a state of sufficient purity for registration. Around 100,000 bushels of registered seed grain were produced, approved and sold in Canada last year, but the object of the Canadian Seed Growers' Association is to encourage and foster the propagation of seed so the bulk handled in commerce in Canada will be registered seed.



A Multiplying Field of Banner Oats Grown by Harry Chalmers, Smith Falls, Ont.

CREDIT WHERE CREDIT IS DUE.

Human nature is so constituted as to enjoy some measure of gratification when the effort of a life-time or some period in it are crowned with a noticeable degree of success, and those who have given time, labor and capital to the discovery and propagation of good seed are just as worthy of commendation as those who have discovered fortunes, or established a breed of live stock. Banner oats have meant millions of dollars to Canadian farmers, and this splendid variety was popularized through the instrumentality of the Seed Growers' Association. Norman Dow, of Gilbert Plains, Manitoba, grew them in the competition in 1900, and is given credit as being the father of the Banner oat. Thomas Waugh, North Bedeque, P. E. I., then took them up and now it is stated that nine-tenths of the oats grown on Prince Edward Island trace back to Waugh's original Banner strain. A seed centre was recently established at Kensington, P. E. I., and the forty members this year sowed 2,000 bushels all of which trace directly back to the "Banners" which Thomas Waugh propagated and improved. It is expected that 50,000 bushels of registered seed will be available from that centre this fall and every one of them will be Banner oats, if it is humanly possible to reach the 100 per cent. efficiency mark.

Marquis wheat, that great boon given to Western Canada by Dr. Chas. Sanders, has been further selected and purified by members of the Seed Growers' Association, and an effort is now being made to stabilize or fix the type of O. A. C. No. 21 barley, which is subject to variations and reversions. These isolated, though noteworthy, achievements have been mentioned not to glorify the organization but to indicate how an association of its kind might function still more usefully by improving and perfecting the seed from which all farm crops are produced.

The very conditions which made the Canadian Seed Growers' Association a necessity, almost twenty years ago, still exist. New varieties are constantly coming on the market and their discoverers are clamoring and shouting for recognition. Farmers have lost millions of dollars by producing inferior crops from inferior seed foisted upon them by windy exploiters. An organization such as the Seed Growers can do much to reduce the great multiplicity of varieties, standardize crops, and banish a large percentage of the useless and fake varieties from the field.

FARMERS AND THE ASSOCIATION.

All farmers are not temperamentally qualified to engage in the production of registered seed, and some are obliged to regulate their cropping system so as to produce a variety of feeds on the farm. These, however, could use registered seed to advantage and reap a great deal of benefit from the work of others. Purity of strain, freedom from weeds, and the absence of other varieties are the big requirements in pedigreed seed. To obtain these results the producer must be a keen observer; it is necessary that he have an aptitude for the work, and that other varieties that are likely to mix with and pollute the crop seeking registration be eliminated from the farm. The grower stands to benefit in two ways from the production of registered seed; first, he is assured of a better yield per acre, and second, the grain he has for sale has an additional market value on account of its purity.

THE ORGANIZATION.

It would be impossible in a reasonable allowance of space to deal honorably with the personnel of the Canadian Seed Growers' Association. It has its officers who determine policies and direct the campaigns, but, as with all other organizations of its kind, success depends on the efforts of its members scattered here and there throughout the townships of Canada. They are selecting, improving and propagating the seed upon which the Association puts its seal, and in the last analysis it is they who will make the Seed Growers' Association a wonderful factor for good, or reduce it to a state of senile uselessness. There are now approximately 500 bona fide members, but the number connected with the Association as members, applicants and adherents totals, 1,650.

Dr. Jas. W. Robertson, who has been president of the Association since its inception, and the Secretary, L. H. Newman, are deserving of commendation for the part they have played in connection with this growers' alliance, but it is not a one-man or a two-man organization, and we prefer to divide the honors between the officers, directors and the members. Generalship is necessary, but there is need of more actual fighting forces throughout the various provinces so as to produce good seed in greater volume. We have arrived at a stage in the development of this country where attention must be centred on cultural methods and seed selection. Wisdom is the only substitute now available for honest labor that was formerly expended on the fields, and this article is being written not as a eulogy of an organization that has been developing during the last twenty years, but to feature a federation of producers who should play a leading role in the new regime. Its field is all Canada; its supporters are the industrious painstaking tillers of the soil; its aim is to provide an adequate supply of registered product to meet the seed requirements of the Dominion. Surely this is a goal worth striving for and one deserving of the most liberal support.

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THE DAIRY.

Size, Type, Health and Production in Dairy Cattle.

By A. R. NESS, MACDONALD COLLEGE, QUEBEC.

OBVIOUSLY, to meet the present day necessity of economical production, more and more drastic requirements are being demanded of all aspects of commercial enterprise. Breeders of dairy cattle, whether pure-bred or grade, are or should be students of commercial enterprise, having uppermost in their minds the breeding of animals capable, by means of their productive and reproductive ability, to make an honest profit. In past years the margin of profit not being so narrow, certain breeders measured their profit principally from the sale of young stock, while other breeders depended especially on returns from the sale of milk. In all cases, of course, these two features were, in varying degrees, both embodied in the breeding policy. Nevertheless, probably due to circumstances, there has been a tendency on the part of many to pay attention to either feature at the expense of sacrifice of the other. It is most unfortunate that a diversion of ideal was even possible, as it undoubtedly allowed of omission in either case, of certain essentials which should have been included in all breeding policies. The present conditions of greater costs necessitate greater returns, and this can only be brought about by a careful watch on all possible avenues of return.

The prevalent feeling among dairymen that the value of their products has not soared as has the value of the commodities necessary to produce these products is in some measure true; therefore on account of this fact and in order to meet the unfortunate situation as far as possible—which should be the attitude taken—their endeavor should be to demand more drastic requirements as to economy of production in each and every individual comprising their herds. Economical production comes only from cows that are large, strong, healthy, and at the same time endowed with sufficient dairy temperament to enable them to continue, not necessary phenomenal, but at least uniformly large production for a considerable number of years. These assets must be present in dairy cows and the breeding

and establishing of a herd of sound breeding and producing cows is the work of years, the fruits of which are the result only of a definite and carefully thought out policy of breeding.

SIZE A PRIME REQUISITE.

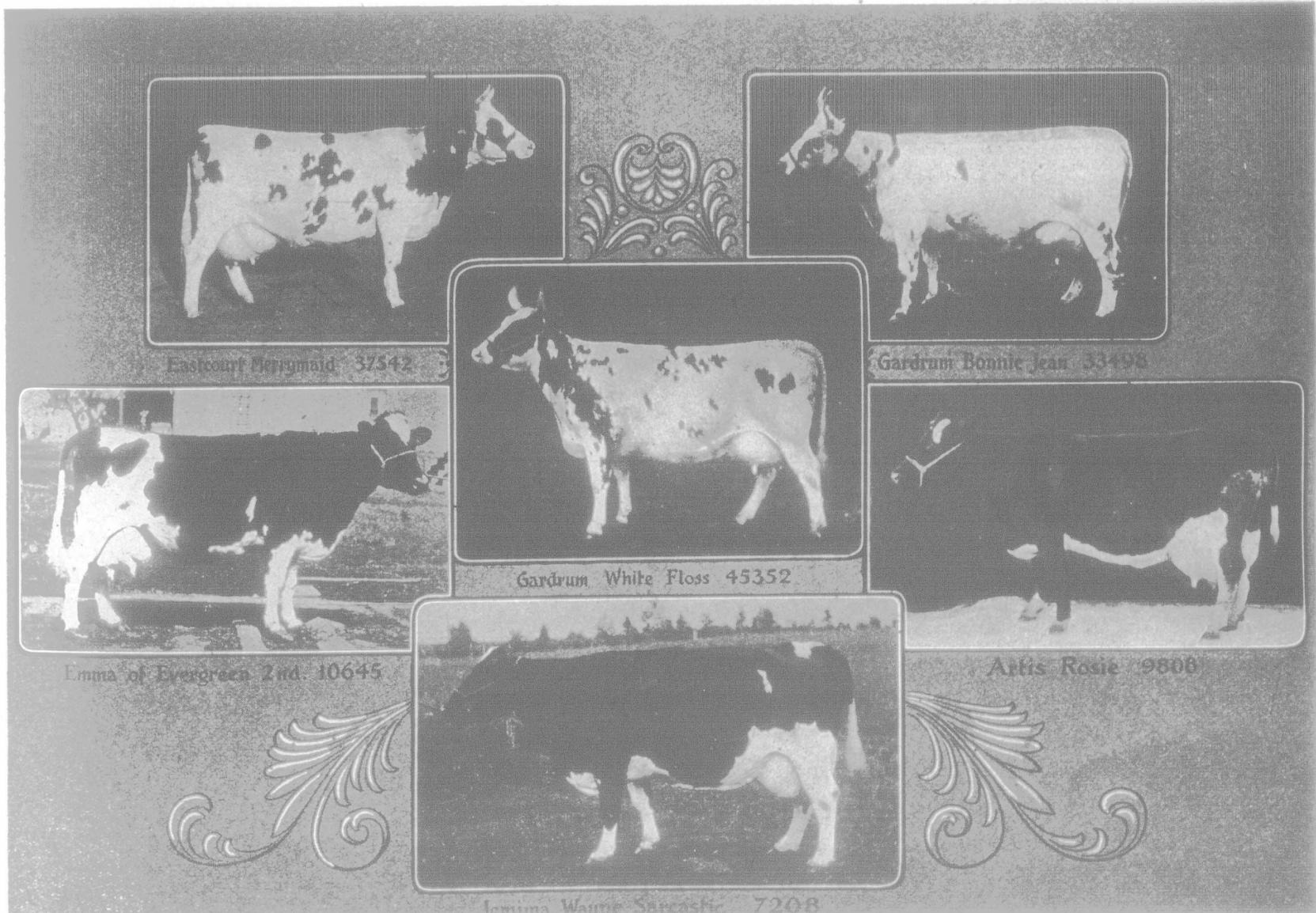
One of the prime requisites of a dairy cow is size. True it is that size varies, especially between different breeds and also within breeds of dairy cattle. In the case of the former, however, we must bear in mind the different adaptations, and in the case of the latter offer considerably more criticism. Making due allowance for adaptations and with other things equal, the large cow has the advantage. The ability of a cow to consume large amounts of roughage is closely associated with size, and although there are many small cows of great capacity, the balance in this respect on the average lies in favor of the large cow. Size on the other hand may be overdone, and when it is overdone it is usually at the expense of other essential qualities. Size alone is of very little value and must be present in extremely close correlation with such qualities as capacity, substance and form. Breeding for size alone does not appear on the surface to be a difficult objective, but to obtain it in its proper relationship with type and production is by no means an easy task. The use of good sized parentage is the most secure way of obtaining large calves, and from that time on it is a matter of care, treatment and feed. Unfortunately, stock that has the good fortune of having large parentage even for a number of generations, often fails to attain much size when mature. It is possible to stunt growth by feeding practice, and early breeding, although not always, this is very often done by insufficient feed in the early stages of life. The amount and character of the feed, especially with the young animal, is a most important item in determining whether or not the offspring will be as large as their parents. To obtain size breed to retain size—and feed.

Dairy type or form is an extremely well established fact, and the relationship between form and function needs very little comment. There is a tendency on the part of all breeds of dairy cattle to a certain similarity in the important essentials as regards form. The various breed association score cards and show requirements vary, it is true, but only in details which really effect very little the general form such as would be includ^{ed}

in for instance capacity, quality or proportion of animal. These differences are due probably to a slightly different significance and interpretation on the part of the different classes of breeders. Holstein breeders require size and capacity, and in order to secure these qualities they are probably not so exacting with regard to smoothness and straightness of form as compared with Ayrshire breeders, while Jersey breeders on the other hand are particularly keen or lean, angular form. In recognizing these and other similar differences in breeds, however, they affect the general type or form very little. Even within breeds there are found differences demonstrated in strains of families. These so-called minor differences actually in themselves represent breed type and are of vital importance in that they are indicative of the character of breeding behind any given animal. They represent attainment or results towards the breed ideal, and the breeder who is not working with a definite ideal in mind as regards type is not very likely to meet with continued success in establishing and maintaining type in his herd. The effort in breeding for type in any breed should be strict adherence to the ideal in mind and by rigid selection and careful mating attempt to establish a line of animals, strain or family which will demonstrate clearly to the most casual observer a strong uniformity of breed character and type.

HEALTH A VITAL QUESTION

Dairy cattle interests are confronted with a problem of terrific economic importance. So vital is the question of health in even the smallest herd that each breeder of necessity needs a definite working policy. Each day almost it is becoming a subject of more open discussion. The minor ailments are treated mostly by veterinarians, in which respect, due to the frequent urgent needs, breeders would be better protected if their own knowledge of some of the simpler ailments was not so limited. It is the larger issues, however, such as tuberculosis and abortion that are creating such havoc, interest and study at the present time. Heretofore, breeders were very reluctant to say or even think much about these diseases. Buying and selling continued, irrespective of possible contamination, until some were confronted with either one or both of these diseases in an acute form. Occasional occurrences were allowed to pass off as accidental, and in this way the ravages were allowed to continue unmolested. This has not been the case with all breed-



Representative Animals from the Dairy Herd of the Nova Scotia Agricultural College, Truro, N. S.

The following brief notes refer to the outstanding achievements of the animals illustrated above: (1) East Court Merrymaid. A splendid Ayrshire matron with an R. O. P. record of 12,930 lbs. milk and 262 lbs. fat; (2) Gardrum Bonnie Jean has a record of 15,514 lbs. milk and 622 lbs. of fat in one year; (3) Gardrum White Floss is the outstanding Ayrshire heifer that won the dairy tests at the Amherst Winter Fair, December, 1919. Her score was 270.97 points; (4) Emma of Evergreen 2nd. is a twelve-year-old Holstein matron with records totalling 77,565 lbs. milk and 2,432 lbs. fat in the last six years. For the year ending November, 1919, she gave 17,498 lbs. milk and 531 lbs. fat; (5) Artis Rosie is thirteen years old and has given 79,106 lbs. milk and 2,540 lbs. of fat in the last six years. Her best year's record is 16,318 lbs. milk and 601 lbs. fat; (6) Jemima Wayne Sarcastic is the dam of Jemima Johanna of Riverside that has a record of 39,373 lbs. milk and 1,280 lbs. butter in one year. Jemima Wayne Sarcastic has a record of 14,330 lbs. milk and 448 lbs. of fat in one year.

ers, however; some have taken the necessary steps to protect themselves and have met with good success in establishing clean herds. Government assistance has afforded much help and the accredited herd plan, a sound initial work, is commanding much needed attention. To eradicate tuberculosis or abortion is not by any means an easy task. Nevertheless if every breeder made a study of the problem, secured the latest information on it, and faced his own particular difficulties squarely, the situation could be brought quite under control, and in the course of a comparatively few years the health of Canada's dairy cattle would be in a much more secure position.

The production of milk demands more nervous energy and exacts more from the highly organized system of a good milk cow than does the work or product produced by any other animal. It is, therefore, necessary that in order to do efficient work over a period of years the milk cow must enjoy perfect health. The cost of breeding and feeding a dairy animal until it is able to make a return is becoming higher and higher, so that the longer it remains a working unit in the herd the more will it reduce its initial cost. When it is considered that longevity, one avenue of return, is an item due more consideration than it is usually given and the fact that health plays such a part in determining the term of usefulness of a cow, then probably and then only

will more attention be given the breeding and raising of healthy dairy stock.

PRODUCTION THE FINAL TEST.

Production is most necessary and is actually the final test of a dairy animal. Unfortunately the test is not always applied and altogether too many low producers are allowed to reproduce themselves and impose their lack of dairy qualities on future generations. There is only one thing to do with the cow that cannot produce a profitable supply of milk and butter fat, and that is send her to the block. Disposing of the poor cows not only immediately raises average production, establishing a higher percentage profit, but it destroys the possibility of her reproducing her kind. Attentive mating and feeding with the remaining animals will make a handsome difference.

True knowledge of the ability of each individual is essential to economical production. The official test offers great possibilities; in fact too much emphasis cannot be laid on the test for milk and butter-fat. The aim should be, however, to test the whole herd and not only one or two individuals as is too often the case. Phenomenal production with a few animals is not as great an indication or advertisement as it would seem: high average production on more animals is the more sound basis upon which to work. Milk production

alone is not sufficient, however good a final test it may be. Dairy qualities must be combined with strength of type and structure in such proportions as to ensure function not being a burden on form, or vice versa.

The bull is master of the situation in breeding for milk production and holds the cards that are most easily played. Quite a range in ability is bound to be found in any group of cows. It is not practicable to eliminate all cows that are not big producers. However, after the really poor cows have been culled out every effort should be made in the handling of the remaining ones to make each cow at least a profitable unit. The breeder with a goodly number of average cows is in a position to spend almost unlimited funds in purchasing the right bull with which to mate these cows. The right bull is very often difficult to obtain; nevertheless it is usually possible, however much effort it takes, to secure a bull that will improve the individuality and production of the cows. As soon as any breeder of dairy cattle fails in this objective, just so soon will the results of his breeding operation be backward. It is most certainly not possible to measure accurately the degree in which a bull of any given line of breeding is capable of transmitting to his offspring the qualities of his immediate ancestors. It is, however, together with individuality, the only basis upon which to make selection, and the bull offers the most economical means of improvement.

The Marketing of Canadian Cheese.

IN this article on the marketing of Canadian cheese I propose to ignore the somewhat disorganized and unsettled condition which still prevails as a result of the war, believing that sooner or later the dairy trade will revert to pre war conditions. There will possibly be some changes in the source of supply, but these will not prevent business being conducted along the usual lines.

The United Kingdom has always been, and the indications are that it will continue to be, the chief market for Canadian cheese. As a matter of fact it is the chief world's market for both butter and cheese. There is to be sure, a certain amount of trading in these two commodities between different countries, owing to geographical and other special reasons, but practically every country in the world with a surplus for export, depends, under normal conditions, on the United Kingdom for its principal market. It is well to keep this fact in mind.

At the present time New Zealand is Canada's chief competitor in cheese. The production of cheese in New Zealand has been increased in recent years in just about the same quantity as our production has decreased. It is sometimes said that New Zealand cheese is displacing Canadian on the market. I do not think that is the correct view. New Zealand cheese is simply supplying the shortage created by our decreased production. Canadian cheese on the whole brings a premium over the price paid for the New Zealand product, and generally speaking has the preference on account of its higher standard of quality. Fortunately, the seasons in the two countries are directly opposite, New Zealand cheese being produced largely during our winter months. This fact of the New Zealand supplies being available during the off season in Canada has brought about changes in the cheese market and in the methods of marketing cheese. Before New Zealand came into the field with large quantities, Canadian cheese was purchased during the summer and fall months for storage against the period of non supply; but with New Zealand cheese available from December to June Canadian cheese is not required in such large quantities during that period. In any case the smaller quantity now produced does not exceed the current demands to the same extent as formerly. Unfortunately for the reputation of Canadian cheese, the factories now ship their cheese out in much greener condition than they formerly did. When a large proportion of the cheese was held several months before being sold to the consumer this early disposal was of very much less importance than it is now when the cheese go on to the market more quickly. The matter is all the more serious from our point of view owing to the fact that New Zealand cheese cannot possibly reach the consumer until it is at least two and more often three months old. When we get back to normal conditions in the cheese trade the immature marketing of Canadian cheese may have serious results.

There may be said to be two channels through which Canadian cheese can be marketed in the United Kingdom: 1. Cheese may be sold either at a country board or by private sale to an exporter, who in turn sells it over the cable to correspondents or connections in the U. K. 2. The cheese may be shipped direct from the factory to an importer, or commission agent, in the Old Country, where the primary sale is made.

While there may be said to be two channels, as above, for the marketing of cheese, it is well known that practically all Canadian cheese flows to England through channel No. 1, and for very good reasons as we shall see later on. During the early days of the cheese factory system, the Canadian exporter, who at that time was usually an agent of some firm in the U. K., sent his buyers through the country and bought the cheese on the shelves in the factories. It was the practice until about 25 or 30 years ago to sell the last three months production as one lot, and the "contracting," as it was called, for these cheese was by far the most important deal of the season. When word came from the Old Country as to the price that might be paid there was great activity for a few days among the buyers, who

By J. A. RUDDICK, DAIRY AND COLD STORAGE COMMISSIONER, OTTAWA.

endeavored to close their deals before the market value became generally known. The institution of the cheese boards was a distinct advance in the method by which the cheese reached the Canadian exporters' hands, and to-day a large percentage of the cheese is either sold on the boards or contracted for on the basis of the ruling price, or highest price, paid at some particular board. In this way a large number of factories known as "regulars" are secured by exporters. This business of regulars has led to more or less manipulation and some abuses on the cheese boards, and in my judgment has very largely destroyed the usefulness of the boards. During the past season we have seen as much as one cent. per pound difference in the price of cheese on the same day at different boards only a few miles distant from each other. Buyers have run up the price for beyond the real value and taken a small lot of cheese to establish a ruling, with a view of making some other firm pay "through the nose" for their regulars. The factories interested make a temporary gain, but it is not a healthy condition for the cheese industry. Losses incurred through speculation or otherwise re-act on the

Those who have tried it have usually had cause to regret their action. The exporter, call him a middle man if you like, is a necessary factor in the Canadian cheese trade, and it is through him that the highest price can be obtained for the cheese. The toll exacted by the exporter, after all fixed charges are paid, is exceedingly small. If the exporter, or middle man, were taking a heavy toll—more than was justifiable—it would then be time to look for some other channel through which to export the cheese. Cheese of the highest grade, but made in different parts of the country, have special characteristics which make certain lots more suitable for some markets in the U. K. than they are for others. The exporter acquires expert knowledge on that point and, therefore, attends to the proper distribution. That is a very important consideration.

The most serious objection to the plan of consigning cheese to the Old Country for sale there is the weakening effect it has on the market. This was very clearly demonstrated in connection with the export of New Zealand cheese during the early years of the industry in that country. Owing to conditions which cannot be gone into here, consignment was the only course open to the producers. As the quantity increased it was found that the presence of a large quantity of New Zealand cheese in the hands of commission houses, or the

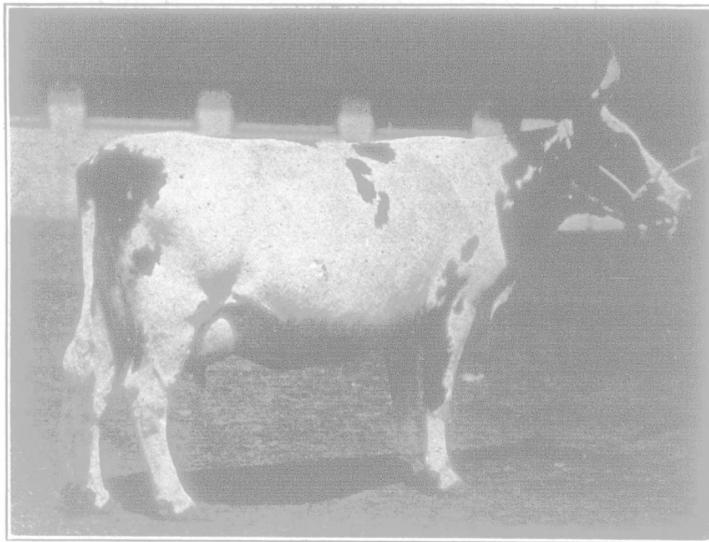
knowledge that this cheese was coming forward, created a very weak feeling in the market, which buyers were not slow to take advantage of. Old Country buyers would not be very keen to purchase in Canada if they knew that a large quantity was coming forward to be sold at their own doors. The broker, or commission agent apart from his desire to please his consignees, has no particular interest in the price obtained for the cheese, because his commission is the same whether the price is high or low. He is not likely to secure the last farthing in the same way that the Canadian exporter will who has his money in the cheese. The Canadian exporter is a necessary link in the chain which constitutes the Canadian cheese trade. Eliminate him and you destroy at once the most active element of competition that it is possible to have.

On the whole the marketing of Canadian cheese has been carried out economically and, considering the lack of a written contract, with a commendable degree of honesty. For such abuses as have crept into the

present methods of doing business the salesmen are as much to blame as the buyers.

The weakness of the present system is that it does not offer sufficient reward to the cheesemaker who by efficiency, skill and careful work, produces the cheese of highest quality. It is necessary, in order to maintain the quality and thus meet the competition which is every day growing stronger in the British market, that there should be protection for the good cheesemaker and those patrons who supply good milk. Careful observers of the cheese industry view with some alarm tendencies which mean deterioration, and unless this tendency is checked the results may be rather serious. I do not know of any more effective method than to have the cheese officially graded and sold by auction. It may not be practical to carry out the plan universally. In Western Ontario for instance there are difficulties in the way, but it is possible that some scheme of local grading and auction might be worked out that would be satisfactory to all concerned.

Continued on page 1542



Lake View Pansy.

Grand champion Ayrshire cow for Rowland Ness at the Calgary Exhibition, 1920.

cheese market sooner or later. There are other abuses, including private understanding between cheese buyers and salesmen and between cheese makers and buyers, which are not in the interest of the cheese industry.

I believe the time has come when the cheese should reach the exporter by the auction route, if I may be allowed such an expression. For some years the writer has advocated the plan of shipping export cheese direct from the factory to a warehouse in Montreal, there to be graded by an independent Government grader, and sold on the grade by auction to the highest bidder, without recourse. This insures that the cheese will be paid for strictly according to quality, and it is in the interest of the cheese industry that this should be done. It is not a good thing for a factory to receive full price for inferior cheese, because it engenders a false sense of security which perpetuated the evil of poor quality.

As regards plan No. 2, whereby the cheese may be consigned to merchants or commission houses in the Old Country, I may say at once that I do not believe it would be good policy for the cheese producers of this country

Successful Management of Pure-bred Auction Sales.

THE auction method of disposing of pure bred dairy cattle has increased in popularity to a wonderful extent during the last few years. Indeed it is claimed by some that of all the pure-bred dairy cattle that change hands annually in Eastern Canada, at least 75 per cent. are sold by auction, but whether or not this is true there is no means of knowing. At least there is a steadily increasing number of auction sales being held, a large percentage of these being conducted under the auspices of pure-bred breeders' clubs. The auction sale properly conducted is undoubtedly one of the most satisfactory and economical methods of selling pure-bred stock, but the fact is to be regretted, nevertheless, that there are few sales of this kind that are as well managed as they should be. That this statement cannot be contradicted will be supported, we feel sure, by every observant breeder; and its unfortunate truth is responsible for the present article, wherein endeavor has been made to bring together as many as possible of the important features of a well-managed and profitable auction sale.

There is something about an auction that appeals to the average person. But there are at the same time auctions that appeal the second time and others that do not. This leads us to say that at least the most fundamental consideration, if not the most important factor, in determining the success of a sale is the honesty of the management and the integrity and fair dealing of the consignors, if it be a consignment sale. No auction can be made a success unless the buyers can be brought together with confidence that all the cards will be put on the table and everyone given a square chance to bid without suspicion. The frequency of club sales and the fact that most clubs hold sales annually or semi-annually makes it imperative that buyers be encouraged to come year after year because they know they will be satisfied and will always get a chance to buy good stock.

RIGID SELECTION OF STOCK NECESSARY.

The second most important factor in building up a reputable sale is the selection of the stock to be offered. Where a herd is being dispersed, of course all must go, but there is not the slightest doubt of the fact that selection cannot be too rigid for the club or consignment sale. The function of the auction sale in the pure-bred live stock industry is not to provide a dumping ground for stock that the consignor wants to unload on someone else. What it really is, is an open market for the best type of stock upon which the breeder has built or hopes to build his reputation. Observant breeders with whom we have talked, and our own opinion based on attendance at many sales, confirm the opinion that the majority of sales in the past have shown too little attention to this point. Possibly the best method of overcoming any tendency toward poor stock is for the club to appoint or elect a sale committee or board known to be of the right stamp. These men could ask all members far enough in advance how many head they desired to contribute to the next sale. John Brown might say he would contribute three head, but it would not be left with him to consign any animals he liked. A thoroughly qualified inspector, preferably one from outside the district, should be selected and sent from one herd to another to make the selections on behalf of the sale management. A few poor animals offered at a good sale leave a bad impression on the mind of every buyer and they could more profitably be slaughtered or sold privately than brought into the ring. The inspector should not be forced to accept any animal he does not like and if a consignor will not put any but his poorer animals into the sale, it would undoubtedly be wisdom to refuse him the privilege of consigning until he can secure a surplus of good animals. This point is so important that it constitutes perhaps the chief obstacle which the average sale manager has to overcome at the present time.

GUARANTEES SHOULD BE LIBERAL AND CLEAR-CUT.

Then there is the matter of guarantees. No matter how excellent the individuality and production of a cow, few buyers who take any pride in their own herds will buy merely on sight and pay good prices. The management and consignors both have a responsibility to carry on behalf of the buyer and they should be ready and willing to fulfil it. If a buyer has an accredited herd, or comes from a state or province requiring a 60 or 90-day retest for tuberculosis before admitting an animal, it is obviously unfair to the buyer to deny him this guarantee, provided he will undertake to give the vendor reasonable protection from possible contamination in the interim. Breeders have suggested to us that the single test is not a sufficient guarantee for the buyer against tuberculosis and that the triple test should be made the basis of the guarantee if the purchaser desires it and is willing to bear the expense. If it is true that the majority of pure-bred dairy cattle are marketed by the auction route, no one should be more interested than sales clubs in the matter of tuberculin testing, and there is every reason to believe that government control of all tuberculin used and the administration of the test by veterinarians for whom the Government would stand responsible, would give appreciably more protection to the buyer and materially aid in the detection of tuberculous animals. The principal point is that the buyer should be given every reasonable guarantee in this regard and every step possible to facilitate the accuracy of the test should be taken.

Other guarantees have reference to dates of calving and breeding ability of females. There is no reason

FITTING HELPS THE SALE AVERAGE.

We doubt whether it is possible to overestimate the value of fitting in securing top prices for pure-bred stock marketed through the sale-ring. Estimates from experienced breeders and competent observers vary greatly as to the per cent. increase in prices which can be secured with well fitted animals over thin and unfitted ones. These estimates vary from 25 to 100 per cent. in the amount of increase that is actually secured through fitting. We believe the average increase would be close to 50 per cent. but we have seen instances where thin and poorly fitted animals would have brought 100 per cent. more had they been prepared for the ring. If it is worth while to fit a cow or a bull for the show-ring, blanket it, wash it, polish its horns, have it in good flesh and near to freshening, it is much more necessary to put it in good condition for public sale. The owner is not now seeking merely honors and advertising, but money, the fruits of his work and the result of his showings. The breeder who does not consign to the sale with an eye to what will sell best and help to sell should not consign at all, because he will help to injure the sale of other animals. It is frequently noticeable also that cows that are close to calving will bring much more money than animals that must still go a month, or even cows with calves at foot. Just why this is, is hard to say, but the fact remains that the man who regularly consigns to a certain club sale and who breeds his cows to freshen no more than a week or two after the sale will be well rewarded for his trouble. This applies particularly to cows of moderate values and is true of anything entering the ring within two weeks before calving. Along the same line the breeder should consign the type of animal that the market wants. The man who does a successful business is the man who has what the people want to buy and if large growthy heifers or big cows with great capacity, or cows with good seven-day records are in greatest demand an endeavor should be made to meet this demand. In some parts of the country a long distance cow will outsell a short distance cow, while in others, prices for the two will be reversed. The consignor, inspector and sales manager should combine to fill the sale with popular stuff. We do not believe it makes much difference when a sale is held. When the animals are in show condition they are in sale condition. Most pure-bred breeders can get a line of credit any time they need it, and if they need or want an animal they can buy it any season of the year. Spring sales are the rule because most cows freshen then, but generally speaking the sale should be held any time the stock is ready. Where the stock to be offered is not particularly high class, it will cater to a different class of buyers and such factors as the abundance of feed, character of the season and harvest must be borne in mind in determining the time of the sale.

Something should be said, perhaps, about bulls. It is a notable fact that Canadian breeders have not been educated to buy bulls in a Canadian sale-ring. Aged bulls rarely bring above beef prices and it is folly at the present time to sell a bull by auction that is over two years old. He may even be a proven breeder, but sell dirt cheap. Young bulls do not always sell well either, but this is principally true of those of moderate value such as should be sold to head grade herds. The present

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The Auctioneer Should Be Able to Sell Fast.

why every heifer sold in this way should not be guaranteed a breeder if she has been bred; and a guarantee of this kind should carry no strings with it. Nothing so annoys a prospective buyer as to have the vendor hem and haw about the breeding ability of a female or her date of freshening. She is either guaranteed a breeder or she is not; and the guarantee should be made plain in the fewest possible words. Similarly with the date of freshening. No man can positively guarantee a cow in calf, but he can tell the truth or as much of it as he knows without waiting to be asked several questions. The guarantee should be clear-cut and as full as possible, because if the vendor has not much confidence in his animal he cannot expect the prospective buyer to bid confidently. The best way to show confidence and invite high prices is to advertise every practicable guarantee.



A Fine Illustration of the Jersey Judging at the May Show, 1920, on the Island of Jersey.

POULTRY.

A Campaign Against the Scrub Hen—What Next?

WHEN an old-timer in the township of West Zorra, Oxford County, Ontario, who knows the people thoroughly was asked what the general opinion was regarding the campaign that was then on against the inferior hens of the township, he hesitated a moment then looked up and smilingly said: "What next?" During the two days spent in the township by a representative of "The Farmer's Advocate," first when the culling was being done on the individual farms and afterward when the inferior hens were being loaded up for market, several variations from this concise opinion were heard, but probably none of them were any closer to the actual truth. What next! The idea of devoting a special week to an organized raid against the "boarder" hens of a whole township was, so far as we are aware, absolutely unheard of from any part of Canada until the idea was coined in West Zorra. We have had campaigns for better bulls, for better live stock, for better seed and for more hogs; in fact, there are on record campaigns touching almost every phase of farm production except the unobtrusive leader of the farmyard orchestra. That she lays eggs at all is largely due to the natural instincts with which she was gifted sometime before Noah took to the water to escape drowning. That she doesn't lay more eggs is due to the fact that since the human race returned to the land, war and politics have so taken up our time that the average man has neglected her potential usefulness. Her ability to scatter cackleberries over the stables, the hay mow, and the straw loft, has furnished gleeful occupation for generations of bare-legged children, with whom she has waged continuous war in an indignant effort to fulfil her material functions, and rear an indifferently brood to recruit the orchestra. There always were those, of course, who said she could do much more than she has done, but nobody was much interested except those who had found out for themselves. No wonder then that people should say, "What next?" when she was made the object of investigation over as much as a whole township. Perhaps, as a result, Ontario will take a livelier interest in her welfare and who knows, but she may come to be recognized as a distinct economic factor in farm life. In fact the West Zorra campaign has at least proven that her part in the development of minus labor incomes will stand investigation. One night after the last gun had been fired and a few people were sitting around taking stock of what had been accomplished, the scribe took out pencil and paper and started to figure. Now it is generally conceded that figures don't lie, but the reputation of Ananias is always recalled to qualify the statement. As the scribe continued to figure the importance of the West Zorra hen loomed larger and larger until finally the figuring stopped after someone said, "Better let it go at that or you will have the hens of Oxford County paying off the National debt." Fear of the unbeliever spoils many a good story, so in this one we will endeavor to proclaim nothing but the truth.

ORGANIZING THE RAID ON BIDDY.

West Zorra has a farmers' club at Embro and two co-operative egg circles, once at Embro and another at Woodstock. It also has its share of the Oxford County Agricultural Representative who is G. R. Green. Up at the O. A. C., Guelph, is Professor W. R. Graham, head of the Poultry Department. Put the five together and you have the reasons for the campaign against the inferior hens in West Zorra Township. It was ascertained that there are about 515 farms in the township, and it looked like a big proposition to go over every hen in every flock. Who would do it, in the first place? Could it be done with a reasonable expenditure of time and money? If you go into a man's flock and undertake to tell him that fifty per cent. of his hens are no good and should be killed it is almost necessary to know what you are talking about. Professor Graham was the man who is generally conceded to know that much and then some about chickens. But even he couldn't cull 515 flocks in a week, and so it was decided that about a dozen men who knew chickens pretty well were to spend a day with Professor Graham who would show them what was to be done. Now this might seem risky too, but the men chosen were a first-rate lot and after all is said and done, culling hens is easy with a little practice. That in itself is the very reason why the campaign should be valuable, because while a farm flock is being culled, the owner could, if he wanted to, learn how to do it himself in future. So these men were selected to cull and they did it well, with Professor Graham as boss culler and doing the hard flocks himself.

One of the special features of the campaign was that every farmer whose flock was culled paid 3 cents per bird for having it done. This was decided upon on the belief that if it was a good thing and a money saver, the farmer would be willing to pay for it. He was, too, and 116 farmers paid from 50 cents to \$6 apiece for having his inferior hens picked out for him, and their tails bobbed off. It was not expected, of course, that everyone would want their flocks culled because that would not be human nature. It was thought that if one out of four or five could be reached the good work would ultimately spread to the others. The idea of estimating a hen's value for egg laying by merely looking at her would be new to nearly everyone and many would not—and did not—care to risk it. Some people actually thought there was a good fat job in it for some one and that this was the reason the campaign was put on. Of course, we do not like to be too positive, but getting covered with a strange brand of hen lice at 50 cents per hour doesn't seem to us like boosting old Hi Cost very much. However, these things were anticipated and the doubters panned out in about the right proportion to get the job done on schedule time.

WHY BIDDY'S TAIL WAS BOBBED.

Each culler was selected to take the farm flocks on a certain line and was paid 50 cents per hour by the farmers' club for his time. This was by no means too much, as most of them were farmers themselves and busy. Mr. Green and Professor Graham went continually from one man to another, the former to keep the thing going smoothly and the latter to help out in any places of difficulty. At most places the hens were already penned up where they could be caught easily and they were gone over individually, the culls having their tails bobbed off so they could be identified easily. The good ones, as a mark of special esteem, were allowed to go un mutilated, while some medium ones that were laying at the time, but were of inferior type and should be sold as soon as they stopped, had one wing clipped. The culling was not very severe but this was done purposely as it was not intended to cut the flock down too much. In almost all cases the owner was asked to handle each bird and the reasons for keeping or discarding it were explained. After a few birds had been culled the owners would in some instances do the culling themselves, the culler merely throwing in a suggestion here and there. The result was in all cases that we know of, a satisfied owner.

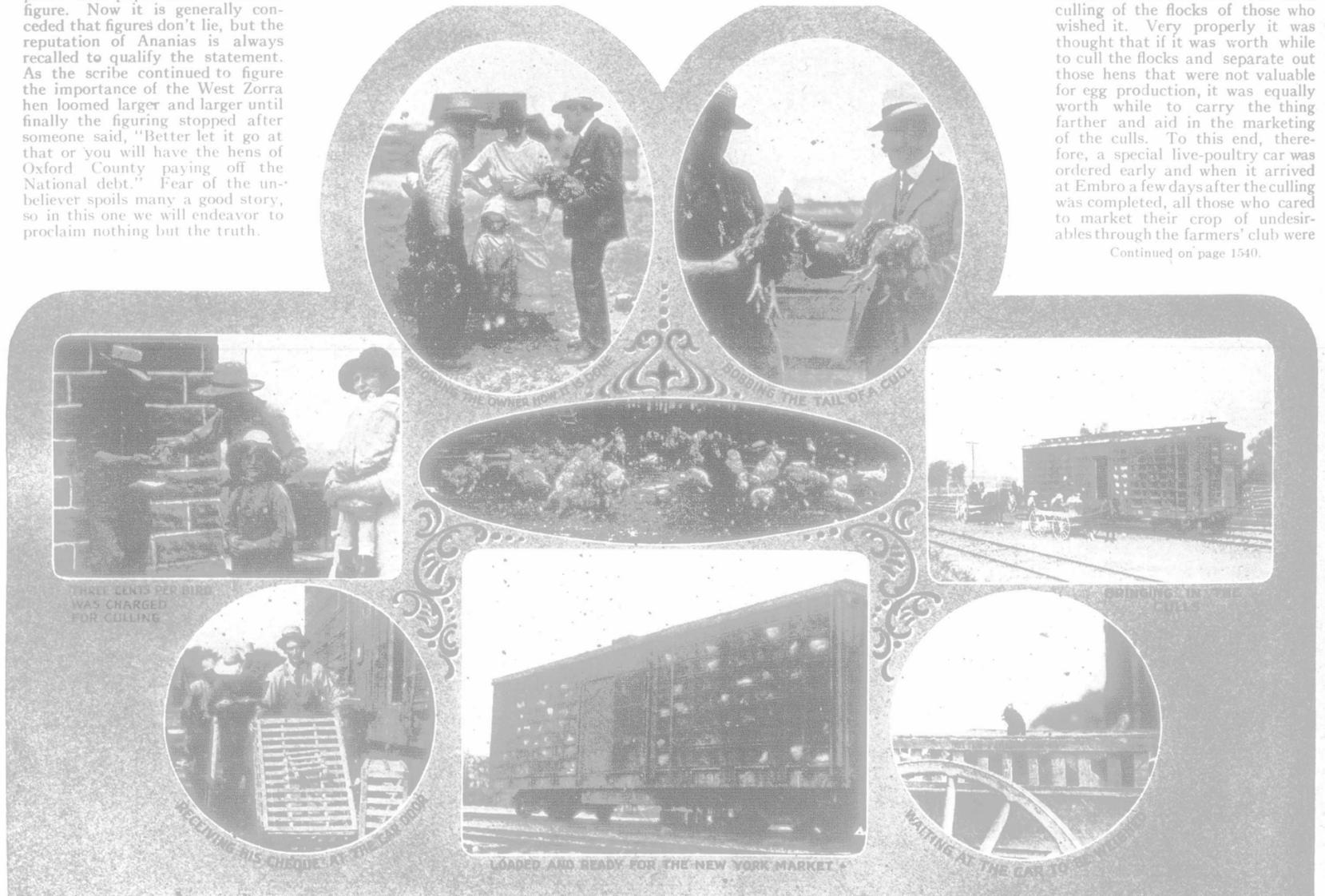
The actual method of culling and the various ways by which the superior hen is distinguished from the inferior one have been enumerated in these columns on several occasions during the last two years, but perhaps the following brief statement by Professor Graham will suffice to show that there are ways by which a careful observer can easily form a reliable estimate of the value of any hen as an egg producer and, therefore, as a valuable member of the flock.

"The question of a hen's ability to lay a large number of eggs is a question of profit or loss and as good laying hens during their first year's performance are usually the best hens the second year, the culling of the poor producers during June, July and August, or before they moult, becomes a profitable undertaking. In general, desirable birds are the ones showing a clean-cut head, having a bright, active eye, and with legs and breast well muscled. The skin is thin and the space between the pelvic bones and the end of the keel is wide and elastic. The good hens of the yellow legged breeds such as the Plymouth Rocks, now have legs nearly white; their toe nails are short and they get up early in the morning. Few good layers moult early. A hen that has laid a large number of eggs looks the part. Her plumage is dry and frequently dirty. The hen that looks as though she has just stepped out of a band-box needs watching—she is generally a boarder."

HOW BIDDY WENT TO THE MARKET.

The plan of campaign against the scrub hen in West Zorra did not end with the mere culling of the flocks of those who wished it. Very properly it was thought that if it was worth while to cull the flocks and separate out those hens that were not valuable for egg production, it was equally worth while to carry the thing farther and aid in the marketing of the culls. To this end, therefore, a special live-poultry car was ordered early and when it arrived at Embro a few days after the culling was completed, all those who cared to market their crop of undesirable through the farmers' club were

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A Photographic Story of the Culling Campaign in West Zorra Township, Oxford County.

THE APIARY.

The End of the Honey Season.

By H. W. SANDERS.

In the Northern States and Canada the season for beekeeping ends up with the first killing frosts of fall, which may occur at any time from the first days of September till the end of October according to latitude. The later days of the season, preceding the frosts for about a month, are the period when we may get the second of the two principal honey-flows the first of which is the clover season, and this latter one, the season when buckwheat, goldenrod, and aster will bring in a certain amount of honey. Sometimes there is between these two main honey flows a harvest from basswood, or some minor source, but the basswood trees are cut for lumber so fast that it has almost ceased to be reckoned as an important factor in honey-production.

This later honey is usually dark—the buckwheat honey is specially so—and cannot be compared with clover honey for either color or flavor, although there are some people who like the rich, yellow honey from goldenrod and declare that it surpasses other kinds. Aster honey is admittedly inferior and when left to the bees for winter use it frequently results in the loss of the colonies through dysentery. On the whole the late honey is inferior and where there is an early honey-flow of good quality clover, the beekeeper is wise not to attempt to mix his goods, but to sell the later honey on its merits at a lower price, or even to ship it to the bakers or wholesalers to avoid spoiling the reputation of his better honey.

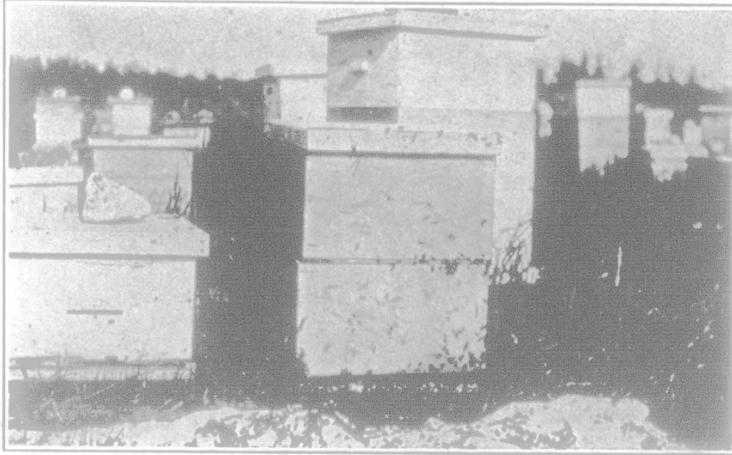
There are sometimes swarms that emerge late in the season under the stimulus of these later honey flows. One such is shown in the picture. The tall tiered-up hives in the background will show that the season is far enough advanced for a second and third super to be added to the storage space of the colonies. The swarm was shaken on a white sheet in front of the hive shown which happened to be queenless, so that the swarm not only re-inforced the colony, but gave to it a laying queen without the slightest chance of her being killed. Of course care was taken to open the hive first and the queen cells therein were cut out so that there might not be any virgin queens emerging to lead off a swarm the second time.

This is the best procedure with very late swarms. If they are hived in the usual way they will hardly build up to sufficient strength for wintering, but around the beeyard there is generally some weak or queenless colony with which they may well be united. The combined strength of the two colonies is then sufficient to ensure a powerful swarm for wintering. If there are no colonies with which the swarm may be united, then two colonies may be made into three by taking a frame or two of brood with the adhering bees from each of the two and then uniting these with the swarm. Of course care must be taken to avoid taking the queens, for the swarm will have one of its own, and if the two were to meet one would get killed.

Where the beekeeper cannot be on hand to hive the swarms, he will find it best to keep down swarming as far as possible. As this is most necessary in the early summer, when swarms are frequent, we will not deal with it here, for those who are faced with the problem will have already found a solution. At this time of year they will, however, be faced with a difficulty that arises when swarming is prevented, and that is the problem of old queens. Under natural circumstances the bees build queen-cells and supersede old queens when their period of usefulness is past, but the non-swarming beeyard is liable to be the place where queen-cells are destroyed and unless a good deal of discretion is used some of these supersedure cells are killed. This will mean that a worn-out queen will go into winter quarters and probably peg out just at the time she is most needed in the spring.

The remedy is to see that all queens that show signs of failing by weak colonies, scattered brood, or an excess of drones, are killed off and their colonies either re-queened by queens purchased from a breeder or raised at home from eggs laid by the best queen in the yard. Careful breeding pays as much among bees as among any other line of live stock.

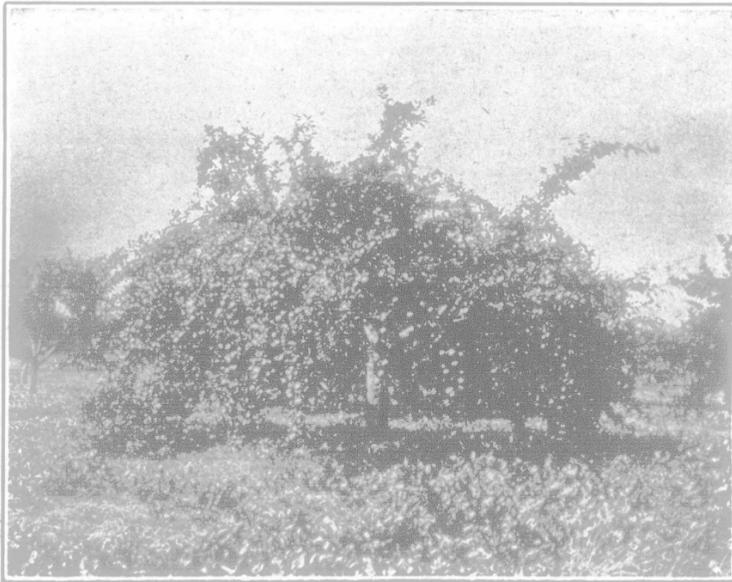
When the cold nights of fall begin to come and the last flowers have ceased to yield, it is important to conserve the warmth of the hives as much as possible. This is accomplished in our yard by covering each one with a piece of tar paper. The cover is removed and the paper placed over the quilt, then folded down over the hive in the same way as a parcel is wrapped and finally fastened in place with a lath and nail. The bottom-boards are all fastened to the hives at the same time and a lath tacked over the entrance all but an inch at one end. This makes the hive safe against robber bees, for the colony can well guard so small an entrance, and the bees soon stop up every hole and chink with their bee-glue so that they are warm and comfortable.



Hiving a Late Swarm.

When the time comes to carry them into the cellar, they are easily handled, and the tar paper is not taken off the hives till the following April, when the first Spring overhauling takes place.

After the hives have been prepared for winter, there are various duties before the beekeeper. Rendering down the cappings and odds and ends of beeswax is quite a task, and going over the combs and hives to sort out those that need repairs during the winter is another duty at this time of year. The pleasantest job, however, is the selling of the honey crop that has been gathered and taking an inventory of the property in the business, for if the season has been favorable there will be a comfortable balance on the right side of the account.



Crops Like This Need Careful Marketing to Secure the Greatest Profits.

HORTICULTURE.

Marketing the Apple Crop of 1920.

The apple crop of Eastern Canada this year will be a good one and the important problem before growers at the present time is to decide how best to market the crop. An article such as this cannot be of any material assistance in the actual selling of the crop, but it may be helpful in putting forth a few more or less general observations that have a bearing on present marketing conditions.

It is possible that British Columbia will market a crop of between 500,000 and 600,000 barrels, or about 1,750,000 boxes. This would be equal to about 80 per cent. of last year's crop and much of it will find its

way into Eastern markets since it is all boxed stuff, graded, and highly colored. New Brunswick and Quebec together had only about 100,000 barrels last year and while the development of the crop in Quebec has been disappointing since the blossoming season, and while the crop in New Brunswick will be considerably below last year, the quality is good in both provinces, due to good coloring and an absence of fungus diseases and insect pests. In Nova Scotia the crop is expected to be about 55 per cent. of last year which was 1,600,000 barrels. Quality will be much improved, however, and it is reported that not for many years has the crop appeared so clean and free from insect injury. In Ontario the crop shows a similar freedom from insect pests as well as fungi and in most sections of the province both fall and winter varieties are a good crop with the exception of Northern Spys and Baldwins. Greenings are especially good in Ontario and it is particularly fortunate for our growers in this connection that the British market, which has a decided preference for red apples cannot receive any appreciable supply of home-grown fruit.

The British apple crop is very light, which means that there should be a good overseas market for Ontario Greenings if barrels and shipping space can be obtained. The Apple Control Order of the British Ministry of Food has been suspended until November 14, after which time the maximum retail price of apples will be 20 cents per pound, which is 2 cents per pound in excess of the maximum retail price which obtained from December 6, 1918, to August 1, 1920. There will also be a maximum control price for primary handlers, or first receivers and the new schedule for this price was announced in our last issue in the form of a letter from Dr. G. C. Creelman, Agent-General for Ontario in London, England. The following cable is also printed in the August fruit crop report issued from Ottawa: "On and after November 15, Canadian, Maine and Western State apples in barrels of not less than 120 pounds will be controlled at maximum first receivers' price of 68s. (\$16.32) per barrel. British Columbia, Washington, Californian and Oregon apples in boxes of not less than 40 pounds, 23s. 6d. (\$5.64) per box; not less than 37 pounds 21s. 6d. (\$5.16) per box." The apple crop of the United States is estimated at 30,234,000 barrels or about 4,000,000 barrels more than last year. This increase will largely be made up of barrelled apples from the Mississippi and Ohio Valleys and New York State, especially since the crop in California and the Northwestern States shows a decrease from last year.

The apples of Eastern Canada are practically all marketed in barrels and the fact that the latter are scarce constitutes perhaps the most important difficulty that must be contended with in the marketing of this year's crop. The present price of barrels in Ontario is a dollar and a half or better, although earlier in the season barrels could be purchased for well under a dollar. Now, however, they are hard to get at any price and the probability is that many smaller growers who have not laid in a supply of barrels early will find it practically impossible to get the necessary quantity. A good quantity of available barrels is now in the hands of co-operative associations or large apple buyers, who got in the market early and secured all the barrels they could find. One such dealer we understand has 35,000 barrels on hand and the manager of one co-operative association has distributed 15,000 barrels and is still buying. The barrel situation may be the reason for a great deal of selling of "picked down" fruit this year. Buyers are already at work and are, we understand offering from two to three dollars per barrel for number ones and twos picked and in the orchard. The price depends upon the quality of the fruit and the varieties in the orchard. For the last few years there has not been very much speculative apple buying, but the poor crop of apples in Britain, and relatively good quality of Eastern Canada apples this year has apparently opened the way for a resumption of this market for the small grower. Formerly there used to be a great deal of "lump" buying of small orchards, but fortunately this practice has greatly decreased and most of the buying now is on the basis of so much per barrel on the tree, or picked ready for grading.

Packing this year will be very expensive and in spite of the apparently high price allowed in Britain for barrelled apples the costs will be very high. Picking alone will cost from 40 to 50 cents per barrel and it will probably cost about two dollars and seventy-five cents per barrel to pick, pack and load a car of apples. Freight and ocean transportation are also very high and the latter difficult to secure. Boxes will cost from 30 to 35 cents each and everything else in proportion so that the grower or buyer must face extreme marketing costs. The result of all this expensive handling should be and probably will be to send a great deal of the poorer stuff and possibly all the apples from some orchards to the evaporators. What the evaporators will pay we do not know. Whether all of them will open up or not is not certain, but there has been some talk of trying to keep the price down to around twenty-five cents per 100 pounds. This price would seem unwarrantably low.

One of the great questions which the Eastern Canadian apple grower must face is the necessity for an improvement in the quality of the pack, both of barrels and boxes. Undoubtedly too many apples of inferior grades find their way into the market and the result is that instead of steadily improving, the position of our barrelled stock on the Prairies and elsewhere has been undermined during the last few years. The manager of one of the best co-operative associations in Ontario recently stated that the pack from his association had

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Organizing a Profitable Market Garden.

BY WALTER J. COOKE.

THE first and most important item in organizing a successful market garden is to select a location that will furnish natural facilities for a profitable venture in this our oldest industry. In doing this the prospective gardener must have in mind his own adaptability. Is he better fitted for the small intensive garden, in which to make a living, where large crops must be secured and scientific practices employed, or would he be better with a larger acreage where looser methods could be followed?

If intensive gardening is his desire he should be prepared to buy high-priced land, because it should be near a good market. The possibilities of obtaining city yard manure must be good. The ease with which a good supply of irrigation water may be secured must also be considered, as irrigation is almost a necessity for profitable and satisfactory intensive culture. Labor is a very important and embarrassing factor at the present time, and a supply must be secured in season.

On the other hand, if extensive truck farming suits the grower's special characteristics, larger acreages of cheaper land may be considered. This will probably be removed from the large markets, but should be in a district where there is an established co-operative shipping association, or canning factories. Much of the fertility will be supplied by commercial fertilizers and a rotation of crops, with legumes in the rotation frequently. The crops will be handled largely by horse labor. The planting, spraying, cultivating and harvesting of many crops will be done by horse-driven machinery, thus reducing the demand for labor to a minimum. The number of acres in each system, for a substantial living, may vary according to conditions. The lowest acreage advisable under intensive management would probably be three acres. This would be rich, sandy loam, at least partially irrigated, and planted to crops that return a large market value, or lend themselves to the practice of double cropping. One-thousand-dollar-per-acre crops should be the aim of growers who practice small area gardening. This sum may be obtained from maximum crops of celery, onions, strawberries, or frame crops; or from early beets, spinach, radishes, peas, cauliflower and potatoes, followed by a late crop, which gives two medium-priced crops from the same land in one season.

This area may be increased in direct ratio to the ambition and the executive ability of the grower. In the United States they have gardens of hundreds of acres farmed intensively. Truck farming, under less intensive methods, should contain at least thirty acres. This gives a ten-acre truck crop every year and allowing a rotation of grain, clover, and the truck crops following the clover sod. While there are objections to following this exactly for many truck crops, nevertheless the main truck crops grown for shipping or canning factories, are potatoes, tomatoes and corn, and these all lend themselves to planting the clover sod. This gives the grower grain and fodder for his stock, lightens his expenses and reduces his fertilizer account to a minimum. Undoubtedly this is the best venture, for the ordinary man of limited capital. In the first place more locations of this kind are obtainable, as the exactions for type of soil and natural facilities are not so stringent. In the second place the onus of marketing, an art in which many of us are lacking, is taken largely from the grower. But the most important point in favor of thirty acres or more is that the grower has the power to establish a nearly self-supporting citadel, where the thunder of the big guns of the high cost of living will only reach his ears from afar.

He grows his own horse feed, feed for his cows, for a home supply of milk and butter. He has room for some hens and a couple of pigs, fruit of all kinds for his own table; and always the fresh air of heaven in abundant supply, which is the greatest antidote for Bolshevism and the unrest of society that we have at the present day.

PLAYING SAFE WITH SMALL CAPITAL.

Unfortunately, the most of us in starting are limited financially and much good business sense must be displayed. Often gardens may be rented with equipment, and thus a start may be made with very little money. This has an added advantage in the fact that if the grower finds he is not suited for, or satisfied with the life of growing vegetables—and we must admit it has its drawbacks—he may withdraw without financial loss.

Again, in these fluctuating times, when ninety per cent. of the people are dissatisfied and changing, good places may very often be bought with a very little money paid on the purchase, thus leaving the buyer of limited means much of his capital for equipment. Probably \$1,000 paid on his property would be a good average to expect and \$2,000 for necessary equipment. The equipment absolutely necessary to start would probably amount to about the same in intensive as extensive work. In intensive work, some glass is necessary—probably not green-houses, which are expensive for the beginner,—but enough hot-bed sash so that early plants could be raised. Glass is a necessity for the early market crops which are generally profitable. In the extensive garden these might not be necessary, but larger machinery and more stock would counter-balance this item.

It is plain that a man must study his bank book carefully, in outlining his first year's effort and then gradually expand as money is made and frugally saved. There is probably nothing that will induce habits of frugality as surely as the necessity for funds to expand a business in which a man has confidence of ultimate success. To illustrate this, suppose a grower of limited finances had decided to plant potatoes this past spring, and was forced to buy seed at \$6 per bag. This would probably have been a foolish move, because so much of his small capital would have been used in seed that he could not have properly operated his garden throughout the growing season. This leads up to the necessity of the grower planting the very early spring crops whenever he has a possible market, because these sell his exchequer early in the season, and enable him to carry on with better chance of success.

In fact, as wide a diversification of crops,—and in this I would include small fruits—as his market will accept is the safest course for the grower to pursue. Some crops are good this year and poor next, in spite of all that his knowledge will do, for after all a gardener may do in a scientific way to grow good crops the ultimate perfect results depend to a large extent on the season.

HAVE A SPECIALTY AND ADVERTISE IT.

Too much cannot be said to a grower in starting in favor of having a hobby in his garden as soon as he can afford it. There are some crops a grower especially prides himself in growing to perfection, or there should be one. His garden possibly is better adapted in soil or local climatic conditions to grow this crop successfully. Or again, his market may call strongly for some special product to which the locality is not specially adapted. This will give a grower a source of unending pride and interest to make a special study so that he may produce this one crop especially well, in abundant quantities, to his financial success.

This brings us to a point in which all agriculture is weak. If any other man in business has a product of which he is proud and which he wants the consumer to purchase, he advertises it. It is the most natural thing in the world to do. Everything is advertised, from gum to tractors, but food—the most important item in the world to-day—is very rarely advertised, unless in its manufactured form. If you advertise your product it is probably optimistically as to its virtues. If you are honest—and if you are not you are sure to

fail in business—you will try to live up to your advertisement; you will not only strive for quality, but for quantity to fulfil the demand created, and the money spent will be returned manifold. For instance, on our stationery we advertise "irrigated celery" a specialty. We would feel rather disgraced if we continually placed a poor product in this special vegetable before our customers, and it generally follows that advertising works both ways. You gain trade for your goods and you produce better goods for this trade. Advertising, as an association, has become popular at the present day, and to do this we must support our associations to give them strength. I had some years ago a fifteen-year-old boy working the garden, and following the custom of the times he drifted to town and was lost to agriculture. Not long afterwards he came out to see me, and I noticed he displayed a union button. I asked him what it cost, and he replied 60 cents a month. A fifteen-year-old boy valued his union so much that he was paying \$7.20 a year to its support, and we, as agriculturists, with thousands invested and so much at stake, are often backward in supporting our own union, be it vegetable growers, fruit association, or farmers' club. The lesson is plain, and all classes must see it, that to do the best for ourselves and our communities, we who have interests alike must be united, not to force our ideas and special needs where others would be burdened, but to show a strong front to other powerful associations which might try to pass their burdens to us.

FARM BULLETIN.

Victoria Cross Winners Feature Opening of C. N. E.

The 1920 Canadian National Exhibition was opened on Saturday last by Sir Auckland Geddes, British Ambassador to Washington, and a rivalling feature was that of twenty-five V. C. winners from all over Canada, centred in a group of thousands of Great War veterans. The Victoria Cross winners were enthusiastically received. Great crowds paid them tribute as they marched to and about the grounds. Sir Auckland Geddes expressed his faith in Canada and said: "America with all her powers owes much to England, but let us not forget that we all owe much to America. Her interests and ours are interwoven through a million ties. It is vital for her, I believe, for us I know, for the whole world I feel sure, that she and we should work together in friendship based on mutual respect and understanding. You, Canada, are her nearest neighbor. An invisible line, unfortified, unguarded separates you and her along thousands of miles of frontier. You have the great opportunity of interpreting us to her and her to us. Your prosperity must, for many years to come, be closely linked with hers. You and she are too close neighbors not powerfully to affect one another. Your life and her life cannot fail to act and react on the other, and as you grow more powerful and prosperous that action and reaction must increase in intensity."

Get Entries in for Western and Central Fairs.

Live stock men should bear in mind that entries must be made this week for the Western Fair, London, and the Central Canada Exhibition, Ottawa. The Central Canada demands entries by September 3, and entries for the Western Fair close on September 4. A catalogue of the live stock entries, as has been the custom at Toronto and Ottawa, is being compiled for the Western Fair this year, and this necessitates some co-operation on the part of live stock men. A catalogue will materially benefit exhibitors and they should see to it that their entries are mailed in good time, so this initial effort will prove a success.



Irrigation is Almost a Necessity for Intensive Market Gardening.



Cement Storage Tank and Pumping Outfit for an Overhead Irrigation System.

Toronto, Montreal, Buffalo, and Other Leading Markets

Comment on week ending August 26
Quotations on last Monday's Markets.

Receipts and Market Tops.

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

	CATTLE						CALVES						SHEEP					
	Week Ending	Same Week	Week Ending	Week Ending	Top Price	Good Steers	Week Ending	Same Week	Week Ending	Week Ending	Top Price	Good Calves	Week Ending	Same Week	Week Ending	Week Ending	Top Price	Good Lambs
Toronto (U. S. Y.)	3,125	9,207	3,888	\$14.50	\$14.00	\$14.00	1,031	1,454	1,172	\$19.50	\$22.00	\$18.50	4,481	7,494	3,032	\$16.50	\$17.50	\$13.75
Montreal (Pt. St. Chas.)	913	1,718	1,044	11.00	13.75	10.50	520	808	867	14.00	16.00	14.50	3,326	3,985	2,565	13.50	16.00	12.00
Montreal (East End)	731	1,898	931	11.00	13.75	10.50	400	1,123	548	14.00	16.00	14.50	1,418	1,924	1,924	13.50	16.00	12.00
Winnipeg	8,311	9,830	6,477	12.00	13.00	12.00	523	401	735	12.00	14.00	12.00	1,608	1,623	1,787	12.50	16.00	13.50
Calgary	1,505	4,882	1,393	10.00	11.75	9.75	197	1,878	286	10.75	11.25	10.85	1,696	445	567	12.00	12.50	12.00
Edmonton	1,197	1,445	668	9.50	11.50	10.00	156	328	73	9.50	10.00	10.50	296	247	388	11.00	12.50	9.50

Market Comments.

Toronto (Union Stock Yards.)

The total receipts for the week were three thousand, two hundred and seven cattle, nine hundred and eighty-nine calves, three thousand, seven hundred and seventy-five sheep, and two thousand, one hundred and eleven hogs, which is a considerably lighter run than for the previous week. The market opened 25 to 50 cents stronger on good cattle. A few heavy steers sold at \$14 to \$15, and the common variety at about steady prices. Choice butchers sold as high as \$15, cows and bulls were about steady, while choice milkers and springers were in good demand. The stocker and feeder trade, while quiet, showed a fairly strong undertone, especially for good quality stuff, while those of common quality were about steady. The quality of stock on the market last week showed some improvement. Farmers are not noticed in any numbers yet owing to the good harvest weather. The calf market improved during the week, the run being light but of a little better quality. The prospects for choice veal are that the prices will be fairly steady.

The sheep and lamb market was fairly strong, especially at the close. Lambs sold as high as \$16.50, while choice yearlings sold mostly from \$10 to \$11. Heavy sheep were slow. It is predicted that lower prices would result if the runs increase in volume.

The hog market varied some during the week, \$19.75 to \$20.25 being paid early in the week, while on Wednesday \$20.25 was paid for fed and watered hogs. The runs remain light. Prices are steady but with a heavy run, the price would more than likely drop.

The total receipts from January 1 to August 19, inclusive, were 183,227 cattle, 59,456 calves, 205,207 hogs and 64,603 sheep, compared with 200,343 cattle, 46,241 calves, 234,809 hogs and 63,286 sheep, received during the corresponding period of 1919.

Montreal.

Owing to the very severe cut in prices experienced on the previous week's market, there was a much lighter offering of cattle during the week. Prices on the better grades of butcher cattle were estimated to be about 75 cents higher, and on cutters and bulls about 25 cents up. There were no well-finished cattle on sale. The increase in prices was partly due to competition on the market and partly due to design on the part of the packers to encourage heavier shipments. One load of fairly good steers averaging nine hundred and ninety pounds brought \$11, a few good steers and heifers were sold from \$9.50 to \$10, and the balance of the steers were weighed up at \$8.50 or under. Light, poorly-bred steers weighing from six hundred to seven hundred pounds were weighed up with heifers as low as \$6. A few choice heifer cows were sold for \$10. Good fat cows brought up to \$9, and cows that were just beginning to flesh up brought around \$7. Yearling bulls and light heifers sold generally at \$5, and heavier bulls at \$6. There were no bulls sold over \$7. The calf market remained quite firm and sales of fairly good calves were made up at \$14.

There was considerable improvement in the lamb market, good lambs selling

CLASSIFICATION	No.	TORONTO			MONTREAL			
		Avg. Price	Price Range	Top Price	No.	Avg. Price	Price Range	Top Price
STEERS								
heavy finished								
STEERS	664	\$12.72	\$12.00-\$13.50	\$14.50	63	10.50	10.00-11.00	11.00
1,000-1,200					12			
STEERS	683	11.44	10.00-12.50	13.50	6	10.50	10.00-11.00	11.00
700-1,000	210	9.84	9.00-10.75	10.75	155	8.50	7.00-9.00	10.00
STEERS	210	12.50	12.00-13.00	13.25	3	10.00	10.00	11.00
HEIFERS	149	10.50	9.50-11.50	12.00	13	8.50	8.00-9.00	9.25
common	68	8.50	8.00-9.00	9.00	88	6.75	6.00-7.50	7.50
HEIFERS	246	10.00	9.00-11.00	11.50	58	8.75	8.50-9.00	9.00
COWS	301	8.00	7.00-9.00	9.00	164	7.00	6.00-8.00	8.50
COWS	30	8.55	8.50-9.50	10.00	2			
BULLS	94	6.72	5.75-8.00	9.00	302	5.50	5.00-6.00	6.00
BULLS	90	4.25	3.25-5.25	5.25	37	4.00	3.00-4.50	4.50
CANNERS & CUTTERS					8			
OXEN								
CALVES	1,031	17.57	16.00-19.00	19.50	298	12.50	11.00-14.00	14.00
veal					222	7.00	7.00	8.00
grass								
STOCKERS	204	9.00	8.50-9.50	10.00				
450-800	18	8.00	7.50-8.50	8.50				
STOCKERS	122	11.50	11.00-12.00	12.50				
FEEDERS								
800-1,100								
FEEDERS	2,479	20.15	19.75-20.25	20.25	1,091	20.50	20.50	20.75
HOGS					23	18.25	18.00-18.50	19.00
selects	8	18.25	17.75-18.25	18.25	313			
HEAVIES	96	16.23	15.25-17.25	17.25	215	16.25	16.50	16.50
(Fed and watered)					8			
LIGHTS								
LAMBS	3,885	14.57	13.00-16.00	16.50	1,447	13.00	13.00	13.50
common	165	11.51	11.00-13.00	13.50	1,392	11.00	10.00-12.00	12.00
LAMBS								
heavy	17				289	7.10	7.00	7.50
SHEEP	178	7.50	7.00-10.00	10.00	198	6.25	6.00	7.00
light								
common	236	6.00	5.50-6.50	6.50				

generally from \$12.75 to \$13, with a top of \$13.50, as compared with \$12 on the previous week.

It is predicted that this increase will bring out much heavier shipments, and unless American buyers operate there will likely be a lowering of prices. Sheep are poor sellers. A few selected young ewes sold up to \$8. The majority of the sheep offered were sold from \$6.50 to \$7.

Owing to light receipts hogs sold pretty steadily throughout the week, at \$20.50 off cars. A few small shipments were contracted for at \$20.75. These prices are being maintained principally on account of the need for hogs for the local shop trade.

Pt. St. CHARLES.—The total receipts from January 1 to August 19, inclusive, were 22,166 cattle, 50,439 calves, 44,608 hogs and 24,704 sheep; compared with 24,836 cattle, 56,401 calves, 55,740 hogs, and 23,446 sheep, received during the corresponding period of 1919.

East End.—The total receipts from January 1 to August 19, inclusive, were 23,954 cattle, 40,110 calves, 32,893 hogs and 19,044 sheep; compared with 27,710 cattle, 40,526 calves, 37,143 hogs and 20,142 sheep, received during the corresponding period of 1919.

Wool Market Report.

Limited buying and selling of the new clip still prevails. Growers in Western

Canada have not experienced the difficulty in securing cars and getting them forwarded after loading that the growers in the Western States have had to contend with. The fact that Canadian wools are coming forward so rapidly for grading is working out advantageously as Boston reports the lightest receipts of the new clip wools in years, and consequently is able to absorb a portion of the Canadian clip. There is no indication as yet of the mills buying to cover the manufacture of light weight goods, although there has been considerable activity in the purchase of medium and low medium wools. In foreign markets the best wools are selling at steady prices, while poorer grades are easier. Notwithstanding the present indifference on the part of the manufacturers there is a slow return of confidence in the wool market, as it is believed that the time when buying will be resumed is close at hand, especially in view of the demand which the filling of orders for fall and winter goods will create. Prices for Canadian graded wools are as follows:

CANADIAN WESTERN WOOL.—Fine, staple, 55c. to 59c.; fine clothing, 48c. to 52c.; fine medium staple, 56c. to 60c.; fine medium clothing, 53c. to 57c.; medium staple, 45c. to 48c.; medium clothing, 37c. to 42c.; low medium clothing, 33c. to 35c.; low staple, 25c. to 30c.; coarse, 20c. to 22c.

CANADIAN EASTERN WOOL.—Medium

combing, 50c. to 55c.; low medium combing, 42c. to 45c.; low combing, 30c. to 34c.; coarse, 23c. to 25c.

Montreal.

Dressed Hogs.—There was a fair demand for dressed hogs and prices showed a firm tone. Abattoir dressed, fresh-killed stock was quoted at 29½c. per lb., in a jobbing way.

Poultry.—The trade in poultry was fair and prices steady. Turkeys were 60c. to 65c. per lb. small spring chickens 50c.; ducks 45c. per lb. boiling fowl 40c. to 42c. capons 45c.; large capons 50c. per lb.

Potatoes.—Receipts of potatoes continued liberal but prices were holding steady at \$1.90 to \$2 per bag of 80 lbs., and in a wholesale jobbing way at \$2.25 per bag of 90 lbs.

Maple Products. Business in maple products continued quiet. Maple syrup was quoted at \$2 per gallon in wood and at \$2.10 to \$2.25 per gallon in tins. Maple sugar was 25c. to 28c. per lb., according to quality.

Eggs.—There is a good demand for eggs for local consumption and prices are ruling firm. Strictly new-laid eggs were quoted at 72c. per dozen; selected eggs, 68c.; straight candled eggs, 66c.; No. 1 candled 60c. and No. 2 candled 50c. to 52c. per dozen.

Butter.—No important changes are reported in the market for butter. A steady business is passing for local and outside account and prices are firm. Pasteurized creamery was quoted at 60c. to 60½c. per lb.; finest creamery, 59c. to 59½c.; fine creamery, 58c. to 58½c., and dairy butter 51c. to 52c. per lb.

Grain.—The local grain market is quiet and featureless. Prices of oats were firm with No. 2 Canadian Western quoted at \$1.18 to \$1.19; No. 3 Canadian Western \$1.16 to \$1.17 and No. 2 feed at \$1.09 to \$1.10 per bushel, ex-store.

Flour.—A little business has been done in the old crop spring wheat flour for nearby shipment, but apart from this the market is quiet and without any special feature of note. Prices were unchanged with Government standard grade, for shipment to country points quoted at \$14.85 per barrel, in jute bags, ex-track, Montreal freights and at \$14.85 per barrel to city bakers, ex-track. Lots of 50 bags or over were quoted at \$14.95; smaller quantities at \$15.05 and to grocers and other dealers at \$15.15, all less 10c. per barrel for spot cash.

Trade in winter wheat flour consists chiefly of broken lots to meet immediate requirements. Choice grades were quoted at \$13.20 to \$13.25 per barrel in new cotton bags and at \$12.50 to \$13 in second hand jute bags, ex-store.

Millfeed.—Available supplies of mill-feed are still very limited, and as there is a steady demand prices are firm. Sales of small lots of bran have been made at \$60 and shorts at \$64 per ton, including bags, delivered to the trade, but millers are nominally quoting \$54.25 for bran and \$61.25 for shorts per ton, including bags, ex-track. The market for rolled oats is quiet and prices, steady with broken lots of standard grades at \$5.75 per bag of 90 lbs. in cotton and at \$5.60 in jute delivered to the trade.

Baled Hay.—No. 2 timothy hay was quoted at \$31; ordinary No. 2 at \$28 to \$29 and No. 3 timothy \$26 to \$27 per ton, ex-track. Trade is very quiet and principally of local character.

Hides.—Prices of hides were easy with steer and cow hides at 15c. per lb.; bull hides 11c.; calf skins 18c. to 20c., and kips, 14c. per lb.; lamb skins were 60c. each, and horsehides, \$5 to \$7.

Buffalo.

Cattle.—Cattle market was quite satisfactory last week on anything fat, and of desirable quality, these selling at good steady to strong prices, while the general run of medium and common butchering stuff, while not as ready sale, nevertheless brought fully as strong prices as prevailed the week before. Trade closed up for the week full steady. Best native steers reached \$15.75, with best Canadians from \$14 to \$14.25, but no really choice or prime steers were offered, these kinds running light at all of the markets, some of the western markets quoting heavy prime steers up to \$17.50 to \$17.60. This is the season of the year when the strictly dryfeds are scarce, both in the shipping steer and butchering divisions and killers find an abundance of the lower priced cattle offered, as the result of which the colors have been pretty well filled with cheap and less desirable beef. There is always a healthy demand for the choice beef and especially so at this time when this class of stuff is very scarce. Handy butchering steers are selling up around \$14 to \$14.50, with yearlings of the dryfed order ranging the past week up to \$15.60. Stocker and feeder trade remains very slow and dull, sales the past week being made more especially on light, commonish stocker stuff at prices ranging from \$6.50 to \$7.50. Bull prices are down to the lowest point for many months, rough, weighty sausage bulls showing about the most unsatisfactory sale. Milk cows and springers are selling about steady, preference being shown the best kinds. Offerings for the week totaled 3,650 head, as against 3,825 for the previous week and compared with 7,150 head for the corresponding week a year ago. Quotations: Shipping Steers—Natives—Very prime, \$16 to \$16.40; good to choice, \$15 to \$15.50 common to fair, \$12.50 to \$14.50; plain, \$11.50 to \$12.

Steers—Canadians—Best, \$14 to \$14.25; fair to good, \$13 to \$13.50; common and plain, \$11.50 to \$12.

Butchering Steers—Yearlings, good to prime, \$15.50 to \$16.50; choice heavy, \$14.50 to \$15; best handy, \$13.50 to \$14;

fair to good, \$12.50 to \$13; light and common, \$9 to \$10.

Cows and Heifers.—Heavy heifers, \$12 to \$12.50; best butchering heifers, \$11 to \$11.50; good butcher heifers, \$10 to \$10.50; fair butchering heifers, \$8 to \$9.50; light, common, \$6 to \$6.50; very fancy fat cows, \$9.50 to \$10; best heavy fat cows, \$8.50 to \$9; medium to good, \$7.75 to \$8.25; cutters, \$4.75 to \$5.50; canners, good, \$4 to \$4.25; old rims, \$3 to \$3.50.

Stockers and Feeders.—Best feeders, \$9 to \$9.50; common to fair, \$8 to \$8.50; best stockers, \$8 to \$8.50; fair to good, \$7.75 to \$8.25; common, \$6 to \$7; grazing cows, \$6.50 to \$7.25.

Sheep and lambs.—Prices were on the jump last week. Monday best lambs sold at \$14, few made \$14.50, with culls selling from \$11 down and before the week was out or on Friday best lambs sold up to \$16, few made \$16.50, and culls ranged up to \$12.50. Sheep also showed an advance. The week's opening showed best ewes selling at \$6.50 to \$7, with best wethers \$8.50 and \$9 and Friday top ewes reached up to \$8, and best wethers were quoted up to \$9. Receipts for the week were 8,500 head, as compared with 8,214 head for the week before and 11,400 head for the same week a year ago.

Calves.—Red-hot trade was had last week. Monday top veals sold at \$20, with culls ranging from \$15 down, Tuesday's trade was steady, Wednesday best brought \$20 and \$20.50, Thursday top was \$21 and Friday best natives sold at \$22.50, with best Canadians, of which there were three decks, landing at \$21.50 and \$22.50. Cull grades the latter part of the week sold up to \$17, and good light grass calves brought up to \$8.50. The week's receipts totalled 3,250 head, being against 3,319 head for the week before and 3,450 head for the same week a year ago.

Toronto Produce.

Breadstuffs.

Manitoba Wheat (in store, Ft. William)—No. 1 northern, \$2.70¾; No. 2 northern, \$2.67¾; No. 3 northern, \$2.63¾; No. 4 wheat, \$2.50¾.

Manitoba Barley (in store, Ft. William).—No. 3 C. W., \$1.31¾; No. 4 C. W., \$1.26¾; rejected, \$1.11¾; feed, \$1.11¾. American Corn (track, Toronto, prompt shipment).—No. 3 yellow, \$2, nominal.

Ontario Oats (according to freights outside).—No. 3 white, 80c. to 85c.

Ontario Wheat (f. o. b. shipping points, according to freights.) No. 2, winter, per car lot, \$2.30 to \$2.50.

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

Barley (according to freights outside).—Malting, \$1.35 to \$1.40.

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

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

Manitoba Flour.—Government standard, \$14.75, Toronto.

Ontario Flour (prompt shipment).—Government standard, \$12, nominal, in jute bags, Montreal; nominal, in jute bags, Toronto. (Old crop). 10.40 to \$10.50 bulk seaboard.

Millfeed (car lots, delivered, Montreal freights bags included).—Bran, per ton \$52; shorts, per ton, \$61; good feed flour, per bag, \$3.75.

Hides and Wool.

Hides f. o. b. Country Points.—Beef hides, flat cured, 10c. to 12c.; green hides, 9c. to 11c.; deacon or bob calf, 25c. to 50c.; horse hides, country take-off, \$3 to \$4; No. 1 sheep skins, \$1 to \$1.50; shearing and spring lamb, 25c. to 50c.; horse hair, farmers' stock, 38c. to 40c.

City Hides.—City butcher hides, green flats, 13c.; calf skins, green flats, 15c.; veal kip, 12c.; horse hides, city take-off, \$4 to \$5.

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

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

Farm Produce.

Butter kept stationary at last week's slightly easier prices. Fresh-made creamery prints selling at 60c.; solids at 58c. to 59c. per lb.; and choice dairy at 50c. to 52c. per lb., wholesale.

Eggs again firm about one cent per dozen; No. 1's selling at 65c. per doz.; selects at 66c. per dozen, and selects in cartons at 69c. to 70c. per dozen, wholesale.

Cheese.—36c. per lb. for the old, and 29c. per lb. for the new, wholesale.

Poultry receipts were fairly heavy but trade was brisk, and prices held steady, the following prices being quoted to the producer: Chickens, spring, per lb., live weight, 35c.; dressed, 40c.; ducklings, spring, per lb., live weight, 25c.; dressed, 35c.; hens under 4 lbs., per lb., live weight, 28c.; dressed, 28c.; hens, 4 to 5 lbs., per lb., live weight, 30c.; dressed, 30c.; hens over 5 lbs., per lb., live weight, 32c.; dressed, 32c.; roosters, per lb., live weight, 25c.; dressed, 28c.; turkeys, per lb., live weight, 40c.; dressed, 45c.

Wholesale Fruits and Vegetables.

Apples continue to be of inferior quality with very few exceptions, selling at 20c. to 35c. per 6 qts. and 30c. to 75c. per 11-qt. baskets; \$1.25 to \$2.25 per bushel, and \$3 to \$6 per bbl.

Shipments of blueberries have been lighter and prices did not go quite so low—ranging from \$2 to \$3.25 per 11-qt. basket.

Crabapples are coming in but they are decidedly poor quality, and difficult to sell at 25c. per 6 qts. and 50c. per 11-qt. baskets.

There were a few black currants shipped in which brought \$2 to \$2.25 per 6 qts., and \$4 per 11 qts.

Lawton berries have varied so in quality they have had a wide range of prices, namely 15c. to 33c. per box; the bulk of the good ones going at 28c. to 30c. per box.

Plums have been shipped in heavily, daily, and trade has been slow at lower prices ranging from 27½c. to 75c. per 6 qts. and 40c. to \$1 per 11 qts.

The better varieties of peaches have been shipped in more freely and the poorer earlier variety less freely, so prices have been higher ranging from 40c. to \$1.25 per 6 qts., and 50c. to \$2 per 11 qts.

Pears have only been shipped in lightly consisting mostly of Clapps Favorite and Bartletts, selling at 40c. to 75c. per 6 qts., and 75c. to \$1.50 per 11 qts.

Tomatoes were slightly firmer again about the middle of the week but decline towards the close, selling at 20c. to 50c. per 11 qts and 20c. to 35c. per 6 qts., a few selling at 50c. to 75c. per 11 qts., the days they were firmer.

Beans continued to be slow at 25c. to 40c. per 11-qt. basket.

Beets were easier at 15c. to 25c. per dozen bunches.

Carrots were slightly lower at \$1.50 per bag, and 15c. to 25c. per dozen bunches.

Cabbage is still almost a glut on the market at 40c. to 75c. per dozen, and \$1 per bbl.

Cauliflower has not been of very good quality selling at \$1 to \$1.25 per dozen.

Corn came in very freely and declined in price; a small quantity of extra choice selling at 25c. per dozen; the bulk going at 15c. to 20c., and some as low as 12½c. per dozen.

Cucumbers continue to be difficult to sell at 25c. to 40c. per 11 qt. basket; Gherkins going at 40c. to 75c. per 6 qts., and 75c. to \$1.25 per 11 qts.

Egg-Plant increased greatly in quality and declined materially in price selling at 50c. to \$1 per 11 and 16-qt. baskets.

Onions have been slightly easier, selling at \$3.50 to \$4 per cwt., and \$3.25 per 75 pounds.

Pickling onions were a slow sale at \$1.50 to \$2.50 per 11-qt. basket.

Potatoes owing to a temporary scarcity were slightly firmer, selling at \$2 per bag—though some firms did not raise their prices which are still \$1.75 per bag.

Hubbard squash is coming in a little more freely—selling at \$1 to \$1.50 per doz.

Pumpkins also came in in slightly larger quantities, selling at \$1.50 to \$2 per doz.

Chicago.

Cattle.—Compared with week ago, choice and prime steers, 25c. to 40c. higher; good and fat choice, 50c. to 75c. higher; medium to best grades, 25c. to 50c. stronger; common to fair grassers, steady to strong; good cows and heifers, 50c. to 75c. stronger; medium kinds, average, 25c. to 50c. higher; common and fat kinds, steady to strong; bulls, steady to 25c. lower; calves, \$2 to \$2.25 higher; stockers and feeders steady.

Sheep.—As compared with a week ago; fat lambs, generally \$2 higher; yearlings \$1.25 to \$1.75 higher; matured sheep, 25c. to 60c. higher; feeder lambs and

yearlings, \$1 higher; feeding and breeding sheep, 25c. to 50c. higher.

Monday's Live Stock Markets.

Toronto, August 30. Cattle.—Receipts, 3,907. With receipts the heaviest they have been this month, the market opened steady and trade was brisk. Good quality butcher cattle were 25 to 50 cents stronger; medium and common butcher cattle were steady at last week's prices, with no special demand for that class of stuff. Top load of 18 steers and heifers averaging 1,223 pounds sold at \$14.50. Quotations: Heavy beef steers, \$14.25 to \$15.25. Butchers' steers, choice, \$13.75 to \$14.75; good, \$11.25 to \$13.25; medium, \$7.25 to \$9.25; common, \$6 to \$7. Butcher heifers, choice, \$12.25 to \$14.25; medium, \$7.75 to \$9.25; common, \$6 to \$7. Butcher cows, choice, \$10 to \$12; medium, \$6.50 to \$9. Canners and cutters, \$3 to \$5.25. Butchers' bulls, good, \$9 to \$10; common, \$5 to \$7. Feeding steers, good, \$11 to \$12.25; fair, \$9 to \$10. Stockers, good, \$8 to \$10; fair, \$6.75 to \$7.

Calves.—Receipts, 546. Calf trade was steady, twenty cents being paid for choice veal, but there were few of that quality on the market. Quotations: Choice, \$17 to \$19; medium, \$14 to \$16; common, \$8 to \$10. Milch cows, choice, \$100 to \$160; springers, choice, \$125 to \$175.

Sheep.—Receipts, 3,731. The sheep market was steady at last week's close, lambs holding steady with good demand; tops went at \$16.40. Quotations: Ewes, \$7 to \$8; lambs, \$14 to \$16.

Hogs.—Receipts, 874. Receipts continue light. Market was 25 to 50 cents stronger on fed and watered stuff. Quotations, fed and watered basis: selects, \$20.50; lights, \$18.50; heavies, \$19.50; sows, \$15.50 to \$17.50.

Montreal, August 30. Cattle.—Receipts, 1,414. There were very few good cattle for sale and no choice beef; an offer of \$12.50 was made for the best load. A few fair steers were weighed up at \$9.50, and prices ranged from this downwards. Butcher cattle were estimated to be 50 cents higher than last week. A large percentage of the offerings is made up of bulls. Quotations: Butcher steers, good, \$10.50 to \$12.50; medium, \$9 to \$10.50; common, \$7 to \$9. Butcher heifers, medium, \$8.50 to \$9; common, \$6 to \$8. Butchers' cows, medium, \$5.50 to \$9.50. Canners, \$6 to \$7. Cutters, \$4 to \$5. Butcher bulls, common, \$5 to \$6.

Calves.—Receipts, 923. Grass calves sold, in most cases, for \$7; a few veal calves have been sold up to \$14. Quotations: Good veal, \$13 to \$14; medium, \$8 to \$13; grass, \$6.50 to \$8.

Sheep.—Receipts, 4,989. One-half of 500 lambs were reported sold at \$14.50. The most common price for good lambs was \$13, with a few sales at \$14.50. Sheep were up to \$7. Quotations: Ewes, \$6 to \$7; lambs, good, \$13 to \$13.50; common, \$6 to \$7.

Hogs.—Receipts, 1,056. Hogs were quoted at \$20.50 off cars. Sales were made 25 cents higher. These prices are being paid by the local trade for selects and medium light hogs. Quotations, off cars: Selects, \$20.50 to \$20.75; sows, \$15 to \$16.50.

Buffalo, August 30. Cattle.—Receipts, 2,700, including fifty loads of Canadians. Best grades were 25c. to 50c. higher, with Canadians topping the market at \$15.75. Natives were \$14; medium and common grades were strong.

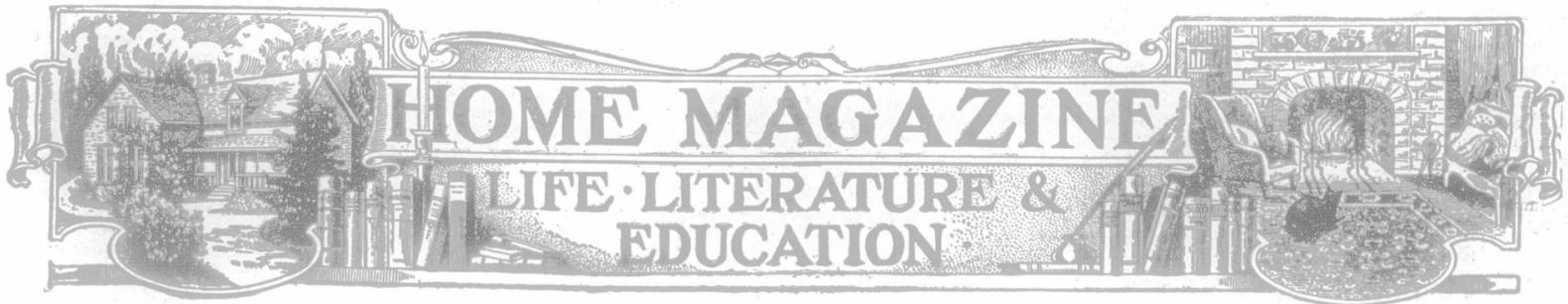
Hogs.—Receipts, 9,600. Heavies were \$16 to \$16.50 lights went at \$17.

Sheep.—Receipts, 7,200. Best lambs were \$15; best ewes, \$7 to \$7.50.

Calves.—Receipts, 2,200. Top, 21c.

Cheese Markets.

At the Cornwall cheese board, on Saturday, August 28, there were 290 white and 1,445 colored sold at 27c. At Madoc, 285 cheese sold at 25 to 15-16c. Two hundred and eighty-three boxes of cheese sold at 25c. at St. Hyacinthe Que., on Friday, August 27, and at Belleville, on the same day, 858 colored and 497 white were offered, 700 selling at 27½c. and 300 at 27-16c. On Friday, the United Dairymen Co-operative, Ltd., Montreal, made the following sales: \$1,145 No. 1 colored at 27½c.; 438 No. 2 colored at 26½c.; 431 No. 1 white at 27½c. Sixty-two No. 2 white were not sold.



A Chanty of Growing Green Things.

BY HARRY KEMP, IN THE INDEPENDENT, NEW YORK.

"And it was said unto them that they should not hurt the grass of the earth, neither any green thing, neither any tree."—Revelation, IX, 4.

"The little green leaves were kind to Him."—Lanier, "Ballad of the Master."

"Ye shall not hurt the grass of earth
That grows so gently on down and hill—
When I had nowhere to lay my head
The lush green couch of it held me still,
And I blessed the softness of the grass
And the grateful shade of the wayside tree

On the highway to Jerusalem
And down the roads of Galilee.
The Live Oak shadowed me from the sun,
The Sycamore and the lonely Pine
Tented me off from the chill of dew
In the long night vigils that were mine.
There was never a green thing did me hurt,

Though I suffered much from the ills of men,

And I loved the Lily of the Vale
And the little flowers of field and fen;
And even that Barren Fig I cursed,
I afterward bade it bloom again,
Till it bore like a tree in Paradise . . .
Yea, even the thorns they pressed on me
Grew rich with roses budded thick
To make their mute apology,
And sent a tender green about!"

The angels bowed in a shining row . . .
And all earth's things of growing green
They heard the Master and they bent low;

And, when Death came to tether Life
Leading it to its great, dark end,
The trees and flowers sang in the dawn,
For the Lord of All, was he not their Friend!

Rural Values and Rural-Mindedness.

[Address by President Reynolds, of the O. A. C., Guelph, to the School of Rural Leadership, August, 1920.]

HERE are certain ingredients in rural life which make rural life highly attractive to certain types of mind. Also, country life tends to produce certain points of view, dispositions, and habits of mind. These ingredients I term "rural values" and this type of mind "rural mindedness."

Sir Horace Plunkett, the noted Irish agriculturist, in his book, "The Rural Life Problem of the United States," sets forth what he considers the contribution of rural experience to the social and political well-being of the nation:

"In most countries political life depends largely for its steadiness and sanity upon a strong infusion of rural opinion into the counsels of the nation. It is a truism that democracy requires for success a higher level of intelligence and character in the mass of the people than other forms of government. But intelligence alone is not enough for the citizen of democracy; he must have experience as well, and the experience of a townsman is essentially imperfect. He has generally a wider theoretical knowledge than the rustic of the main processes by which the community lives; but the rustic's practical knowledge of the more fundamental of them is wider than the townsman's. He knows actually and in detail how corn is grown and how beasts are bred, whereas the town artisan hardly knows how the whole of any one article of commerce is made. The townsman sees and takes part in the wonderful achievements of industrial science without any full understanding of its methods or of the relative importance and the interaction of the forces engaged. To this one-sided ex-

perience may be attributed in some measure that disregard of inconvenient facts and that impatience of the limits of practicability, which many observers note as a characteristic defect of popular government."

However that may be, there is one symptom in modern politics of which the gravity is generally acknowledged, while its special connection with the towns is an easily ascertainable fact; I mean the growth of the cruder forms of socialism.



Rev. Mr. Bridgman and Mrs. Bridgman of West China, who spent a busy fortnight at the Summer School picking up ideas to take back to a new Agricultural College in China.

The town artisan or laborer, who sees displayed before him vast masses of property in which he has no share, and contrasts the smallness of his remuneration with the immense results of his labor, is easily attracted to remedies worse than the disease. A fuller and more exact understanding of the means by which the wealth of the community is created is, for the townsman, the best antidote to mischievous agitation so far as it is not merely the result of poverty. But the countryman, especially the proprietor of a piece of land, however small, is pro-

TECTED from this infection. The atmosphere in which socialism of the predatory kind can grow up does not exist among a prosperous farming community—perhaps because in the country the question of the divorce of the worker from his raw material by capitalism does not arise. The farm furnishes the raw material of the farmer; yet he cannot be said to spend his life creating the alleged "surplus value" of Marxian doctrine. For these reasons I suggest that the orderly and safe progress of democracy demands a strong agricultural population. It is as true now as when Aristotle said it that "where husbandmen and men of small fortune predominate government will be guided by law."

The testimony here declares:

1. That the rural experience brings men closer to nature and economic facts, and forms a surer basis for political judgments than does the "wider theoretical knowledge" of the townsman.

2. The close association of labor and capital in the rural experience prevents "the growth of the cruder forms of socialism."

I wish to give an account of some of those ingredients in rural life which constitute its satisfactions and rewards, and which induce men and women to choose country life. For it should be understood that farming is not merely a business, it is a way of living, and unless the way of living is reasonably attractive the economic aspect of farming as a business can not alone preserve a rural population.

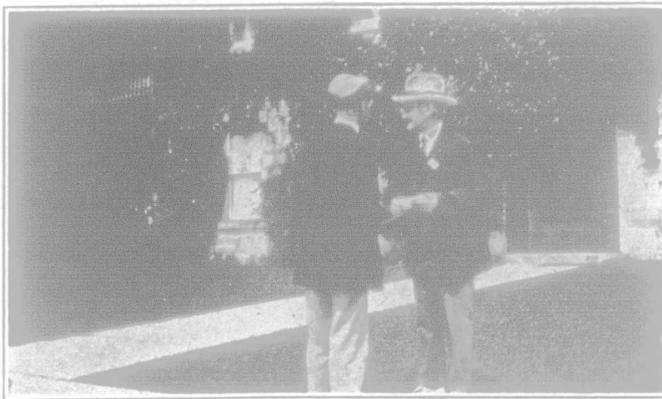
Agriculture alone, of all the productive occupations is also creative. The miner produces but he does not and cannot create. His labor brings coal or iron or gold within the reach of those who wish to use it, but the result of his labor is to lessen the supply of coal or iron or gold in the reservoirs of nature. The lumberman produces by bringing the raw material of trees within the reach of those who will use it. But the effect of the lumberman's industry is to lessen the supply of lumber in the world. If he begins planting or cultivating to conserve the supply, he is then not a lumberman but an agriculturalist. The fisherman produces, but does not create. His labors succeed only in diminishing the supply of fish in the world. These are the primary productive industries. The manufacturer who uses coal, or iron, or lumber in his industry transforms his raw material into finished usable products. The dealer, the storekeeper, the railroad company, do not even transform, but transport the goods they handle. In all of these industries, whether that of extracting wealth from the reservoir of nature, or transforming it by manu-

facture, or transporting, there is no increase, no creation.

The farmer is a creator. The old adage which commends the service the farmer renders by saying that he makes two blades of grass to grow where only one grew before, does not do justice to the farmer's contribution. He not only multiplies by two. He makes two blades of grass to grow where none grew before. He causes the seed to fall upon the good ground, where it brings forth some thirty, some sixty, and some an hundred fold. There is an essential difference, not in degree or in value of service, but in kind. The miner and the manufacturer divide and waste. The farmer multiplies and increases. He not only improves his product, by selection and care, he multiplies it. He conserves and perpetuates. Already we are looking forward with alarm to the diminishing forests and coal measures, and are fearfully calculating the number of years before we may expect these supplies to be exhausted. But every year we contemplate with quiet minds the exhaustion of the world's supply of sugar, and meat, and flour, of cotton and wool. We estimate that the world's supply of these commodities will last a month, three months, six months. But that estimate does not cause alarm, though the cessation of supply for one week would mean starvation and death to the people of the world. The world knows that seed-time and harvest shall not cease, and that the recreative powers of nature will be invoked by the tillers of the soil, to convert the inert nitrates and phosphates of the ground into food for man and beast.

Creation is the divine prerogative, and the farmer is the partner of the divine creative energy. That constitutes the dignity of agriculture and the farmer's value to society. It constitutes also some of the farmer's satisfaction, and one of the joys of the farmer's life is to watch things grow.

The farmer and the farmer's family is near to the original source of most of our prime necessities. The town boy or girl knows that a loaf of bread comes from the baker, and can be obtained if you have money, provided there is no strike on to keep the baker from baking or the delivery man from delivering. The town child knows that milk is got out of a glass bottle that you find on the doorstep, that butter comes from the grocery store and meat from the meat shop, and stockings from the dry-goods store. So far as the town child's experience or observation goes, money procures these things, and money is their equivalent. And there is many a grown-up child of the town whose ideas of economic values are just as limited. But the country child's experience teaches the fundamental economic truth that these objects of desire, bread, milk, butter, meat, clothing, are produced by labor, continuous, faithful, and intelligently-directed labor. The loaf of bread is traced back to the seed that is sown, the milk and butter to the dairy cow, the wool to the back of the sheep. And in each instance part or all of the labor process from beginning to end is seen and understood. Not of economic values only, but of social values also, the country affords a closer acquaintance and a clearer understanding. In the city, the street is left unimproved, or it is improved by gangs of civic employees and paid for by a frontage tax. In the country the road is often unimproved, and when improved, is often done by municipal means. But frequently in the prairie provinces the boy himself will take his team and the split-log drag and keep the road in shape about his own farm. In the city, the joint stock company is the form which united effort takes, and in the joint stock company the dollar is the unit of power. A member has votes in proportion to the number of shares he holds. In the country the only



Rev. John Atkins, Parry Sound, (facing) familiarly known as "Tommy Atkins" A well-known figure at the School for Rural Leadership, Guelph—talking with the former Yukon Missionary, Mr. Bythell.

feeding and breeding higher.

Live Stock Markets.

30. Cattle.—Receipts the heaviest this month, the market trade was brisk. Other cattle were 25 to medium and common steady at last week's special demand for that load of 18 steers and 1,223 pounds sold at \$11.25 to \$13.25; heavy beef steers, butchers' steers, choice, \$9.25 to \$11.25; common, \$6 to \$8; choice, \$12.25 to \$14.25; common, \$7.75 to \$9.25; common, \$5 to \$7. Feeding steers, choice, \$10 to \$12; common, \$7 to \$9. Canners and butchers' bulls, good, \$5 to \$7. Feeding steers, \$12.25; fair, \$9 to \$10; poor, \$7 to \$8; fair, \$6.75 to \$8.

546. Calf trade was steady. Receipts for choice were few of that quality. Quotations: Choice, \$17 to \$18; common, \$8 to \$10; heavy, \$10 to \$12; light, \$12.50 to \$15.

3,731. The sheep market was steady with good demand. Quotations: Ewes, \$4 to \$6.

874. Receipts consisted of 25 to 50 cents and watered stuff. Quotations: Choice, \$18.50; heavies, \$10 to \$17.50.

30. Cattle.—Receipts were very few good choice beef steers; an average made for the best steers were weighed up and ranged from this week's receipts were estimates higher than last week's. Quotations: Choice, \$10.50 to \$12.50; common, \$7 to \$9; medium, \$8.50 to \$9; heavy, \$9.50 to \$11.50. Butcher's cows, \$5 to \$7. Butcher bulls, \$5 to \$7.

923. Grass calves, \$7 to \$8; a few veal up to \$14. Quotations: Choice, \$13 to \$14; medium, \$10 to \$12.

4,989. One-half of the good lambs sold at \$14.50. Price for good lambs few sales at \$14.50. Quotations: Ewes, \$10 to \$12; good, \$13 to \$13.50;

1,056. Hogs were off cars. Sales were steady. These prices are local trade for select hogs. Quotations, off cars, \$20.75; sows, \$15 to \$17.

30. Cattle.—Receiving fifty loads of grades were 25c. to 30c. Canadian natives were \$14; natives were \$14; on grades were strong. 9,600. Heavies were \$17. Best lambs, \$7 to \$7.50. Top, 21c.

Markets.

Cheese board, on 28, there were 290 colored sold at 27c. Cheese sold at 25 15-16c. Eighty-three boxes at St. Hyacinthe \$5c. August 27, and at same day, 858 colored offered, 700 selling at 27 3-16c. On Friday, Co-operative, Ltd., the following sales: 438 No. 2 white at 27 1/4c.; 438 No. 1 white at 27 1/4c. No. 2 white were not

form of company that has proved generally successful is the co-operative society, in which not the dollar, but the man, is the unit of value.

I have tried to establish the fact that the measure of value in the city tends more and more to be the dollar. In the country, human values count for more, the neighborly co-operation, the product of human energy and intelligence in the things of daily necessity. And these primary relations are seen and understood.

Labor, necessary, useful labor, is a rural value, and the rural mind is accustomed to labor. To know labor's unceasing value to the world, it must be remembered that whatever education and invention may accomplish faithful daily labor at all sorts of pleasant or unpleasant tasks is still and must continue to be a necessity to life. The best incentive to faithful labor is the work itself and its products. The farmer, more than any other worker is likely to work for the love of the things he works with. He works with living, growing things, which grow slowly and give opportunity to observe and study their growth. Living things respond not only to manual skill, but still more to affectionate care, and so the spirit of the worker becomes engaged with his hands to produce the best that he knows and that nature will allow. "All I know is," says the old farmer "that wheat is better than when I began to sow it." He thus became a conscious contributor to the world's progress.

Individuality and independence are products of rural conditions, and are qualities of the rural mind. The farm is a unit. It is the farmer's kingdom. He wants to run his business in his own way, and is reluctant to surrender his independence to organizations. Even co-operative societies have been slow to form in country districts. Undoubtedly the social instinct, the faculty of co-operation, the willingness to surrender individual freedom of action for the common good, are undeveloped in the rural mind. It is to escape the restrictions and compulsions of the corporate life of cities that many a man seeks the rural way of life. The farmers' economic and political organizations have been slow to form and difficult to hold together. This peculiar independence and individuality must be taken into account in all measures for rural improvement.

Because of the necessary and useful quality of his industry, his intimate knowledge of the sources of national wealth, his independence of mind, and the comparative smallness of his gains, the farmer is a severe critic of wastefulness and paternalism in government. He is the sure bulwark of democracy. He wants to be let alone to do the right thing. He believes in equal opportunity for all

and special privileges to none. Government, to his mind, exists for the purpose of safeguarding the great democratic principles of equal rights and equal opportunities. For a long time these views have been unformed and unexpressed, a deposit in his mind. Lately, he has awakened to the necessity for political action if democracy is to be saved in Canada. Hence the rural mind promises to become a directing force in the councils of the nation.

In the country, things that interest the mind are the opposite of the sensational. The country mind discerns the marvels of the commonplace. Because an event happens every day, it is not, therefore, to the discerning mind less wonderful. The sunrise and the howling of the wind, and

a rural value—how far is it real? And so far as it is real, upon what does it depend?

The traditional farmer, in fiction and in popular conception, is a man whose only natural setting is in the fields that he tills and amongst the cattle that he raises. There, he is supposed to be lavishly generous of all that his labor produces, dispensing hospitality with a free hand to all who may honor him with visits. When his produce has been converted into cash, ungenerous and stingy and "near" in dispensing it. Out of his natural setting, he is credited with being careless of his personal appearance, uncouth in manner, illiterate, and unskilled in speech. He is also simple-minded and unsophisticated, unacquainted with the

keep him convinced that his realm is other where than in business and in politics. The farmer must learn that real dignity, while never separated from serviceable labor of whatever sort, is founded in intelligence, in moral qualities, in strength of understanding and of character.

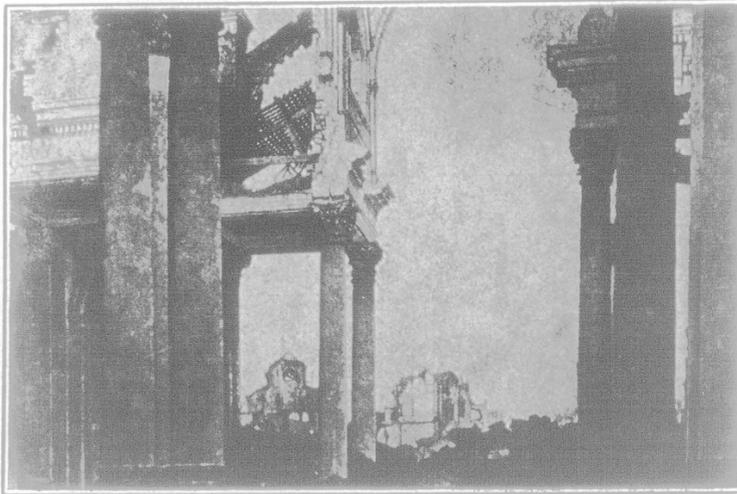
A short time ago I attended a meeting at which the representatives of the leading business interests of a large city had come together to confer with the representatives of a farmers' organization upon questions of common interest. How would the traditional type of farmer appear in such a gathering? How did these actual farmers uphold their position? In dignity, in debating skill, in understanding of economic questions, in moderation and sincerity and earnestness, the farmers were at least the equal of any in that assembly, and the assembly included men high in finance, among transportation interests, and in manufacturing. I appeal to the young farmers of Canada, which type do you mean to represent?

It is true that agriculture is the foundation of Canada's prosperity. It is necessarily so, because the soil contains our greatest natural resources. But that fact has not made the farmer respected, or farming dignified. The labor of developing those natural resources cannot dignify. Respect and dignity depend upon personal qualities that compel respect, upon intelligence and power to hold one's own in the world of men. And until farmers cultivate that intelligence and develop that power, farming will never be a dignified calling, no matter what may be said about it from the platform or in the press.

And yet it is not desirable that farmers become politicians in the usual sense, or dealers in other people's produce, or speculators, or manipulators of stock markets. Farmers are first of all producers. What is essential and fit, after that, is that they know enough and have power enough to secure what is justly their own on the market, and, besides, that they be public-spirited, and see to the right and healthy development of their communities and of the nation. Here, then, I submit, is the farmers' program: first, production of food for the world; secondly, protection of their own interests in commerce and in legislation; and lastly, citizenship. The second of these aims may be styled intelligent self-interest. The other two, if properly understood and carried out, are in a high degree unselfish. How many callings are there with such a large incentive to unselfishness? It is this, coupled with intelligent action, that constitutes the real dignity of farming, its title to respect among other callings.

The hope of our nation, of every nation, lies in its rightly-educated citizens. Religion will never save the world, so long as religion is associated with bigotry of opinion. Piety will never save it, unless piety is associated with an instructed moral sense. Education, state education, education for the state, must include ability to earn an honest living, and conscience to discern what is an honest living. The hope of agriculture lies in educating those who are to find their homes and livelihood on the farms. I am not arguing this point. I am simply stating it as my belief, as a principle of action. Nor is it essential how this education is to be obtained, whether by experience, by reading, or in school and college. The essential things are, skill in the work of farming, acquaintance with the science of it, and a condition of spirit that enables each member of the farming community to act in harmony and co-operation with other members, for business and social ends.

The skill and the science are essential, in order that farmers may be efficient producers, and that the farm homes may be made centres of sweetness and light. Each new generation must be trained as capable producers and home-makers. But the education of the past, at least college education, has stopped there. What has to be done in the future, in college education for farmers, is to train in business methods, in buying and selling, in economics, and in co-operation. The farmer, however skilful a producer he may be, cannot hope, working singly, to market his produce to the best advantage. He must co-operate with other farmers having similar aims, with middlemen, with transportation companies, and with the banks. But experience shows that before he can secure attention from



Arras, the City of the Dead.

A painting by J. Kerr-Lawson, now at Toronto Exhibition. Mr. Kerr-Lawson studied in Rome under Luggi Galli, and in Paris under De Fevre.

the gathering and dissipating of the beautiful cloud-forms, are commonplace only because they are frequent. The beauty and the wonder and the power are there. The growth of plants and animals is slow, and anything but spectacular. But the marvels of sprouting, flowering, seeding, of germination and birth and growth never cease. A deplorable feature of the mental life of cities is the dependence on the spectacular and the sensational. The country resident lives in daily contact, not with the sensational, but with the marvellous. And those who are rurally-minded discern the marvellous in the commonplace. Just as those who have the instinct for social values can see the marvel in the self-forgetfulness of little daily human services.

This so-called dignity of agriculture as

ways of the world, and falls an easy victim to promoters and other gentlemen who are clever enough to live by their wits.

We have all met farmers of this traditional type, industrious, thrifty, frugal; uncouth, unlearned, dumb; blind, partisans, and unacquainted with political and economic questions; tools of demagogues, and victims of designing and insincere persons. Dignity is founded in respect, and how much respect can be honestly entertained for men of this type? Such men are told that they are respected for the usefulness of their labor, for the fact that the very life of the nation depends upon the produce of their industry. Let them never believe it. It is the hope of the trickster and the demagogue to keep the farmer satisfied with his achievements as a producer, to



The Refugees' Return to Reconquered Territory.

One of the Canadian War Memorial Pictures now on exhibition at the Art Gallery, Canadian National Exhibition, Toronto. This picture was painted by George Clausen, R. A., South Kensington, England. Mr. Clausen was born in 1852 and studied in Paris.

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these latter agencies he must combine with other farmers to compel attention and respect. And so the next phase in the education of the farmer must be in the methods and the spirit of co-operation.

Lightning Rods and Rural Sanitation, Lightning Rods.

ONE hundred and twenty-five people, chiefly parsons, filed gravely into a darkened room.—No, it wasn't a spiritualistic seance, and the people were not an investigation committee. In fact, they had not the slightest idea what they were going to see or hear. That became apparent, however, in a few moments, when Professor Moffat got up and proceeded to show, by use of an electric battery and a series of tiny houses and barns, the capers of lightning and the means of avoiding them. And now, Reader, you may guess that the "people" were pupils at the Rural Leadership School of Ontario, and that the place was the Physics Building of the Ontario Agricultural College (the "O. A. C." may be more familiar), at Guelph.

Electricity, as you may long ago have divined, is, like fire, an excellent servant but a very poor master. To use another simile, it is like a spirited horse, useful when directed but likely to give trouble when uncontrolled and let run at its own sweet will. In talking about it Prof. Moffat "began at the beginning." He showed the actual experiment which caused the ancient Greeks to notice something peculiar and inquire the reason therefor, viz., rubbed a stick of amber with a bit of cat fur, a process which caused a ball of pith to be attracted towards the amber then repelled. Then very briefly he traced the progress of knowledge in regard to the mysterious current right up to the present when, without yet understanding its mystery, we have harnessed it and bent it to our will, causing it to light our houses and run our machinery.

—Not always. There are times when the strange force gets the upperhand over humans. In thunderstorms it growls, and roars, and crashes, and sometimes causes sad damage to buildings and the lives of human beings. . . . But there is a way of avoiding the destruction. The current may be carried off gradually, not permitted to gather and discharge, and this is what Prof. Moffat proceeded to show.

Recalling to the audience that electricity is of two kinds, "positive" and "negative," that a charge of electricity always tends to attract the opposite kind in any neighboring body, and that the meeting causes a flash and report—a crash of thunder in the case of thunderstorms—Professor Moffat arranged the electric apparatus on the table to represent a cloud, with a plane surface beneath corresponding with the earth. In some way, he explained, clouds become charged with electricity. It is thought that this may be due to conditions far beyond the earth. Astronomers have noted that sunspots often occur at the same time as terrestrial electrical disturbances; the "Northern Lights," and possible thunderstorms, may thus be caused by some distant influence. However, that may be, the clouds become charged with one kind of electricity, and this tends to rush towards the opposite kind at the earth's surface. The purpose of lightning rods is to prevent a sudden discharge—in other words, to run the electricity off so that no disastrous effects will occur.

At this point the lecturer placed a miniature house on the plane representing the earth, and set the battery going to electrify the overhanging "cloud." Instantly a bolt of lightning could be seen shooting from the cloud, striking the chimney and making way via the stove-pipe to the ground. A more pretentious house with water-pipes and screened doors and windows showed the bolt shooting down the water-pipe and turning the screens red hot—an object lesson showing that, in an unprotected house, during a thunderstorm, one should keep away from stoves, water-pipes and screened doors and windows. A similar experiment with a tiny barn in which was placed a thimbleful of some inflammable substance, set the tiny edifice on fire as soon as the current was turned on. But in each instance as soon as lightning rods were applied—nothing whatever happened! In short there was not a person in the audience, when the demonstration

was concluded, who did not believe in the absolute efficacy of lightning rods to protect buildings, if properly placed and grounded.

The best method, said Prof. Moffat, is to run a continuous rod from 8 or 10 feet below the surface of the ground up to the peak of the building, across to the opposite peak, then down to the ground, where it is again grounded to the same distance as on the opposite side. On top place uprights about 5 feet high and 10 to 15 feet apart. These should be well connected with the main rod, as poor connections are likely to make trouble; also they should have metal pointed metal tips—say nickle—to prevent erosion. There should be uprights at all the highest points of the building, some near the chimneys and possibly bent a

Rural Sanitation.

THIS very important subject was taken up by Professor Graham, who illustrated his lecture with an electric lantern and slides.

First he dealt with the ordinary cess-pool when used in connection with house drainage. It is always a menace, threatening pollution of the well. A clay formation with many small stones in it will carry the filth, cracks may occur in other formations. It is wise to have the well on higher ground if possible, but one must know something about the underlying ground to be intelligent about such matters.

Prof. Graham then led through all the systems to the one most approved by modern science, and elaborated upon towards the close of his talk.

loose or gravelly soil it is only necessary to dig a pit and place a layer of cobble stones in the bottom. Of course, the pit should be closely covered.

Sewage in the Home.—The very best solution of the problem of how to dispose of sewage is the septic tank. This consists of a double chamber—a receiving chamber (the deeper one), and a discharging or flushing chamber from which the contents are siphoned off. The tank is built of concrete about 4½ feet by 3 or 4 feet in depth, with walls 4 inches thick. A sewage pipe leads to it, and the whole is usually covered with earth. Bacterial action in the chambers destroys the contents which then pass off, without odor or danger of contaminating, through a large pipe from which, by means of lateral pipes, they are distributed beneath the surface soil of the garden. Tile piping may be used, with cement at the joints, and the laterals need not be over 30 feet long nor more than 16 or 18 inches below the surface of the soil.

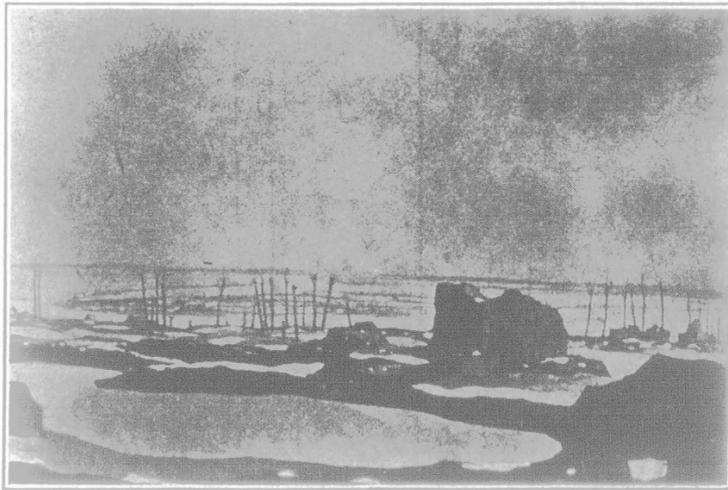
In reply to a question Prof. Graham said that the "Miller" type of septic tank is the best.

Convenience for Water Supply.—A drilled well may be pumped by a small gasoline engine, and the pump may be off to one side, in kitchen or barn, if the level of the water is not more than 25 feet from the cylinder. One pump can be made to do for both the cistern and the hard water by using a "three-way valve." A new pump for the kitchen sink, designed in Germany, is very excellent. It is a double-acting, oscillating force pump mounted on a base, and will lift and force water from 20 to 90 feet. Similar models are now being made in this country; one of them is known as the "Ideal."

Often a tank is placed in the attic to supplement the large cistern and send water all over the house. Water is pumped or forced up into it when necessary and an overflow pipe leads back to the large cistern.

If there is a hill near with a spring higher than the house, water may be easily brought by gravity and put on tap all over the house. It can even be brought over the crest of a hill, so long as the starting point is higher than the house. In this case the pipe should curve gradually. If air gets in at the highest point the flow may stop, but there is a contrivance to dislodge the air.

Pressure or Compressed Air System.—This is the best system of all. By it you can have your own water works operated by a gasoline or electric engine, a windmill or by hand. The pressure tank may be put in the ground and the pump operated by a windmill. One of the best-known pressure systems gives the water straight from the well instead of from a tank, or permits of the storage tank being



Ypres in Winter.

A painting by D. G. Cameron, R. A., now at the Toronto Exhibition. Mr. Cameron was born in Glasgow, 1865, and studied in Glasgow and Edinburgh.

little towards the centre of the chimney, as soot is a good conductor. Pointed ends are necessary, as electricity simply won't pile up on points,—it leaks off. If a building is T-shape a rod should run out and be connected as elsewhere.

At the close of the lecture Prof. Moffat replied to a number of questions which brought out the following information: Rods made of iron with copper covering are not very good, as the iron is likely to rust. The standard minimum size for rodding is 3 oz. weight per linear foot. Always the joints should be soldered, and deep grounding is very important. Evergreen trees about buildings do not help very much as protectors; elm and basswood trees are much better, as they tend to draw the electricity off to themselves.

The Ordinary Well.—A properly-constructed well must have good cribbing of brick, stone or cement, with a cap of concrete which slopes away from the pump. Outside of the cribbing for 10 or 12 feet deep there should be a layer of puddled clay, or concrete may be laid 10 feet deep and 6 inches thick. . . . A spring should be cribbed up and kept covered, and should be supplied with an overflow pipe covered with a wire mesh. If there is a pipe from it to the house a strainer should be placed at the end of the pipe.

Disposal of Kitchen Slops.—In heavy clay have a "grease-trap" made of concrete cement, with a cover; a pipe—turned down, to prevent the grease from clogging—leads to the garden. . . . In



Canadians Arriving on the Rhine.

A painting by Inglis Sheldon-Williams, now on exhibition in the Art-Gallery, Toronto Exhibition. The artist has caught the real spirit of the great event depicted. Not with swagger and bragadocio, but with the quiet and selfless acceptance of the true hero do the tired soldiers arrive at the long-fought for goal. Apparently they are more interested in the prospect of supper than in the Rhine. Mr. Inglis Sheldon-Williams is an English Artist. He was born in 1870, and studied at Paris and in the Slade School, London.

as small as possible. It has been estimated that many farmers' wives lift a ton of water a day. The ideal water system obviates this, and gives hot water all over the house, as well as supplying water to the barn and garden.

Hydraulic Ram.—Another excellent contrivance is the hydraulic ram, a sort of force pump which can be attached to any spring, creek, pond, reservoir or tank, provided there is a supply of 8 or 10 gallons per minute. If you want to raise the water 50 feet it must first have a fall of 5 feet.

Co-operation of Home and School.

MRS. Courtice, noted for being the first woman on the School Trustee Board in Toronto, spoke on the *Home and School* movement, which is being carried out in that city, and which, she thought, might well extend to the rural districts. The idea is to get parents working so steadily hand in hand with the schools that public opinion will be created so strongly in favor of equal educational opportunities for all, that every boy and girl will be taught how to think, how to live, and how to earn an honest living; every child should be given a chance to develop its highest possibilities. The home and school are the two most democratic forces to meet and carry out this program, and the first step should be for the parents and teachers to meet and form plans to be jointly carried out.

In Toronto some schools are developing the physical culture idea, also gardens are being cultivated, school fairs inaugurated and orchestras and dramatic work set going. In one school a class for mothers has been established.

The truancy question, entrance examinations, and the consolidated schools, noted Mrs. Courtice, are among the burning questions of this time, and the home and school must unite to solve them. The Women's Institute is doing splendid work in getting medical inspection established in the schools; she hoped this would be kept on and extended until physical defects are prevented and removed by health education.

The Ontario Trustees' Association is organizing every county to create higher standards of living and better educational advantages for every child. The Home and School organization should fit in with this, and a woman on every school board should give valuable assistance to the work.

In passing Mrs. Courtice remarked that she wished everyone understood what a menace cigarettes are to the health of boys in this country. Also she wished something definite could be done towards training young mothers. "Parenthood has never had a chance; no standard has been required." Sometimes she wondered why many men marry the women they do.

It will be the co-operation of prayerful, hard-working people, she concluded, that will save this Province. It is the business of the women to stand beside the men whenever it is suitable for them to do so, and it is always suitable where education is concerned. Every one of us is proud of Canada, but we are not blind to the dangers that beset her; high ideals and hard work will lead her through them.

Address From Inspector Marty.

MISS Marty, of Toronto, who holds the honor of being the first woman school inspector in Canada, was enthusiastically greeted, as she took the platform, with the "Queen's" yell.

From experience in her own inspectorate she said, she could testify that wherever the "Home and School" organization had been formed the school atmosphere is better, there are fewer difficulties, and those that come up are more easily settled. It is good for parents and teacher to get together once a month and talk; the benefit reacts upon the child. The whole idea is only a part of this great "community centre" movement, for the home and the school form the great centre from which the whole community spreads. Miss Marty heartily endorsed the County Trustees' Associations as a move in the right direction.

In closing she said that a "Home and School" organization in every section should open many possibilities to the teachers. One young teacher whom she knew had wanted to establish a hot lunch in winter, but her trustees thought the children could learn to cook at home and didn't need a hot lunch. In another section the school board thought there

was no use of taking the children from "reading, writing and arithmetic" to do gardening. The teachers were helpless because they would not appeal to the mothers in any organized way; had there been a "Home and School" club they could have presented the benefits of the hot lunch and school garden and won out.

Prizes for Athletics.

CONTINUING his daily talk on community sports and recreation, Mr. Maclaren followed with some hints on getting ready for an athletic meet. He thought money prizes should never be given; nothing but a ribbon should be presented for competition. This stirs up no resentment among the merchants, and stifles commercialism among the competitors. There could be no objection, however, to having a shield or cup, with the names of all the winners inscribed upon it. Always the idea underlying all community sport should be to build up character. Train excellence for excellence sake. Boys and girls do not run for the ribbon but for "place," first, second or third.

Mr. Maclaren recommended the "A. G. Spalding Athletic Series" of books for establishing community recreation. These books, which contain rules for all kinds of sports may be obtained from any dealer in sporting goods.

Next week the discussion on "Consolidated Schools" and other subjects will be given you.

Your Health.

BY "MEDICUS."

Constipated Baby.

"Evelyn."—"I have thought that probably you could suggest a diet that would benefit my baby, who is troubled with constipation. She is 14 months old, and has always been constipated, but otherwise is perfectly healthy. She was a bottle baby after first 3 months, and fed on cow's milk. For some time past she has been getting bread and butter, some oatmeal porridge cooked for 10 or 12 hours, and sago, etc. Nothing seems to appeal to her much except the milk, which is rich. She rarely has a movement naturally, and I have to resort to suppositories and enemas of warm water. Castor oil seemed to tie her up completely."

Ans.—1. Teach your baby regular habits. The most natural time for her bowels to move is right after breakfast, so "hold her out" every day at that time.

2. Diet.—I should suggest that you skim the milk for a time. Cream is a common cause of constipation, often associated with colic.

3. Add more sugar to the diet. Give her daily 2 teaspoonfuls of granulated or brown sugar in food. Gradually increase it to 3 tablespoonfuls if necessary. Regulate the dose by the frequency of the stools. If the bowels are too loose lessen the amount.

4. Her diet does not contain sufficient residue, "roughage." Give her some of the following: bran bread or muffins, Graham bread, orange (and insist that she eats the pulp), raisins with the skins, oatmeal with the hulls, raw potato. Give her orange juice, or better, tomato juice, half a teaspoonful 3 times a day.

5. If her bowels don't move after breakfast, wait till to-morrow after breakfast, then if necessary use a soap suppository.—Insert in the bowel a piece of curd soap the size of the lower end of your little finger. You may also try small doses of Nujol or Milk of Magnesia until you have regulated the bowels by the diet. Medicine will not cure her constipation, but regular habits and diet will.

For fear of tuberculosis boil the milk 3 minutes.

"Weeds are nourished by the same food that would nourish useful plants; and therefore, when allowed to grow along with them, must rob them of part of their food. Although it is allowed, that the food of all plants is not exactly of the same kind, yet as plants take in whatever juices as are touched by their roots, it may be justly said, that all kinds deprive the earth of that vegetable food which would nourish others. Experience convinces the farmer of the truth of this; for he finds that his crop is bad in proportion to quantity and kind of weeds with which his land is infested."—ADAM DICKSON, 1785.

The Children's Poem.

The Memory Quilt.

I don't mind being sick a bit—
I really think it's fun.
They put me in the spare-room bed,
And when the work is done
My mother brings her sewing in
Beside the fire they've built,
And tells the grandest stories
From the memory quilt.

She patched it when she was a girl,
From scraps both large and small;
They're bits from Grandma's wedding-clothes,
Her first gown for a ball,
A piece of Mother's best school-dress—
The one where ink is spilt—
Oh, there're the grandest things to tell
About the memory quilt.

I draw it close about my ears,
And shut my eyes up tight,
And only peek out now and then
To watch the red firelight.
When Mother's voice sounds far-away,
The Sandman creeps to tilt
His bags of sand and golden dreams
Across the memory quilt.

—MARION SEYMOUR KIRKLAND, in *Everywoman's World*.

Hope's Quiet Hour.

Not Far Off.

They should seek the Lord, if haply they might feel after Him, and find Him, though He be not far from every one of us: For in Him we live, and move, and have our being. Acts 17:27, 28.

St. Paul, walking in the light himself, found the people of Athens groping in darkness. They were intellectual and would naturally feel contemptuous towards a Jew; and yet their souls were feeling after an unknown God. They had even erected an altar with this sad inscription: "TO THE UNKNOWN GOD." One of their own poets had told them they were the offspring of God, and yet they knew nothing of the joy of fellowship with their Father.

In every age and every country the heart of man has reached out after God. The hunger of the soul is as truly instinctive as the hunger of the body and the mind. Our bodies crave food, our minds crave knowledge, and our spirits are athirst for God. If I did not believe that, I should have no assurance in writing the Quiet Hour. Of course, there are plenty of people who seem to be interested only in the things of this life; but their souls are not dead—though they may be nearly choked with the cares, riches and pleasures of this world. Sometimes the appearance of indifference may be only a disguise, intended to hide from careless gaze the sensitive shrinking heart. Only God knows how hungry for satisfying love each heart is. We can only see the house in which our neighbor lives—the body. God sees the man himself and finds him vitally interesting.

One of the scribes—a man who knew his Bible well—came to our Lord with the searching question: "Which is the first commandment of all?" The quick answer was startling in its perfection. The whole of the Law was gathered up in one golden word—"LOVE." The questioner was told that the only way to keep the Law is to love God with all the heart, and soul, and mind, and strength; and to love one's neighbor as one's self.

The scribe saw the beauty of the ideal held up by the Great Teacher, and frankly acknowledged that love was worth more than all outward forms of worship. When Jesus saw that he answered discreetly, He said unto him, "Thou art not far from the kingdom of God."

Only God knows the outcome of that contact with Christ. Was the scribe willing to stay "not far" from the kingdom, or did he press on into it? He saw the beauty and the glory of a life inspired by love. Did he allow the vision to fade, and did he drift far off from the kingdom?

It is not enough to be "not far." A few weeks ago I got off the train at a country station and the train steamed away. Some people came hurrying up to catch the train. It was not far away—but it might just as well have been

hundreds of miles away. They had missed it.

When our Lord preached among men, the people who seemed to be far off,—the publicans and sinners,—pressed into the kingdom of God before those who seemed to be near. The Pharisees were very religious, even paying tithes of their garden herbs, and fasting twice a week. Their prayers were long, and religion was—apparently—the chief business of their lives. God, who looks at the heart, was not deceived by this religious veneer. Outside observances are only a sham unless they are the expression of real faith and love in the secret soul. They are not helps to fellowship with God, but barriers,—if they are false. Those "religious" men may have been farther from God than the publicans and sinners they ventured to despise.

But look at the confident assertion of St. Paul, as contained in our text. He says that all the nations of men are of one blood, and "that they should seek after the Lord, if haply they might feel after Him, and find Him, though He be not far from every one of us: for in Him we live, and move, and have our being."

Then every one of us may find Him. There are no outcasts from God, no God-deserted lives. When Christ walked visibly among men He was especially kind to "outcasts"—the people deserted by their fellows. He has not changed and will never change.

What can be gained by joining the company of Christ's disciples? Study the records and see. Those first close companions of the Master were just "common" men. Some were ignorant fishermen, and one was so fond of money that he had stooped to the low position of a tax-gatherer—gathering money from his own people and handing it to their conquerors, the Romans. That little band of country men went out, in marvellous trust, to change the religion of the world. After nearly two thousand years of education their writings are still appealed to us authoritative. They are still the acknowledged teachers of mankind. If they had not placed themselves under the authority of the Master of the world such an amazing outcome would have been impossible.

Who but God can create the great multitude of souls lifted by Christ out of sin and degradation into light and joy and usefulness? Who can count the men and women who have spent their lives in His service and have been kept by Him in the glad consciousness of open fellowship with the Friend who walks always beside them?

If there had been no Jesus Christ to teach men by His example and His words, to win their hearts by the marvellous attraction of His personality, and to make them more and more like Himself, the world would have been poor indeed.

A few weeks ago the Archbishop of Canterbury, addressing the Lambeth Conference, declared that it was possible to "find power from on high to make the message of Jesus Christ our Lord ring out and tell among the sons and daughters of men." In the midst of wars and rumors of wars, in the upset condition of our times, we need not lose courage or confidence. As the Archbishop said: "We may carry reverently, resourcefully, and hopefully into the perplexities of a sorely rent and distracted world a buoyant, an arresting, an invigorating message of strength and guidance from our living Lord—the same yesterday, and to-day, and forever."

"A message from our living Lord!" That was the reason the Apostles could not be silenced in the first century. Their message came to them directly from their Master. He is abreast of this age, too. We go to the Bible to find out what he said—and He has not changed—but we shall be desperately incompetent disciples unless we also go into the presence of our living Lord and get our instructions directly from Him.

Germany has proved that education alone can never save society. We need something more vital than education—even the life of Christ within the souls of men. The other day I saw a woman who is gaining strength through the transfusion of her husband's blood. He has already given several pints of his blood to strengthen her weakness. So the Bridegroom freely gave His blood to nourish His Bride, the Church. He is not far off from any one of us, but offers Himself to be our very life, saying: "He

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that eateth My flesh, and drinketh My blood, dwelleth in Me, and I in him.—S. John 6 : 56.

And yet many disciples are trying to do His work in their own strength; and actually turning away when He offers Himself in the sacrament which is His love-gift to His Bride. We hear our living Lord say: "Take, eat; this is My body. . . Drink ye all of it; for this is My blood."

If we choose to stay "not far off", have we anyone but ourselves to blame for the weakness which blocks our progress? Bishop Donne has said: "As God loveth a cheerful giver, so He also loveth a cheerful taker, one who takes hold on His gifts, with a glad heart."

DORA FARMCOMB.

The Fashions.

How to Order Patterns.

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

POSITIVELY NO PATTERNS WILL BE SUPPLIED EXCEPT THOSE ILLUSTRATED.

Since pattern manufacturers have raised the price of patterns (owing to scarcity of paper, etc.) all patterns henceforth will be 15 cents per number.

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

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

3336. A Serviceable Cape.
 Cut in 4 sizes: Small, 32-34; medium, 36-38; large, 40-42; and extra large, 44-46 inches bust measure. A medium size will require 6¼ yards of 48-inch material. Price, 15 cents.

3331. Girl's Dress.
 Cut in 4 sizes: 6, 8, 10 and 12 years. A 10-year size will require 4¾ yards of 36-inch material. Price, 15 cents.

3127. A Splendid Work Dress.
 Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 7 yards of 27-inch material. The width of the skirt at lower edge is 2 yards. Price, 15 cents.

3338. Girl's Coat.
 Cut in 5 sizes: 4, 6, 8, 10 and 12 years. A 10-year size will require 3¾ yards of 44-inch material. Price, 15 cents.

3341. Ladies' Dress.
 Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. A 38-inch size will require 6 yards of 36-inch material. Skirt measures about 1¾ yard at lower edge. Price, 15 cents.

3113. Child's Dress.
 Cut in 4 sizes: 2, 3, 4 and 5 years. Size 4 will require 2¾ yards of 36-inch material. Price, 15 cents.

3145. A Simple Apron.
 Cut in 4 sizes: small, 32-34; medium, 36-38; large, 40-42; and extra large, 44-46 inches bust measure. A medium size will require 4 yards of 36-inch material. Price, 15 cents.

3117. A New Corset Cover.
 Cut in 6 sizes: 32, 34, 36, 38, 40 and 42 inches bust measure. It will require 1¾ yard of 36-inch material for a 38-inch size. Price, 15 cents.

3159. Girl's Dress.
 Cut in 4 sizes: 2, 4, 6 and 8 years. For a 6-year size 3½ yards of 27-inch material will be required. Price, 15 cents.

3318-3315. Ladies' Coat Suit.
 Coat 3318 cut in 8 sizes for misses and

ladies: 32, 34, 36, 38, 40, 42, 44 and 46 inches bust measure. The skirt 3315 cut in 7 sizes: 24, 26, 28, 30, 32, 34 and 36 inches waist measure. To make this suit for a medium size will require 7 yards of 40-inch material. The width of the skirt at the foot is about 1¾ yard. TWO separate patterns, 15 cents FOR EACH pattern.

3328. Girl's Dress.
 Cut in 4 sizes: 8, 10, 12 and 14 years. A 12-year size will require 3½ yards of 44-inch material. Price, 15 cents.

3332. Ladies' Cover-All Apron.
 Cut in 4 sizes: small, 32-34; medium, 36-38; large, 40-42; and extra large, 44-46 inches bust measure. A medium size will require 4¾ yards of 36-inch material. Price, 15 cents.

3128. Boy's Suit.
 Cut in 4 sizes: 3, 4, 5 and 6 years. For a 3-year size 3 yards of 27-inch material will be required. Price, 15 cents.

3342. Misses' Dress.
 Cut in 3 sizes: 16, 18 and 20 years. A 16-year size will require 4¾ yards of 36-inch material. The width of the skirt at lower edge is 1¾ yard. Price, 15 cents.

3314. Junior's Dress.
 Cut in 3 sizes: 12, 14 and 16 years. A 14-year size requires 4¼ yards of 40-inch material. Price, 15 cents.

2984. A Neat and Comfortable House Dress.
 Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 5¾ yards of 36-inch material. Price, 15 cents.



The Ingle Nook

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

"I think that I shall never see
 A poem lovely as a tree.
 A tree whose hungry mouth is prest
 Against the world's sweet flowing breast.
 A tree that looks at God all day
 And lifts her leafy arms to pray;
 A tree that may in summer wear
 A nest of robins in her hair.
 Upon whose bosom snow has lain;
 Who intimately lives with rain.
 Poems are made by fools like me,
 But only God can make a tree."

If there is one thing in the world in regard to which I cheerfully confess an unadulterated fear, it is thunderstorms. If there is one thing in the world for which I am delighted to declare an absolute love, it is trees.

Both thunderstorms and trees come into this scribble.—Oh no, I am not going to say that it is not safe to stand under a tree during a thunderstorm; everybody knows that.

Some weeks ago, just as I was putting on my "bonnet" to leave my den, an ugly looking black cloud with jagged edges began to creep up above the trees behind the opera house, and so I hurried off as fast as I could, hoping to reach my

destination, just four blocks away, before the storm broke.

I walked almost at a run, then ran, quite unmindful of gaping pedestrians. But no! That cloud seemed fitted with seven-league boots. It was right overhead before I had covered three blocks, and by way of encouragement, gave an angry snarl right above me, while a few big drops of rain splattered down.

Fortunately for me, I "knew the folks" in a house right opposite, so so in I went, glad to sit there and look out at the storm instead of trusting to my heels to get out of it, and in a moment or two I was twice glad. Swirling along the street came a big cloud of dust, and then all of a sudden the trees along the street bent before a lashing, twisting sort of blast that was gone in a few minutes. Just after it struck, a great branch was wrenched off a tree before the window, falling right across the pavement upon a spot over which a motor-car had just passed.

When the storm was over and I pursued my way, I could not but wonder if someone were not hurt, for as far as I could see branches were lying on the sidewalk or on the street, and people were coming out to pull them aside.

On the way home I took the pains to examine the down-torn branches, and almost without exception there was trace of rot at the base. Evidently the rot had started from some hole left to itself, of from some wound left untreated after pruning. I knew that these wounds should have been covered with grafting-wax or paint as soon as the pruning saw or knife had been used, but I did not know, until when talking with one of our editors afterwards, that the paint used on trees must not contain any turpentine. To be sure of this it is safe to mix the paint oneself, using the lead and oil. This editor told me about a neighbor of his who had a fine pear tree split last winter. A neglected hole in the crotch of the tree had become filled with water, the water froze, and so the tree split in two. Now the man—having learned his lesson—is having other holes in his trees filled with cement. Indeed, nowadays, in the cities, many trees that would otherwise be destroyed,—both fruit trees and shade trees—are being treated in this way. "Tree dentistry" it is called, and, indeed, the operation very much resembles filling a tooth, for the cavity is scraped out, treated, sometimes burned out in a certain way, until no germ of decay is left, then it is filled up with cement.

I do think (don't you?) that every person who owns a little bit of ground should help in keeping up our tree supply. An apple-tree or shade tree in the back yard will help; trees about the lawn will help; trees planted along roadsides will help; trees planted in any waste bit of ground will help—and there are so many tracts of ground really good for little else but growing trees. For trees will send their strong exploring roots about rocks and boulders that defy profitable cultivation of the soil for anything else, and pine-trees will grow on sand that, unless bound in some such way, will be but a shifting heap of uselessness. It is reassuring, for us in Ontario, to remember that Premier Drury has foreshadowed a better forestry policy for this Province for the future. That probably means better protection against fires, more planting of great areas that cannot be undertaken by private enterprise.

However, I don't think we can even dream of the splendid work we can all do by planting a few trees every year until we have every place we can spare covered with them. Yes, women can do the work just as well as men, for the smaller the trees the faster they grow. Indeed I have often wondered why women do not go in for forestry. In all Canada I have heard of but one—Miss Marianne Keene, the step-daughter of a noted fire ranger, in the West. Miss Keene is a real fire-ranger in British Columbia,—or was when I last heard of her. Up and down through the forests she goes, clothed in a water-proof suit of jacket and breeches, and carrying a duffel-bag just like a man. A shot-gun and axe are part of her equipment. Sometimes she goes on horse-back, sometimes in a canoe, and everywhere doors are open to her, whether it be the shack of an Indian or the home of a rancher. She is "up to her job," too, in more ways than just the task of putting out fires, for she has studied forestry, grafting and nursery work



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COTTONS

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21

in an American College. I have an idea that if women who love trees and see the need of them in this splendid Canada of ours, would bombard the Forestry Department with applications for entrance upon the courses of study, a way would be opened, and maybe they would accomplish more than has ever yet been accomplished toward re-foresting denuded and useless areas of our country.

Why so anxious about trees and re-foresting? . . . Don't you know that trees influence climate? If there are enough of them they help to prevent hurricanes and cyclones such as are common on the plains. . . Moreover, if growing in the

right places they help to prevent floods—and floods, you know, carry away the richness of our soil and deposit it in the bottom of lakes and along the edges of sluggish rivers. In that case, perhaps someone else gets the benefit of your land that has been washed away, but you can't claim payment very well. Trees should *never* have been cut down wholesale along the shores of streams and lakes.

But we are not through with the good points of trees yet: They prevent the creeks from drying up, by holding the moisture along the shores in the spring time, and permitting it to filter through gradually instead of rushing down in runlets and then off in a ranging

torrent, brown with good soil. Most of us know creeks, now almost or quite dry in summer, that once were delightful brooks all summer long. How the cattle loved to stand in them! And how cooling and gracious the water was!

Again, we are becoming short of pulpwood, at least of pulpwood that can be got out easily. If you were in the publishing business you would know what that means, for paper for printing on is very scarce, and a simply "awful" price. Pulpwood means papers and books, as well as kindling for the morning fire. Just think how you booklovers, and you people who like to keep up in the news would feel if

you could not get anything to read except at a prohibitive price.

Firewood, also, is becoming scarce—and timber for furniture-making and building. We are using up all our firewood, we are using up all our coal,—what is to become of the people who live in the future? Yes, perhaps there will be plenty to last our day, but I shall persist in believing that we owe something to the people of the future, and that, somehow, we shall have to suffer with them if our carelessness should cause them to suffer. We are our brother's keeper—to-day or tomorrow—and we can't evade the responsibility.

Last of all, we should plant trees because of their beauty. We need more and more beauty everywhere, and when we plant a tree it well rewards our labor, if in this respect alone. It serves as a windbreak against winter winds, gives us shade from the summer sun, and croons a song to lull us to sleep; in the shelter of its green arms the catbird and peewee build their nests and sing to us in the early morning. It has often been said that trees tastefully planted about a place add hundred of dollars to its value in dollars and cents alone.

Since trees are such things of beauty what better memorial could be devised in honor of the heroes of the Great War than to plant them? Already, in many parts of Canada, Memorial Parks are being established, and wherever there is a park trees must be the prevailing note. Three years ago an English woman suggested that a memorial roadway lined with trees be built in every British country, whereby the soldier lads who fought in the War might be kept in constant remembrance. The idea has spread and even beyond the British Empire, for the United States is planting its memorial avenues of trees. It is one that can be taken up in every locality. As someone has written, "A memorial road is an excellent idea, also, because all classes will be reached. High and low, rich and poor, city bred and country folk will all traverse the road and in some stage of the journey will think at least once of the work of sacrifice and love thus immortalized. The road might be a modest one leading to some 'God's acre,' or it might be planned to finally become a long highway reaching from town to town, even from Province to Province."—Should this plan reach your locality perhaps you will feel like giving it all the assistance possible. If the trees are planted alternately on opposite sides of the road, with wide spaces between, there will be no trouble about the road being kept damp. Also arrangements can be made by which telephone and other wires will not interfere.

Trees may be planted either in fall or spring, and fall will soon be here. —JUNIA.

Worth Thinking Over.

"Canadians are peculiar in some respects. They imagine that a country's prosperity is symbolized and reflected in tall office-buildings, in city sub-divisions, in business blocks, new theatres, golf clubs, public works of all kinds. It isn't. At least those things don't come first. The true estimate is in the state of the farms."—Marianne Keene.

Current Events

The forty-second annual Canadian National Exhibition was opened in Toronto on Saturday by Sir Auckland Geddes, British Ambassador to the United States.

The attendance at the O. A. C. this year will be far in advance of that of any previous year.

On Sept. 17th, 25,000 orators, of whom Alice Roosevelt Longworth is one, will start out through the United States preaching Republican doctrines.

Following Attorney-General Palmer's instructions, bituminous coal fell in the United States, on August 24, to \$8.75 per ton.

Premier Lloyd-George and Premier Giolitti of Italy are holding a conference with German Foreign Minister Simons at Lucerne, Switz., the first friendly talk between Britain and German statesman. Because of the absence of France, Germany is very hopeful of the result of the conference. Britain and Italy are at one in regard to the policy to be adopted towards Russia, Poland and Germany, but France stands apart.

Great Britain is likely to recognize the independence of Egypt at an early date. The final convention will be submitted for confirmation to the British Parliament and the Egyptian Assembly.

The Sinn Fein have seized control of many towns in Ireland. Further troubles are feared in case of the death of Lord

Mayor McSweeney of Cork, who is on hunger strike and has been given but one more week to live. Premier Lloyd-George has promised to consider any proposal short of separation of Ireland from the Empire, that may be put forward by anyone in Ireland who can offer a solution of the present difficulties.

For some time the Poles have been making marked gains in their campaign against the Bolsheviks, but the Russian forces are said to be rallying. At time of going to press an army under Trotsky is marching toward Lomza to the relief of the surrounded troops of the Soviet. Gen. Wrangel, the commander of the anti-Bolshevik forces in the south of Russia, is considered the most serious danger threatening the Soviet regime. He is Liberal and does not seek to establish a Czarist regime, and the people and troops are said to be flocking to him by thousands.

It is feared that Great Britain may be in for a long war in Mesopotamia, where the Arabs are clamoring for absolute independence. Several collisions have taken place between Arab guerilla forces and British Sikh troops along the Tigris.

Winter Wheat.

RESULTS OF EXPERIMENTS.

EDITOR "THE FARMER'S ADVOCATE":

Winter wheat is one of the chief money crops of Ontario. Its market value for the Province amounted to about thirty-five million dollars in 1919.

Fourteen varieties of winter wheat have been grown under experiment at the Ontario Agricultural College for twenty-five years with average results for this period as follows: Yield of grain per acre 43.9 bushels, yield of straw per acre 2.8 tons, and weight per measured bushel 60.8 pounds. The results for 1920 were 3 per cent. less in yield of grain per acre, 29 per cent. less in yield of straw per acre, and 2 per cent. greater in weight per measured bushel than the average results for the whole period. In fifteen years of the twenty-five year period, the yields of grain per acre surpassed those of 1920. In only nine years of the twenty-five year period were the weights per measured bushel greater than those of 1920.

Experiments at the College have shown that the best results have been obtained from sowing large, plump, sound, well-matured seed of strong vitality. Seedlings which have taken place from the 26th of August to the 9th of September have given better results than those of either earlier or later dates.

Five varieties of winter wheat have been distributed for co-operative experiments throughout Ontario in each of the past four years. The following table gives the average results in bushels of grain per acre for the average of the four years:

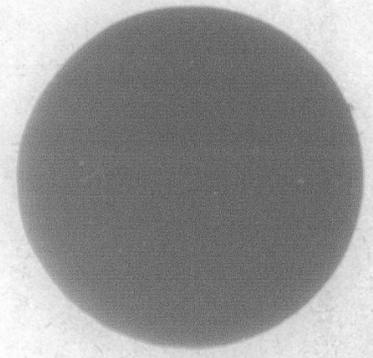
Varieties	Bushels per acre	
	1920	Average 4 Years
O. A. C. No. 104.....	26.9	26.3
Improved Dawson's Golden Chaff.....	26.4	25.1
Improved Imperial Amber.....	22.7	24.2
Kharkov.....	22.3	21.1
Yaroslaw.....	17.3	20.0

The O. A. C. No. 104 was decidedly the most popular variety of those under test, eighty-two per cent. of the experimenters giving it first choice. This new hybrid wheat will be distributed this autumn in connection with the co-operative experiments to every person who asks for the experiment with varieties of winter wheat.

DISTRIBUTION OF MATERIAL FOR EXPERIMENTS IN AUTUMN OF 1920.

As long as the supply lasts, material will be distributed free of charge in the order in which the applications are received from Ontario farmers wishing to experiment and to report the result of any one of the following tests: 1, three varieties of winter wheat; 2, one variety of winter rye and one of winter wheat; 3, spring applications of five fertilizers with winter wheat; 4, autumn and spring application of nitrate

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you wear it, like a watch.

Your larger camera you carry when you plan to take pictures. The Vest Pocket Kodak you have constantly with you to picture the unexpected and the unusual. It is small in size but lacks nothing in quality.

The price is \$11.21. Film for 8 exposures is 25 cents.

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Public School to Second-Year University, Household Science, Music—Instrumental and Vocal, Commercial, Elocution, Art, Civic and Parliamentary Studies, Gymnasium Work and Swimming.

For Calendar apply to Rev. F. L. Farewell, B.A., Principal

of soda and common salt with winter wheat; 5, winter emmer and winter barley; 6, hairy vetches and winter rye as fodder crops. The size of each plot is to be one rod wide by two rods long. Fertilizers will be sent by express for

number 4 this autumn and for number 3 next spring. All seed will be sent by mail except that for number 4, which will accompany the fertilizers.

C. A. ZAVITZ.
O. A. C., Guelph.

THIS BEAUTIFUL Black Wolf Set



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

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

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

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

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

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

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

ADDRESS IN FULL AS BELOW

John Hallam Limited

The Largest in Our Line in Canada

(Department No. 1051) TORONTO

Dates of Fall Fairs, 1920.

Issued by the Agricultural Societies Branch of the Ontario Department of Agriculture, Toronto. J. Lockie Wilson, Superintendent.

Aberfoyle	Oct. 5	Frankford	Sept. 16 and 17
Abingdon	Oct. 1 and 2	Frankville	Sept. 16 and 17
Acton	Sept. 21 and 22	Freelton	Thanksgiving
Agincourt (Scarboro')	Sept. 24 and 25	Galetta	Sept. 22 and 23
Ailsa Craig	Sept. 22 and 23	Galt	Oct. 1 and 2
Alexandria	Sept. 7 and 8	Georgetown	Sept. 29 and 30
Alfred	Sept. 14 and 15	Glencoe	Sept. 28 and 29
Alliston	Sept. 30, Oct. 1	Goderich	Sept. 8-10
Almonte	Sept. 28-29	Gooderham	Oct. 7
Alvinston	Oct. 12 and 13	Gordon Lake	Sept. 24
Amherstburg	Oct. 1 and 2	Gore Bay	Sept. 28 and 29
Ancaster	Sept. 28 and 29	Grand Valley	Sept. 28 and 29
Arden	Oct. 5	Gravenhurst	Sept. 30, Oct. 1
Arnprior	Sept. 8-10	Haliburton	Sept. 23
Arthur	Oct. 5 and 6	Hanover	Sept. 23 and 24
Ashworth	Oct. 1	Harriston	Sept. 23 and 24
Atwood	Sept. 20 and 21	Harrow	Oct. 4 and 5
Avonmore	Sept. 21 and 22	Hepworth	Sept. 13 and 14
Aylmer	Sept. 29, 30, Oct. 1	Highgate	Oct. 14 and 15
Ayton		Holstein	Sept. 28 and 29
Bancroft	Oct. 7 and 8	Huntsville	Sept. 28 and 29
Barrie	Sept. 20-22	Hymers	Sept. 28
Bayfield	Sept. 29 and 30	Ilderton	Sept. 24
Baysville	Sept. 30	Ingersoll	Oct. 4 and 5
Beachburg	Sept. 27-29	Inverary	Sept. 8
Beamsville	Sept. 16-18	Iron Bridge	Oct. 5
Beaverton	Sept. 27-29	Jarvis	Sept. 23 and 24
Beeton	Oct. 12 and 13	Kagawong	Sept. 30, Oct. 1
Belleville	Sept. 6-8	Keene	Oct. 5 and 6
Berwick	Sept. 7 and 8	Kemble	Sept. 23 and 24
Binbrook	Oct. 4 and 5	Kemptville	Sept. 7 and 8
Blackstock	Sept. 28 and 29	Kenora	Aug. 25-27
Blenheim	Oct. 7 and 8	Kilsyth	Oct. 7 and 8
Blyth	Sept. 21 and 22	Kincardine	Sept. 16 and 17
Bobcaygeon	Sept. 30, Oct. 1	Kingston	Sept. 28-Oct. 2
Bolton	Sept. 24 and 25	Kirkton	Sept. 30, Oct. 1
Bonfield	Sept. 21	Lakefield	Sept. 28 and 29
Bothwell's Corners	Sept. 21 and 22	Lakeside	Sept. 30
Bowmanville	Sept. 21 and 22	Lambeth	Sept. 29
Bradford	Oct. 18 and 19	Lanark	Sept. 8
Bracebridge	Sept. 23 and 24	Langton	Sept. 29
Brampton	Oct. 1 and 2	Lansdowne	Sept. 16 and 17
Bridgen	Oct. 5	Leamington	Oct. 6-8
Brighton	Sept. 9 and 10	Lindsay	Sept. 22-25
Brockville	Sept. 21-24	Lion's Head	Oct. 7 and 8
Bruce Mines	Sept. 22	Listowel	Sept. 15 and 16
Brussels	Sept. 14 and 15	Lombardy	Sept. 11
Burk's Falls	Sept. 30, Oct. 1	Loring (Western	Oct. 1
Burford	Sept. 30, Oct. 1	Fair)	Sept. 11-18
Burlington	Thanksgiving	Lucknow	Sept. 23 and 24
Caledon	Sept. 23 and 24	Maberly	Sept. 23 and 24
Caledonia	Oct. 7 and 8	Madoc	Oct. 5 and 6
Campbellford	Sept. 21 and 22	Maghetawan	Sept. 28 and 29
Carp	Sept. 28 and 29	Manitowaning	Sept. 27 and 28
Castleton	Oct. 5 and 6	Markdale	Oct. 5 and 6
Cayuga	Sept. 21 and 22	Markham	Oct. 7-9
Centreville	Sept. 23	Marmora	Sept. 27 and 28
Charlton	Sept. 15	Massey	Oct. 6 and 7
Chatham	Sept. 21-24	Matheson	Sept. 6
Chatsworth	Oct. 14 and 15	Mattawa	Sept. 22 and 23
Chelmsford	Sept. 28 and 29	Maxville	Sept. 16 and 17
Chesley	Sept. 30, Oct. 1	Maynooth	Sept. 30
Clarence Creek	Sept. 23	McDonald's Corners	Sept. 24
Clarksburg	Sept. 21 and 22	McKellar	Sept. 23 and 24
Cobden	Sept. 30, Oct. 1	Meadford	Sept. 23 and 24
Cochrane	Sept. 23 and 24	Melbourne	Oct. 7
Coe Hill	Sept. 28 and 29	Merlin	Sept. 20 and 21
Colborne	Sept. 24 and 25	Merrickville	Sept. 16 and 17
Coldwater	Sept. 23 and 24	Metcalfe	Sept. 28 and 29
Collingwood	Sept. 14-17	Middleville	Oct. 1
Comber	Oct. 1 and 2	Midland	Sept. 28-30
Cookstown	Oct. 5 and 6	Mildmay	Sept. 20 and 21
Cookville	Oct. 6	Millbrook	Sept. 30, Oct. 1
Cornwall	Sept. 1-4	Milton	Oct. 5 and 6
Delaware	Oct. 13	Milverton	Sept. 23 and 24
Delta	Sept. 13-15	Minden	Sept. 28
Demorestville	Oct. 9	Mitchell	Sept. 28 and 29
Desboro	Sept. 23 and 24	Morrisburg	Aug. 3-5
Dorchester Station	Oct. 6	Mount Brydges	Oct. 1
Drayton	Sept. 28 and 29	Mount Forest	Sept. 15 and 16
Dresden	Sept. 30, Oct. 1	Muncey (United	
Drumbo	Sept. 28 and 29	Indian)	Sept. 29
Dryden	Sept. 29 and 30	Murillo	Oct. 5 and 6
Dunchurch	Sept. 30, Oct. 1	Napanee	Sept. 14-16
Dundalk	Sept. 30, Oct. 1	New Hamburg	Sept. 16 and 17
Dungannon	Oct. 7 and 8	Newington	Sept. 28 and 29
Dunnville	Sept. 23 and 24	New Liskeard	Sept. 21 and 22
Durham	Sept. 28 and 29	Newmarket	Sept. 22-24
Elmira	Sept. 17 and 18	Niagara-on-the-Lake	Sept. 23 and 24
Elmvale	Sept. 27-29	Noelville	Sept. 22
Embro	Oct. 7	North Bay	Sept. 15-17
Emo	Sept. 16 and 17	Norwich	Sept. 28 and 29
Emsdale	Sept. 23 and 24	Norwood	Oct. 12 and 13
Englehart	Sept. 16 and 17	Oakville	Sept. 23-25
Erin	Thanksgiving	Odessa	Sept. 24
Essex	Sept. 28-30	Ohswekin	Sept. 29-Oct. 1
Exeter	Sept. 20 and 21	Onondaga	Oct. 4 and 5
Fairground	Oct. 5	Orangeville	Sept. 14 and 15
Fenelon Falls	Sept. 11 and 12	Orillia	Sept. 14 and 15
Fenwick	Sept. 28 and 29	Oro	Sept. 17
Fergus	Sept. 23 and 24	Orono	Sept. 23 and 24
Feversham	Sept. 29 and 30	Orrville	Sept. 21 and 22
Flesherton	Sept. 23 and 24	Oshawa	Sept. 13-15
Florence	Oct. 7 and 8	Ottawa (Central	
Fordwich	Oct. 2	Canada)	Sept. 10-20
Forest	Oct. 5 and 6	Otterville	Oct. 1-3
Fort Erie	Sept. 22 and 23	Owen Sound	Sept. 15-17
Fort William	Sept. 14-16	Paisley	Sept. 28 and 29
		Pakenham	Sept. 21
		Palmerston	Oct. 5 and 6
		Paris	Sept. 23 and 24
		Parham	Sept. 21 and 22

Continued on next page.

Summer weather increases the pleasure of a wash with "Baby's Own Soap."

The creamy lather leaves the skin refreshed and with the fragrance of the genuine extracts of Roses of France and Geraniums of Tunis.

Its use keeps the skin free from heat rash and chafing.

In the interest of your skin—buy "Baby's Own Soap."

Baby's Own Soap

"Best for Baby Best for You"

ALBERT SOAPS LIMITED, Mfrs., MONTREAL.

Sept. 16 and 17
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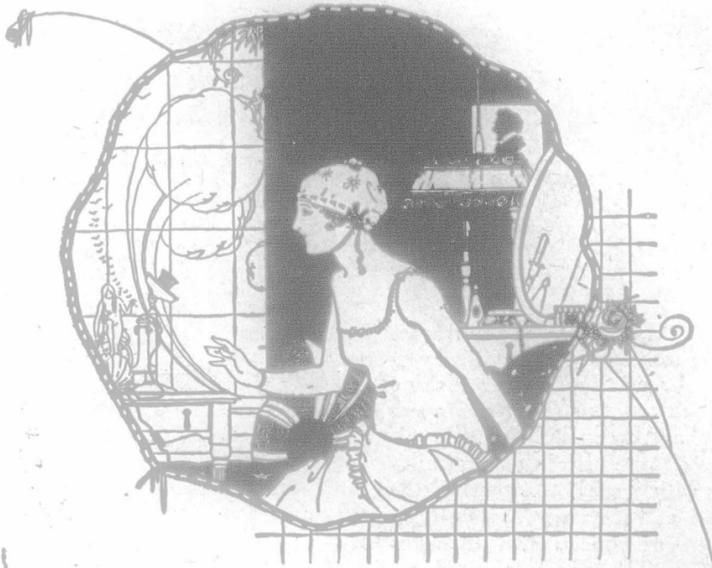
Having sold my largest farm, I am offering for sale SEVENTY-FIVE PURE SHROPSHIREs at the following very low prices. Ram and Ewe Lambs and Yearling Rams from twelve to thirty dollars each. Yearling Ewes from twenty-five to thirty dollars. Ewes from five to seven years from ten to fifteen dollars, including Pedigrees.
 H. E. WILLIAMS, Sunnylen Farm, Knowlton, P.Q.

"Advocate" Advs. Pay.

Dates of Fall Fairs, 1920—Continued.

Parkhill	Sept. 28 and 29
Parry Sound	Sept. 15 and 16
Perth	Sept. 8 and 9
Peterboro	Sept. 20-23
Petrolia	Sept. 23 and 24
Pictou	Sept. 21-24
Pinkerton	Sept. 22
Porquis Jct.	Sept. 23
Port Carling	Sept. 16 and 17
Port Elgin	Oct. 7 and 8
Port Hope	Sept. 16 and 17
Port Perry	Sept. 9 and 10
Powassan	Sept. 29 and 30
Priceville	Sept. 30, Oct. 1
Providence Bay	Oct. 6 and 7
Queensville	Oct. 12 and 13
Rainham Centre	Sept. 14 and 15
Rainy River	Sept. 21 and 22
Renfrew	Sept. 21-24
Riceville	Sept. 28
Richmond	Sept. 23-25
Ridgetown	Oct. 11-13
Ripley	Sept. 28 and 29
Roblin's Mills	Oct. 1 and 2
Rocklyn	Sept. 30, Oct. 1
Rockton	Oct. 12 and 13
Rockwood	Oct. 7 and 8
Rodney	Oct. 4 and 5
Rosneath	Oct. 14 and 15
Rosseau	Sept. 14-16
Russell	Sept. 21 & 22
St. Mary's	Sept. 23 and 24
Sarnia	Sept. 27-29
Sarnia Reserve	Oct. 6 and 7
Sault Ste. Marie	Sept. 28-30
Schomberg	Oct. 14 and 15
Seaforth	Sept. 23 and 24
Shannonville	Sept. 18
Shedden	Sept. 22
Sheguiandah	Oct. 5 and 6
Shelburne	Sept. 21 and 22
Simcoe	Oct. 4-6
Smithville	Sept. 15 and 16
South Mountain	Sept. 2 and 3
South River	Oct. 6 and 7
Spencerville	Sept. 28 and 29
Springfield	Sept. 23 and 24
Sprucedale	Sept. 23 and 24
Stella	Sept. 28
Stirling	Sept. 23 and 24
Stratfordville	Sept. 15
Stratford	Sept. 20-22
Strathroy	Sept. 20-22
Streetsville	Sept. 29
Sturgeon Falls	Sept. 21 and 22
Sunderland	Sept. 20 and 21
Sundridge	Sept. 23 and 24
Tara	Oct. 5 and 6
Tavistock	Sept. 27 and 28
Teeswater	Oct. 5 and 6
Thamesville	Oct. 5 and 6
Theford	Sept. 22 and 23
Thessalon	Sept. 27 and 28
Thorndale	Sept. 27 and 28
Thorold	Sept. 14 and 15
Tillsonburg	Sept. 20 and 21
Tiverton	Oct. 5
Toronto (Can. National)	Aug. 28-Sept. 11
Trout Creek	Sept. 16 and 17
Tweed	Sept. 30, Oct. 1
Udora	Oct. 5
Underwood	Oct. 12
Utterson	Sept. 21 and 22
Vankleek Hill	Sept. 21-23
Verner	Sept. 20-21
Wallaceburg	Sept. 28 and 29
Wallacetown	Sept. 30, Oct. 1
Walsh	Oct. 16
Walter's Falls	Sept. 28 and 29
Warkworth	Oct. 7 and 8
Warren	Sept. 23
Waterdown	Oct. 5
Waterford	Sept. 23
Watford	Sept. 30, Oct. 1
Welland	Oct. 5-7
Wellandport	Oct. 1 and 2
Wellesley	Sept. 14 and 15
West McGillivray	Oct. 1
Weston	Sept. 17 and 18
Wheatley	Sept. 27 and 28
Warton	Sept. 21 and 22
Wilkesport	Sept. 30
Williamstown	Sept. 7 and 8
Winchester	Sept. 1 and 2
Windham	Sept. 28
Wingham	Sept. 30, Oct. 1
Wolfe Island	Sept. 21 and 22
Woodbridge	
Woodstock	Sept. 22-24
Woodville	Sept. 16 and 17
Wyoming	Oct. 7 and 8
Zurich	Sept. 22 and 23

Sale Dates.
 Sept. 16-17—Ottawa Valley Holstein Club Sale, Exhibition Grounds, Ottawa.
 Sept. 29, 1920—Pettit-Elliott sale, Freeman, Ont.—Shorthorns.
 Oct. 7—Curry-Bowes & Bowes, Markdale, Ont.; Scotch Shorthorns.
 Oct. 20—Canadian Aberdeen-Angus Association, Western Fair Grounds, London, Ont.; Jas. Bowman, Guelph, Sec'y.



THE pleasure of shopping is not marred by any misgivings as to quality when you ask for Watson's Underwear.

The wonderful elasticity of the spring needle knit fabric, the variety of weights, and the dainty finishes assure comfort and lasting satisfaction to the wearer

Watson's SPRING NEEDLE KNITTED
UNDERWEAR

The Watson Manufacturing Co., Limited, Brantford, Ontario.

Best for All Preserving



Lantic Sugar

"The Seal of Purity"

Lantic pure Cane Sugar is best for preserving because of its purity, high-sweetening power and "fine" granulation.

2 and 5-lb. Cartons
10, 20 and 100-lb. Sacks

Lantic Library of Cook Books, free for Red Ball Trade-mark cut from Carton or Sack.

ATLANTIC SUGAR REFINERIES Limited, Montreal

Kemptville Agricultural School

KEMPTVILLE, ONTARIO

Under the Ontario Department of Agriculture

The School offers a complete Course of instruction in Agriculture, specially arranged to suit the needs of young men intending to make farming their life work.

School opens October 25th, closing March 31st.

Write for Calendar

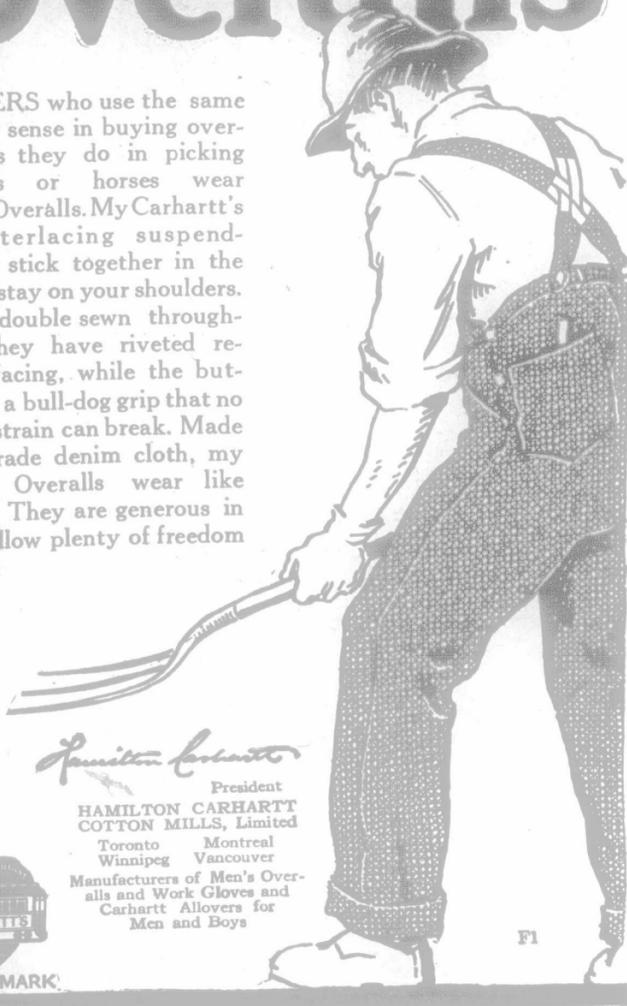
HON. MANNING W. DOHERTY,
Minister of Agriculture

W. J. BELL,
Principal

Write to The Farmer's Advocate and Home Magazine for instructions on how to make money by securing NEW SUBSCRIPTIONS.

Carhartt Overalls

FARMERS who use the same canny sense in buying overalls as they do in picking separators or horses wear Carhartt Overalls. My Carhartt's have interlacing suspenders which stick together in the wash and stay on your shoulders. They are double sewn throughout. They have riveted reinforced facing, while the buttons have a bull-dog grip that no ordinary strain can break. Made of first-grade denim cloth, my Carhartt Overalls wear like leather. They are generous in cut and allow plenty of freedom in action.



YOU CAN'T CUT OUT A BOG SPAVIN OR THOROUGHPIN BUT YOU CAN REDUCE THEM WITH

ABSORBINE

TRADE MARK REG. U.S. PAT. OFF.

without laying up your horse. Does not blister or remove the hair. ABSORBINE penetrates quickly and is healing, cooling and soothing—strengthens and invigorates tired, lame muscles and tendons—allays pain and inflammation—reduces soreness and lameness.

ABSORBINE is purely herbal, and safe to use anywhere. In addition to being an effective liniment, it is a powerful antiseptic and germicide. Therefore, ABSORBINE, applied to a sore or wound, kills the germs, makes the wound aseptically clean, and promotes rapid healing. Effective in Poll Evil, Quiltor, Sores, Lacerations, Bruises, Cuts or Speed Cracks.

Mr. Fred. White, Box 676, Payne, O., writes: "I purchased a bottle of your ABSORBINE and used it as you directed. The puff all disappeared before I had the bottle quite all used up."

SEND FOR FREE HORSE BOOK F

which gives valuable information about the care of horses and cattle. It is well worth having, and is yours for the asking without expense or obligation.

ABSORBINE, \$2.50 a bottle at druggists or postpaid. Safe delivery guaranteed.
W. F. YOUNG, Inc. :: 258 Lymans Bldg., Montreal

To Our Customers

Owing to increase in business we have found it necessary to seek larger quarters, and have removed from our former place of business, 223 Church St., Toronto, to 72 Dundas St. E.

We are now in a position to render the best possible service to our many clients. Write for our catalogue A, which is full of valuable and instructive information for all stock breeders.

ONTARIO VETERINARY & BREEDERS' SUPPLY, LIMITED
72 Dundas Street East, TORONTO

Subscribers! Your neighbor would profit by reading The Farmer's Advocate and Home Magazine. Send his name and his \$1.50, and we will advance your own subscription SIX MONTHS FREE OF CHARGE.

A Campaign Against the Scrub Hen.

(Continued from page 1526).

notified and a day and a half was spent in loading the car. The accompanying illustrations show the various stages in the campaign and several of the scenes depicted were taken at the time the car was being loaded. The hens arrived in all sorts of conveyances, from lumber wagons and milk carts to automobiles. They were tucked away in every kind of receptacle from bran sacks to U. F. O. poultry crates, but the same kind of product came out of each and all found their way into the car and, ultimately, to the New York market, to which they were consigned by the Poultry Department of the United Farmer's Co-operative Company, through whom they were marketed. The car when loaded, as shown in one of the illustrations, contained about 1,750 birds, a little more than half of which were of the heavy grade weighing more than four and a half pounds. Not all of the birds that were marketed found their way out of the township by way of this car, for as usual in cases of this kind, there were private buyers about as soon as they heard of the plans laid by the farmers' club and they offered two cents per pound more for any birds they could get. They got quite a few too,—as usual.

Each man who brought his birds to the car door had them weighed up for him and was paid on the spot at the rate of 30 cents for the heavy ones and 27 cents for the light ones. The surplus, after deducting expenses and the advances made to the shippers, will we understand, be rebated to the members of the club who contributed to the car. It is worth while here to note also that every care was taken to see that no good birds inadvertently found their way to market with the poor ones. Mr. Green and Professor Graham handled all the birds when the car was loaded and the occasional good bird that had been deprived of her tail was saved from ignominious death and sent back to lay some more eggs if her owner so desired. There were, however, very few of these and it may truthfully be said that the culling had been very well done.

AND THE FIGURES SHOWED—

Now that the campaign is over and an account of it duly inscribed in the records of the fourth estate, what did it all amount to? Was it worth while? Well, let us see. It will be necessary to use some figures again, but if we try to make due allowances, perhaps the memory of Ananias and his sins will not haunt us. In the first place what did the campaign reveal about the poultry flocks of the township? Out of 515 flocks, 116 were culled and these included 7,189 birds of all descriptions. Of these, 3,855 were pronounced good. There were 2,500 culls and 768 that had their wings clipped and are to be given a temporary lease of life until they stop laying, when the country should be well rid of them. The culls and the near-culls together make 3,318 inferior hens from a total of 7,189, which is the equivalent of 47.5 per cent. This seems like a heavy percentage of inferior hens in West Zorra and it is, but there were many good flocks culled too. Suppose we try to put our figures on a township basis and take, say, 500 flocks with only 40 per cent. culls, which we feel sure will hold true all over the Province of Ontario. The average number of birds per flock in the 116 flocks culled was nearly 62, but suppose we put this figure at 50 which could perhaps be nearer the average for the Province. If we do this we have 20 birds of the inferior type in each flock and 500 flocks would give us 10,000 inferior hens (or those that will average only about 60 eggs per year) in the township of West Zorra alone. On a commercial poultry plant a hen must lay 120 eggs per year to make it worth while keeping her, but we will say that on the farm she can stick around if she lays 100 eggs. This leaves each of these 10,000 hens 40 eggs short, so that if we calculate their value at 4 cents each or 48 cents per dozen there are approximately 400,000 eggs worth 4 cents apiece that the farms of West Zorra might produce yearly, in addition to what they do produce, if the flocks were culled sometime in June, July and August. As it is 116 flocks or 23 per cent. of the 500 flocks actually have been culled and if our calculations hold good there will be

a much more economical egg production on these farms during the coming winter than there ever has been before. Putting it another way the 10,000 inferior hens in the township before the campaign was put on should have laid eggs to the value of \$16,000 per year more than they did. This may be regarded as a direct loss to the township. But if all the inferior ones that were sorted out are marketed there will be 3,318 less of them to winter over at a loss of 40 eggs or \$1.60 per hen. Thus we believe it may be fairly said that if the remaining birds of these flocks are taken care of and fed reasonably well, the campaign has put it in the way of 116 farmers in West Zorra Township to save over \$5,000 during the next year. Of course, this is only \$40 apiece, but even so, \$40 will feed a dozen hens all the grain they will eat for a year even if it must be bought at \$30 per ton. We leave it to anybody who can recognize a dollar when they see it whether this campaign is likely to prove worth while or not. And when you come to think about it, it would have been worth while even if the culls had been given away after paying someone 3 cents each to sort them out.



Wholesome Music

is not from the fantastic, exhilarating type of musical oddities that from time to time gain public favor—but is the satisfying musical entertainment that only a piano can offer.

When the piano is a superior instrument like the

SHERLOCK-MANNING
"20th Century Piano"
"The Piano worthy of your Home"

there is genuine satisfaction and enjoyment in having it in your home. The Sherlock-Manning is pronounced by musical authorities "Canada's Biggest Piano Value."

The
Sherlock-Manning
Piano Company
London, Canada

Poultry Wanted—We require large quantities of live poultry every week, and can pay top prices for any number of birds of good quality. If you want the best market for your poultry sell to
C. A. MANN & CO.
Phone 1577. 78 King St., London, Ont.

Successful Management of Pure-Bred Auction Sale.

(Continued from page 1525).

agitation for better bulls should help this out and every breeder should assist. Some breeders will not consign bulls to a Canadian sale-ring, while others will consign only what they do not want themselves. United States sales usually sell bulls to fairly good advantage, but the bulls that sell well are the best advertised. The bull is important enough to warrant advertising, and some United States breeders will use up as much space in advertising a single bull as is used all told for some of our sales. As far as aged bulls are concerned experience has shown that after a bull is two years old no one can absolutely guarantee him a good breeder if he must be moved far. All that can be done is to guarantee he has been a good breeder up to the time of the sale.

THE PART ADVERTISING PLAYS.

The question of advertising is important but no specific advice can be given to anyone except that if the sale is to be a good one the right buyers must be brought together in the right mood. Fitting is one kind of advertising and we have already emphasized its importance. But it is only effective after the buyer gets a look at the animal; and it is primarily useful in making the animal look every bit as good as it was represented to be in the advertising. Advertising a consignment is not a question of dollars. It is a question of sufficient space in the right place and used to best advantage. Buyers must be made to look forward to seeing a certain animal, and advertising is not complete unless the buyer is sold on her, provided her appearance in the ring is equal to the representations made regarding her. The catalogue is also part of the advertising campaign. It is undeniable that a poor catalogue will hurt a sale, although a poor catalogue of a sale offering some good animals is likely to attract a certain class of buyers who will attend in the hope of getting some cheap cattle. The club or owner who is proud of the quality of the stock offered will want to impress prospective buyers with this quality, and if a poor catalogue is put out the buyer who is willing to pay a premium for quality is likely to think that the club does not appreciate its own offering. A cheap catalogue has a tendency to attract cheap buyers who are good for neither the sale nor the breed. Get the catalogue out early enough and reply promptly and courteously to every inquiry.

The sale manager and the auctioneer are two important figures in the sale. A good sale manager is an essential for a consignment sale. He should know pedigrees thoroughly and have every bit of necessary information at the tip of his tongue. Guarantees, breeding dates, pedigrees, announcements and all necessary information should be given him far enough in advance for him to be prepared for any question; and it is wise for consignors themselves to trust the facts about their cattle to a good sale manager rather than do any talking themselves in the ring. A damper has been thrown on many otherwise good sales because the owners of cattle have wearied the crowd with too many observations. The auctioneer should know values. He should know better than to start a \$1,000 animal at \$100, and he should also know better than to try to sell a \$100 animal for \$500. He will never get the \$500 and hanging on and prolonging the sale merely annoys the crowd. Quick selling helps a sale wonderfully and the auctioneer, if he knows his business, can sell fast and get good prices.

IN THE SALE RING.

Finally there is the actual conduct of the sale on sale day. Choose some light place where a ring of good size can be arranged and provide plenty of seating accommodation for everyone. Club sales are usually held in some city or town where buyers can congregate and do not need to be met at the station or furnished with a lunch. Private dispersal sales held on farms are helped materially if all trains are met and the crowd made as comfortable as possible. If lunch is necessary let it be a good meal. Every dollar spent on it will be returned many times over. Good opportunity should be provided to inspect the animals before the sale and when the sale is started it should not drag. If the animals are brought in from one side and taken



22,000 Canadian Men and Women ask you to buy "Made-in-Canada" Shoes

22,000 CANADIANS are engaged exclusively in the manufacture of Boots and Shoes.

The industry provides them with over \$20,000,000 a year to spend within the Dominion.

They buy food and clothing; pay rent and taxes—they help swell the total of Canadian trade.

ALLIED with these 22,000 men and women are many thousands of other workers who contribute to the making of Boots and Shoes. These include textile operatives; wire, nail and metal workers; machine manufacturers; box and carton makers; coal miners and dealers; railway men and shippers; printers; packers and battalions of clerks.

All these, and more, participate in the 50 million dollars which is the yearly value of the Canadian-Made Shoes.

EVERY pair of Canadian-made Shoes you buy actually puts money in the pay envelope of this vast army of men and women.

Every pair of imported Shoes you buy reduces Canada's capital stock and puts money in the pockets of foreigners who contribute nothing to our national growth

CANADIAN-made Shoes, grade for grade, are the equal of the best in the world.

The most scientific processes of manufacture are employed.

Canadian workmen are as conscientious and skilled as those of any other country.

SITUATED as we are between the Old World and the New, every authoritative idea of shape and style and fashion is immediately seized and developed.

The price of Canadian-made Shoes is based entirely on actual production costs. It represents 100% of value.

Canada produces footwear of every desirable type, and of standard quality in all grades. When you buy Made in Canada Footwear you are assured, at fair prices always, of the utmost that modern skill can produce in Comfort, Service and Style.

SHOE MANUFACTURERS ASSOCIATION OF CANADA

Not a Milk Chocolate



—a delicious plain Chocolate

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

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require large quanti-
of live poultry every
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you want the best mar-

N & CO.
ing St., London, Ont.



Wash Out Your Pores With Cuticura Soap

And have a clear, sweet, healthy skin with little trouble and trifling expense. Contrast this simple wholesome treatment with tiresome massaging and other fads.

On retiring smear the face with Cuticura Ointment on the end of the finger, wash off in five minutes with Cuticura Soap and hot water, using plenty of soap, best applied with the hands which it softens, and continue bathing a few moments. Rinse with tepid water and dry gently.

Soap 25c, Ointment 25 and 50c. Sold throughout the Dominion. Canadian Depot: Lyman, Limited, St. Paul St., Montreal. Cuticura Soap shaves without soap.

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

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

COLLIE DOGS REGISTERED, BRED FROM Imported Stock. A. B. Van Blaricom, Morganston, Ont.

FIRST-CLASS DAIRY FARM (145 ACRES) for sale, five miles from London. Abundance of water, good buildings, clay loam; splendid bargain. Write at once, Farmer's Advocate, London, Ont. (Box 53).

FOR SALE—CHOICE DAIRY FARM OF 170 acres, eight miles from Ottawa. Well built. Milk collected daily. Apply: J. P. Neill, City View, Ont.

FARM FOR SALE—TWO HUNDRED ACRES good sandy loam, twenty-five bush, cistern and well. Eight-roomed brick house, three barns. East half, ten and eleven, seventh concession, Uxbridge. Apply: John Stewart, Port Perry, Ont., R. R. No. 4, or 1452 Dundas St., Toronto, Ont.

FOR SALE—BELGIAN HARES, HIMALAY-ANS' Rabbits, White Angora Rabbits, English Spotted Rabbits, Black Siberians. Robert W. Nicholson, Strathroy, Ontario.

FARM FOR SALE—98 ACRES—GOOD SOIL, bank barn and buildings, Natco silo, spring water, natural gas and well drained. Near school, church and cheese factory. Easy terms. Apply 343 Maitland St., London, Ont.

SCOTCH COLLIE FEMALE PUP, 3 MOS. old registered, from imported sire. A. E. Gilbert, Mount Elgin, Ont.

SINGLE MAN TO WORK ON WELDWOOD Farm. Must be experienced. Apply Farmer's Advocate Office, London, Ont.

WANTED—ONE OR TWO MEN FOR erecting wood tanks and steel towers. Young men with framing or carpentering experience preferred. Single, active men, willing to travel all over Canada. Good wages and expenses. Steady work. Write Gould Shapley & Muir Co., Tank Department, Brantford, Ont.

WANTED BY A CANADIAN ASBESTOS Roofing concern, reliable and experienced salesmen. Only those who have connections with farmers need apply. Salary or commission. Apply Box No. 51, Farmer's Advocate London, Ont.



Superior Barred Plymouth Rock Cockerels For Sale—From 12 best bred-to-lay families in both countries.

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

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

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

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

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

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

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

Pen No. 8.—Guild's, record 283.

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

Pen No. 10.—Clark's, record 258.

Pen No. 11.—Donaghy's, record 256.

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

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

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

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

out the other, confusion will be avoided. Buyers on all sides of the ring can also see the animal better if it is moved around occasionally.

Whether to start off with good ones or poor ones is a question, if judged from actual practice. Most orders-of-sale are made upon the principle that the first animals always go cheap and that the crowd must be warmed up before it will buy. There may be something in this, but the buyers with money and who are after quality stuff do not want to sit around while inferior stuff is being sold. We venture the assertion that if the best animals are sold toward the first and the order of sale graded down in quality, the sale will total more than if the good and poor ones are mixed up. In consignment sales, of course, animals from different herds must be mixed up and if inspection is rigid enough there will be no culls. But there are always some animals better than others and experience has many times proven the wisdom of selling the poorer ones last.

Lastly, when the sale is over see that it is made convenient for buyers to make prompt settlement. Banker, Secretary and Manager should be always at hand to promptly settle all disputes, so that the buyer may leave with a favorable impression that will lead him to look forward to the next sale. The successful management of an auction sale is not merely a matter of getting cattle and buyers together. It is a matter of getting buyers together in an appreciative mood and offering them good cattle in a manner that will please. Money spent in pleasing a buyer is well spent.

The Marketing of Canadian Cheese.

(Continued from page 1524).

For some time past it has been only too apparent that there is room for improvement in the facilities for the handling of the export cheese trade at Montreal. The routine after the cheese reaches the city terminals is about as follows: The cheese are unloaded from the cars into the freight sheds, or direct to the carter's wagons, and thence hauled over very rough pavements to the warehouses. The boxes are then "coopered," the cheese examined for quality, and sorted for sale in the U. K. The coopering is a necessary preparation for shipment abroad. While being coopered the weights are tested by the public weigher. When the cheese are shipped overseas they have to be carted once more to the wharves.

The cold storage warehouse, now in course of erection by the Harbor Commissioners on the harbor front, when completed will provide ample facilities for receiving cheese by rail, thus eliminating one cartage and considerable delay in deliveries by the cartage companies. The double cartage is costly and growing more so from time to time. It is responsible for delays in delivery, injury to the quality of the cheese through exposure, and damage to boxes through unnecessary handling. It seems to be the one item in the fixed charges at Montreal in which there is a reasonable prospect of some reduction. As it is the ultimate selling price in England, less the handling charges, that determines the price paid to the producer, he (the producer) profits in the end by any saving that is effected while the cheese is passing from his hands to those of the consumer.

Marketing the Apple Crop of 1920.

(Continued from page 1527).

deteriorated markedly during the last two years and he is determined that this year nothing but good fruit will be packed. He believes that there is too little understanding of the spirit of the Fruit Marks Act and that growers need much more education in the matter of proper barrel and box packing. He is also an ardent advocate of inspection at point of shipment, claiming that this would tend greatly to bring home to growers more forcibly than anything else the manner in which they are falling down. Without doubt it would be of very great assistance especially if it were supplemented by a greater amount of instruction by the fruit inspectors just prior to the packing season.

In all probability there will be a considerable quantity of apples marketed in bulk this year, on account of the

BARGAINS IN TIRES

Delivered to You on Approval

**30 x 3 1/2—NON-SKID, VARIOUS TREADS—
SOME CARRYING MANUFACTURER'S GUARANTEE—\$16.00**

Are you aware that our prices afford you a saving of 40%—or from \$10 to \$30 on each tire? We are offering strictly reliable new tires at prices unequalled anywhere, shipped anywhere east of Fort William, express paid, C.O.D.

Thus you are given an opportunity of examining your purchase before paying a cent. If not satisfactory, ship them back at our expense.

Size	None-Skid
30 x 3	\$12.00
32 x 4	\$24.00 Clincher
32 x 4	\$30.00
33 x 4	\$31.00
34 x 4 1/2	\$35.00
35 x 4 1/2	\$40.00
36 x 4 1/2	\$42.00
35 x 5	\$35.00

When ordering, state size and style—whether "Clincher" or "Straight Wall," Plain or Non-Skid.

TUBES CHEAPER, TOO!

30x3 1/2 Tubes, Guaranteed, \$2.25

Send a trial order by wire or mail to-day.

Security Tire Sales Co.

514 Yonge Street, Toronto

Snowflake

THE FULL STRENGTH Ammonia

**CUTS GREASE
SOFTENS WATER
SAVES SOAP**

KEEPS TAPS & SINKS BRIGHT

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

scarcity of barrels, and although this is to be regretted it will probably be the only way by which some of the crop can be put on the market. The Fruit Branch of the Dominion Department of Agriculture advises that growers who have not arranged for a supply of barrels should immediately plan to store their winter fruit, in bulk, in frostproof cellars, and warehouses, for grading and packing during the winter months when more packers are likely to be available. The difficulty in this connection will be to secure frost-proof cellar or warehouse space, but if such can be obtained it would undoubtedly be wise for some growers to store the crop, provided it cannot be sold to advantage on the tree or if barrels are not available for packing. Too heavy marketing of bulk apples in the fall will undoubtedly overstock the markets and quickly lower prices. Generally speaking we believe that in spite of the good crop there should be a good market for fruit that is well grown, properly packed and intelligently handled, but we also believe that this year will clearly demonstrate the advantage of care in growing the crop as well as in packing it. "Quality counts" is an old slogan that is never more true than in a year of heavy production.

Prospects For September Live Stock Markets.

AS JUDGED FROM EVENTS IN CORRESPONDING MONTHS IN THE PAST.
BY MARKET SURVEYER.

During September, 1919, there was a distinct tendency toward lower prices for live stock, on account of a marked shortage of pastures, poor crop prospects and extremely high prices of roughage and coarse grains. The direct result of these conditions was an abnormally heavy marketing of thin cattle, the marketings gaining in volume as September ended and October approached. A large percentage of the offerings were from the eastern districts of Ontario where dairy farming prevails. As a result of the heavy marketings of poor killers, a series of price declines occurred, blunted to a certain extent by a liberal outlet for cattle of fair quality through the United States markets. The weekly run on export account amounted to about 2,000 head. Nevertheless, this afforded very little relief for the common classes of cattle, and there was a very visible widening of prices as between good killers and thin stock. September markets react strongly downward under heavy receipts of unprofitable killers of butcher class.

Toward the end of the month the lowest level of prices up to that time was recorded. It is noticeable however, that the market for canners and cutters held up exceptionally well, even though cattle of better quality were selling at very heavy cuts. This condition was largely due to the exceptionally keen demand prevailing for canning and boning stock, for which fairly heavy orders seemed to be in the hands of the trade. While there was some improvement in quality toward the end of the month the prospects of feed shortage prohibited any extensive outlet for stockers and feeders, with the result that practically all the cattle were thrown into the killers' hands and further price cuts resulted. About the best price obtained during the month was \$14.50 on butcher cattle, and around \$10.50 for good feeders.

CONDITIONS DURING SEPTEMBER, 1918.

During the same period of 1918, the movement of cattle was also liberal, the heaviest weekly deliveries of the year to date being made during mid-month, when the liquidation of poor cattle commenced. Here again very few cattle of good beef breeding were received, from Western Ontario, most of the cattle being of dairy breeding, and shipped in from Eastern Ontario counties. As is usual during September, the market was steady for good killing stock, but the poorer classes declined \$1.50 to \$2.00. During this period, we were nearing the end of the Great War and as a result the market became very uncertain. In contrast to conditions during the previous year stockers and feeders were in good demand, and during some weeks 2,000 head were moved regularly to country points.

PROSPECTS FOR SEPTEMBER OF THE PRESENT YEAR.

For the month of September of the present year, prospects can be deduced from the following conditions now obtaining. In contrast to September, 1919, we will likely have very good pasture conditions, with cattle in much superior flesh; there is a promise of excellent coarse

When the Harvest is Gathered Make Your Credit Good at the Bank

If your Bank has carried you over the year, your first duty is to "clean up" there. Then an who does that each year never has trouble getting credit.

Give the Bank a complete statement of your affairs so that you may obtain the fullest credit to which your standing entitles you.

Write to our nearest Branch for a set of Live-Stock blotters showing Champion Bulls, Stallions, Sheep and Boars.

THE ROYAL BANK OF CANADA

TOTAL RESOURCES, \$587,000,000

695 BRANCHES

Low-Priced Life Insurance

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grain crops; a good hay crop, and fair corn crop; we are, therefore, assured a plentiful supply of feed during the coming winter. These prospects are the exact opposite of those obtaining during September, 1919, and are much better than those of 1918. We have not up to the present been in as favorable position as regards United States markets as during 1919, as our prices have been out of line with any great amount of export business, and furthermore the United States feeders experienced great losses during last spring, and as a consequence are not so anxious to purchase feeding cattle this year. However, the prospects are for one of the heaviest crops the United States has ever had. The rate of exchange is a factor much in our favor, and the United States market for cattle is showing marked improvement. Further, the United States are visibly short on cattle of all classes. It is expected that the American demand for store cattle will show considerable activity as the year progresses, and this may be expected to have a good effect on our markets. One of the factors which must be taken into consideration as regards winter feeding operations, however, is the extreme tightness of money as compared with financial conditions of last year. This will doubtless prohibit some prospective feeders from undertaking the purchase of cattle, but it is logical to assume that with liberal feed supplies at much reduced costs will persuade fairly liberal purchases. The countryward movement is already picking up in Ontario, as our cattle are getting down nearer to a profitable purchasing basis, and are showing better store qualities as time progresses. Both in the United States and Canada to date, receipts have been running very far below those of the corresponding period of 1918 and 1919, and in both countries there is a very acute shortage of fat stock.

There has already been a fairly liberal eastward movement of cattle from the Winnipeg markets, these being largely of good feeder quality. It is stated on good authority that some buyers have orders for fairly liberal export shipments of well-finished Ontario cattle, and the Western cattle of good calibre may be needed to supply the deficit for Ontario's needs.

During September of 1918, there was an excellent demand for calves on Buffalo account, and during the month prices were very strong, appreciating about \$2.00 per hundred, choice veal selling at the close of the month at \$22.00. During August of this year the Buffalo market was again supporting the calf market, and the Toronto market will be governed by Buffalo conditions.

THE HOG MARKET.

During September of last year the feature of the hog markets was the determination of the trade to purchase hogs at lower initial costs owing to the somewhat unsatisfactory British regulations on meats, and the consequent uncertainty which prevailed in the market. Hogs were subject to a series of price cuts during the month, and while they sold during the first week at about \$25.00 for selects, fed and watered, about the best sales made at the close were about \$17.75. There were however, at that time fairly liberal visible supplies. The prospects for September of this year unless heavy liquidation occurs, and this is scarcely probable under the present acute

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Making Real Pastures

STOCKMEN AND DAIRYMEN WILL BE INTERESTED IN THIS

The following is from an article in "Farm and Dairy," by the Editor, after his return from a trip through the Maritimes, where he saw the results of BASIC SLAG. Read what he says:

"The best work with permanent pastures in Canada must be credited to Prof. J. M. Trueman of the Nova Scotia Agricultural College. The College farm is small in proportion to the number of stock carried, and each year the young stock and dry cows had been sent out to pasture at a rental of \$2 to \$5 a year. Usually they came back in the fall thinner than they went out in the spring, and this loss had to be replaced with high-priced winter feeds. Several years ago, therefore, the College authorities decided to purchase the Marple farm, a rundown place of 50 acres, with practically no buildings on it, and see what they could do in making it into a good, permanent pasture. The condition of the farm is indicated by the fact that even the Government was able to purchase it for \$1,500.

When taken over the farm was almost bare of grass, so poverty stricken was the soil. The first season a part of the farm was treated with 400 lbs. of BASIC SLAG to the acre. Three years later the application was repeated and it is planned to cover all of the farm with BASIC SLAG every three years, at the rate of 400 lbs. to the acre. Three years later a farm that had been practically non-productive, pastured 29 cattle, mostly dry cows and two-year-old heifers, and 8 horses, for the entire season, and in 1918, 30 cattle and 7 horses. "These cattle came in rolling fat in the fall, and we could afford to feed them fairly light all winter," remarked Prof. Trueman, in whose company an editor of Farm & Dairy visited the Marple farm last July.

When we visited the farm with Prof. Trueman we found all the cattle on that part of the farm that had been Slagged twice in the last six years. We could readily understand why an Old Country visitor had described the pasture as "the nearest approach to an Old Country pasture I have seen in America." The cattle were making no headway against the growth of the pasture, and it would have carried many more than the 36 head on it at the time of our visit. We strolled across a portion of the pasture that had not been Slagged. It was growing up with inferior grasses and although the cattle never went near it, the herbage was scanty. A remarkable fact about the pastures on the Marple farm is that they have never been seeded. They were merely Slagged as a result of the greater supply of plant food available. Pasture grasses came up of their own accord."

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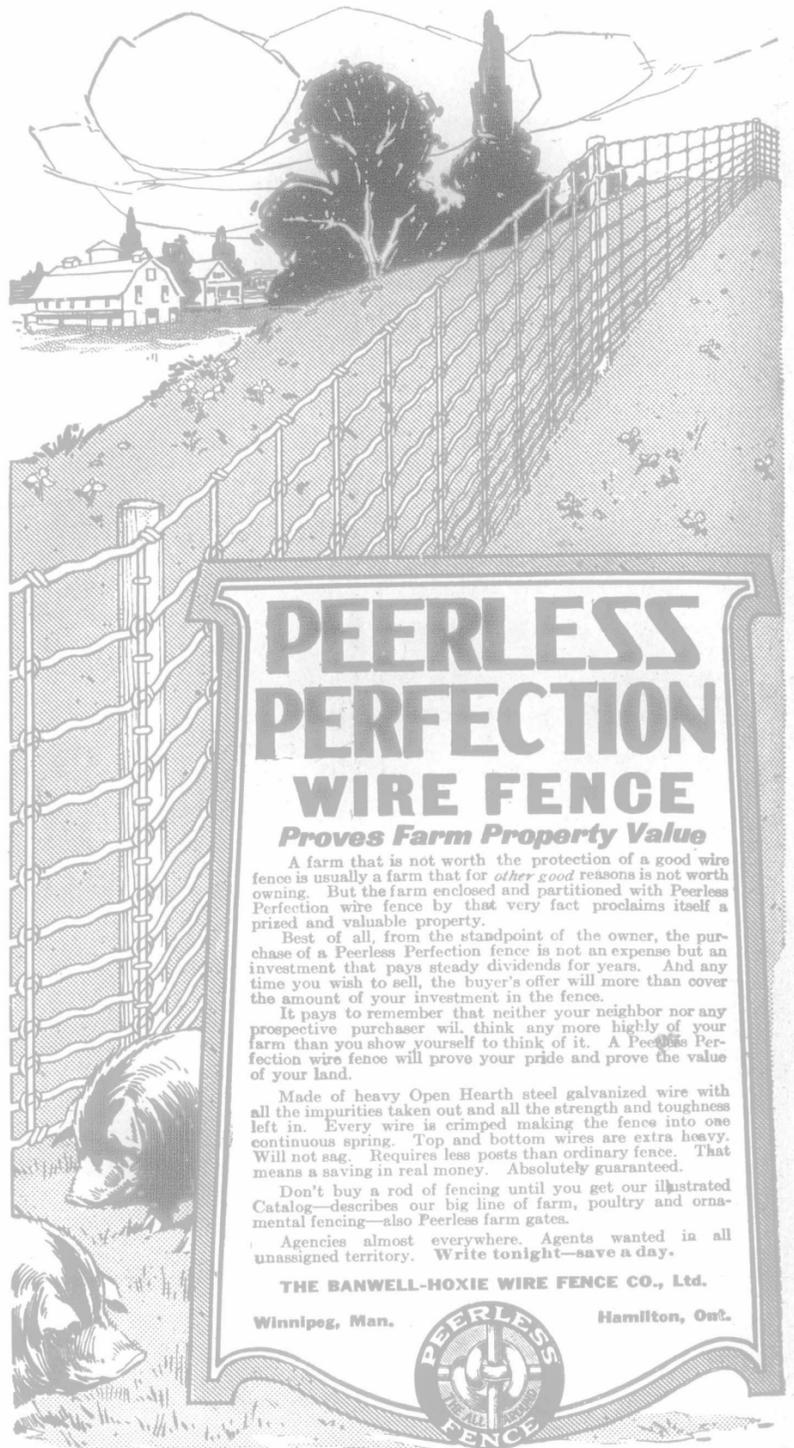
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shortage of supplies, are for a continued marked shortage in offerings. Since the beginning of the year it has become very obvious that there is a shortage of hogs not only in Ontario, but as well, and perhaps more markedly so, throughout the Dominion. The condition of the market to-day is unsettled and there are indications of some liquidation of hogs, although this latter condition is hard to understand unless it be due to the idea that we are at the beginning of re-adjustment to a lower level of prices. The hog market has up to date held up remarkably well, both in Canada and the United States, and prospects are as good, so far as one is able to tell, as they were during the same period of last year. It might be well to observe however, that while during last year our prices were about on a par with those on the Chicago and Buffalo markets, during the month of July last, we were riding as high as \$4.00 per hundred above the Chicago market for light butchers.

In normal years the line of movement in receipts during September has almost invariably been sharply downward, and the movement of prices as sharply upward.

The market during the second week in August was ruling about \$4.00 per hundredweight lower as compared with the corresponding period of 1919. There has been, however, a much more even level of prices and while it must be admitted that costs of production have not showed the same line, the indications are for steady markets and lower costs; this belief in steady markets is the outcome of the realization of an extreme



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shortage of hogs in the country and the fact that a number of the provinces are finding it necessary to make very liberal imports to meet domestic consumption. Much, however, depends upon the hog crop in the United States and the developments as regards the market in Great Britain where trade restrictions are adverse to any large export movement.

During September of 1919, there were very heavy marketings of lambs and a number of price cuts, although the market itself was active. Lambs sold at a top of \$14.00, at which time the market had regained considerable in tone. The wool market was in good tone and prospects for export bright. Liberal runs have been experienced this year to date, and prospects are for fairly heavy runs during the remainder of the month and the first part of the month of September. While the world's wool situation is not particularly satisfactory, the business in Ontario has picked up considerably and medium combing wool has moved readily. Very little graded wool of Ontario and Quebec origin remains unsold, and owing to the better grading and quality, our Canadian mills are becoming interested. Our prospects as regards the United States market for an outlet for lamb and mutton are not clear. The heavy shipments to that country of New Zealand, frozen product has a bearing on the situation, but according to advice the product is not particularly well liked, and prospects are fair for a demand for our fresh product of choice quality.

AUTOMOBILES, FARM MOTORS AND FARM MACHINERY.

The Motor Truck for Farmers.

This article is a review of bulletin No. 277, published by the Co-operation and Markets Branch of the Ontario Department of Agriculture. The subject dealt with in the bulletin is "Motor Transportation in Rural Ontario," and the authors, Messrs. Cowan and Hart, present therein the results of a more or less limited survey of the place which the motor truck has already taken in Ontario Agriculture. A list of about four hundred truck owners operating in rural districts was obtained, and the opinions as to the place which the motor truck can take in Ontario agriculture were based on the replies received from these owners, together with the results of such personal investigations as could be made.

In addition to farmers who market their own produce with trucks owned by themselves, there are apparently three

other types of motor truck owners. These are, first, the regular motor truck operator whose income is derived from this motor trucking business; second, the farmer who hauls for himself and his neighbors; and third, co-operative farmers' associations that own and operate motor trucks. Opinions were received from men who grow fruit only, although the use of trucks in sections of Ontario devoted to the growing of grapes and peaches was not found to be very extensive. About Queenston and St. Jacobs it was found that few growers need trucks because the marketing season is short, the orchard rows too close together, and a horse and wagon more economical for gathering fruit, while the roads were not found to be smooth enough to truck fruit. Fruit for canneries, however, is gathered by large trucks and where a variety of fruits is grown on the same farm a small type of truck seems to be most economical.

One grower of strawberries, small fruits and onions formerly had only one market within reach, but by the purchase of a one-ton truck he has been able to reach conveniently four other markets, all of which are much larger than the first one. Another truck owner at Cobourg rents small plots of land and operates a fruit store. He uses the truck to manage the rented land, haul the produce to his own store, and to such markets at Peterboro, Kingston and Toronto. Other experience was secured from beekeepers, creameries, condenseries, milk powder plants, mixed farmers, and co-operative associations. The statement is made that although a beginning was only made in 1918 in hauling hogs by truck to the Toronto live stock markets, at the present time fully three-quarters of the hogs produced within a radius of twenty-five miles from Toronto are marketed by truck. Calves and sheep are also marketed by truck at the Union Stock Yards and abattoirs. One general farmer finds that the most practical truck for a farmer is a run-about with a box attachment holding ten or twelve bushels. He has had experience with a one-ton truck but is not certain that he would ever buy another. In some parts of the country much improvement in roads is necessary before motor trucks will be a profitable investment. The manager of a large dairy plant which operates ten wagon routes in order to haul about 800 cans of milk per day in the flush season states that these routes are not combined and one-ton trucks used instead because the winters are too severe to allow trucks to be used; the roads are not good enough to use trucks except during a short time in the summer; and the truck is too expensive for the short time it can be used. On the other hand, it has been found by some creameries in Ontario, particularly those that are in competition with condenseries and milk-powder factories, that the use of trucks is almost necessary if sufficient cream is to be secured. The patrons, however, are charged less than cost for collecting. One creamery in central Ontario has three one-ton trucks, each of which averages 40 miles per day. Repairs, exclusive of tires, average about \$100 per truck per season. These three trucks were said to replace at least five teams, and the teams would have to be changed every three years. One farmer had used a trailer with a carrying capacity of 1,500 pounds for the sixth season, and it still gave satisfaction. It hauled at least one ton a week twelve miles each way.

The following is a summary of the opinions which were advanced by farmers, packers and truck owners regarding live stock hauling.

1. The rates per 100 lbs. by truck range from 30c. to 60c., according to distance, and size of the load.
2. The farmer gets the correct weight for his live stock.
3. The farmer obtains the exact selling price of his stock less cost of transportation, eliminating the drover's cost of 50c. to \$1.50 per 100 lbs.
4. The shrinkage by truck is about half the shrinkage by train, due to the shorter time in transit, better usage, and proper feed and watering.
5. The time of placing the stock

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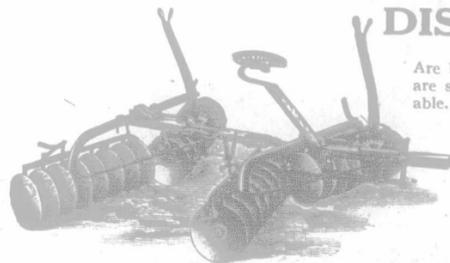
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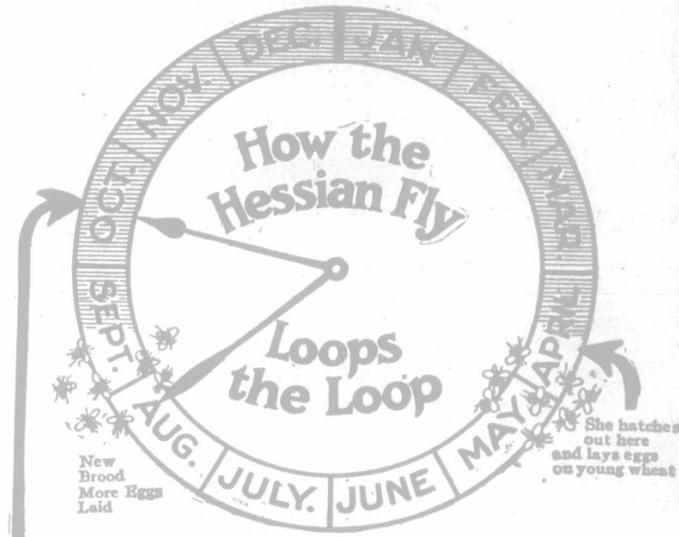
Are both Inthrow and Outthrow. They are simply constructed, strong and durable. Gangs are flexible and the Disk Plates are shaped so that they "hang" right into the soil and will thoroughly Cultivate and Pulverize it. Bissell Harrows are built in sizes and weights suitable for Horse or Tractor use. Write Department "W" for free Catalogue. Address—

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The Fly passes the Winter in the "Flax Seed" Stage in infected wheat or stubble—(shaded portion)



The maggot develops in the wheat joint during summer and kills off the head of wheat.

Fertilize and Sow Wheat Late to Avoid the Fly.

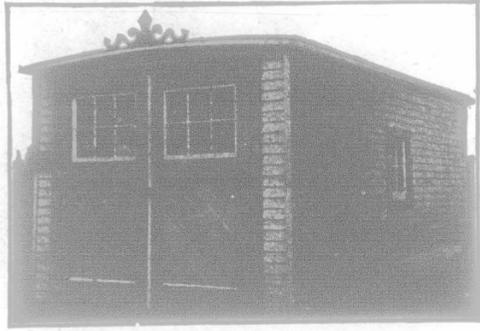
Late planted wheat without fertilizers means weak wheat for winter. Nourish the late wheat by fertilizing it with 200 lbs. per acre of fertilizer carrying 2 to 3% Ammonia, 8 to 10% Phosphoric Acid, 2 to 3% Potash.

Extensive successful experience, and Government recommendations, advise LATE PLANTING OF WHEAT, AND FERTILIZATION to avoid the Hessian Fly.

You can't poison the Fly—Fool Him Besides, Feed for Yield.

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August 28, 1920*

on the market can be timed to better advantage by truck than by train.

6. The abattoirs prefer a hog shipped by truck because of less bruising in transit.

7. When the price on the market is high truck loads of live stock may be rushed to market to take advantage of these high prices, and an immediate supply obtained, which has a tendency to keep prices level.

8. At present the cost of transportation by truck per ton-mile beyond a thirty-mile radius is much greater than the railroad rates, and the advantages conferred by the truck beyond the thirty miles are offset.

Attention is drawn to the fact that many farmers own a motor truck in spite of the fact that they are not able to use it to capacity. "Such farmers," we are told, "have gradually begun to haul part or all of their neighbors' produce to market, and occasionally this practice has led to the establishment of a regular route. The motor truck as a community institution will be increasingly important and farmers needing a motor truck for part-time service should investigate the possibilities for business in their community. One co-operatively-owned truck owned by an association of fifteen farmers, and operating over a round trip of fifty miles, earned the driver's wages at \$1.75 per day and paid for itself and some incidental expenses in the first nine months of operation. This association, however, does not haul return freight, thereby losing much revenue; neither does it keep a proper system of accounts nor follow any method of dividing the profits now accruing.

The following paragraphs sum up the conclusions reached by the authors with regard to the possibilities of motor trucking:

"Motor truck rates in Ontario have not been sufficiently standardized to afford a comparison between cost of railroad and motor freight, but at present much freight business has been taken from the railroads between such points as Toronto, Hamilton, St. Catharines, Welland, Guelph, Preston, Hespeler, Waterloo, Kitchener, Woodstock, and London. In place of freight taking from four to ten

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\$30,000 in Prizes for Live Stock

An exhibition of Canadian-bred horses, cattle, sheep and swine that is not bettered anywhere. Every farmer and breeder will want to see it.

Entries Positively Close Sept. 3rd.

\$5,500 in Prizes for Trials of Speed

The Racing Committee for this year have provided a programme that will please every lover of this "sport of kings."

The Exhibition has a fine 1-2 mile track and ample stable accommodation for all entries. The grandstand affords a good view of the entire course.



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REGULAR ADMISSION TO GROUNDS 35c.

Strip Tickets on Sale up to Sept. 10th. 5 for \$1.00

Entries Positively Close Sept. 3rd.

CENTRAL CANADA EXHIBITION

Controller Joseph Kent, Pres., H. L. Corbett, Treas., Jas. K. Paisley Mgr. and Sec. Consult Ticket Agents for Special R. R. Rates

days, there is now a daily truck service between these chief centres.

"The motor cannot hope to compete with the railway in long hauls or even in fairly short hauls where the freight consists of bulky farm produce of low intrinsic value. Even when teaming charges at both ends of the haul, cost of crating the freight, and extra cost of freight on crates, are added to the railway freight rate for comparative purposes, the limit of advantage of a truck as far as cost is concerned is reached (under normal conditions) within 100 miles. It has been estimated that motor truck hauling under country road conditions costs from 12c. to 25c. or more per ton-mile. Railroad hauling costs 1/2c. to 5c. or more per ton-mile. Horse and wagon hauling costs from 20c. to 40c. per ton-mile. These figures would indicate; that for continuous hauling (except for very short distances over a poor road) the motor is more economical than the horse; that the motor has the advantage of the railroad considering quickness of dispatch and less terminal expenses only up to a certain distance; and that for long hauls and bulky freight the railroad will be the permanent freight carrier. Within its field, however, the motor truck is an increasingly important factor in relieving the railroads of peak loads and in moving farm products short distances to markets.

"In summing up the information gained in this inquiry, the authors realize the absolute necessity of conducting a careful survey by any operator or group of farmers desiring to start a motor route in any particular locality. Inquiries should, therefore, be made in the following directions.

1. The county agricultural representative, with his intimate knowledge of local conditions, should be able to give an unbiased opinion.

2. The local banker, in close touch with conditions in his district is a helpful source of information.

3. The local merchants know the transportation needs of their communities. These merchants, together with local industrial plants, and city dealers with rural clientele, make profitable custom-



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And the oven door—it forms a handy shelf, and makes handling so easy!

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ers, as their freight usually bears a higher rate than farm products. Few farming districts can support a motor route with tonnage of farm products only. The amount of commodity freight available between towns and villages and cities should be estimated.

4. The farmer shippers should be interviewed in order to estimate the amount of tonnage moving from the district, and available for a truck.

"The conditions to be inquired into include:

1. The times of shipment of the tonnage available. The ideal territory is one in which the products move to market in a fairly steady stream throughout the year, such as in a dairy or truck farming district.

2. The character of the tonnage. Low-priced, light or bulky staples (such as hay) will not usually bear the motor truck rate. In general, loads which have a high value per unit of weight or size offer the most profitable return.

3. The possibility of obtaining return loads.

4. The roads. In connection with roads it is necessary to know what territories they serve and where they connect; whether paved, the kind of pavement, and its condition in wet and dry weather; the grades, the traffic conditions at different hours on different days of the week and at different seasons of the year. (Much freight is moved over the Toronto-Hamilton highway at night to avoid congestion of traffic during the day.)

5. The existing transportation facilities. The prospective operator should pay special attention to the schedules, collection and delivery arrangements, and rates, of existing carriers, and determine whether the motor can make marketing more direct, can move perishable products more speedily, or can offer a more complete pick-up and delivery service at competitive rates.

"Since rural motor express is developing rapidly, failures should be avoided by acquiring an accurate knowledge of conditions and using good judgment in forecasting business prospects.

"It has often been maintained that the average farm is already over capitalized with machinery. The purchase of trucks by individual general farmers would accentuate this condition, as the truck like other machinery would be used but a small portion of the year. The co-operative ownership of a truck, by which the trucking of a number of farms may be the means of overcoming the transportation difficulties of the district.

Inter-Provincial Plowmen's Competition at Macdonald College.

The Eastern Ontario and Western Quebec Plowmen's Association have made final arrangements for the annual competition and they are now calling for entries. The Plowing Match, Tractor and Farm Machinery Demonstration will be held at Macdonald College farm, Ste. Anne de Bellevue, on October 12, 13 and 14. The first day will be for the setting up of tractor and machinery exhibits. On the second day, October 13, there will be a class for plain plows in sod, a class for boys under twenty, in sod; a class for boys under seventeen, in sod; and a class open to manufacturing companies in Canada and the United States. On the third day, October 14, competition will take place in classes for high-cutting plows, two-furrow gang plows in sod, the farmers' tractor plowing competition, and in special contests. There will be demonstrations and exhibits by tractor and machinery firms on both the 13th and 14th. L. C. McQuat, Macdonald College, is the Secretary.

A Big Deal in Beauharnois County.

D. M. Watt, St. Louis de Gonzague, Quebec, writes that he has just consummated one of the largest deals ever made in the County of Beauharnois. Mr. Watt has sold his 150-acre farm and 43 head of registered Stockford Ayrshires for the sum of \$27,300. Varcasse Ledger, the purchaser, is taking immediate possession. Mr. Watt's future home will be Spencer, Mass., where he will start in the Ayrshire game by making a personal importation from Scotland on or about October 1, and these cattle will be the choicest animals that money can buy.

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This Engine Will Cost You Nothing

You need an engine—get a Gilson on our new easy payment plan, and it will pay for itself. You have the work for it to do this fall and winter, help is scarce and high-priced—save yourself a lot of worry, and enjoy that "Feeling of Security" which is such a definite part of the staunch, reliable Gilson Engine.

Gilson Engines have long enjoyed an indisputable reputation for dependability, power, simplicity and economy. This year finds us with an even more attractive proposition for the discriminating buyer. Prices of everything you have been buying have been soaring, but by careful management we are able to furnish Gilson Engines at remarkably low prices. Write to-day for catalogue, price, and easy payment plan, stating what size you are interested in.

Gilson Mfg. Co. Ltd., 259 York St., Guelph, Ont.

New Rates to Meet Increased Costs

NO one can better appreciate the problems with which the Bell Telephone Company is confronted than the farmer.

As a producer of foodstuffs, he is fully aware of the causes responsible for the present high cost of living. He knows how large have been the wage increases which all fair employers have felt themselves compelled to grant in order to counteract the shrinkage in the purchasing power of the dollar.

The average wage of our employees has been increased 95.1% in the last five years, and there is no present prospect of any decrease.

This added burden of increased wages, together with the steadily advancing cost of all commodities used in telephone operation, has rendered our revenues inadequate to provide for the unprecedented demand for telephone service.

If we are to deal fairly with both employees and public alike, new rates are imperative.



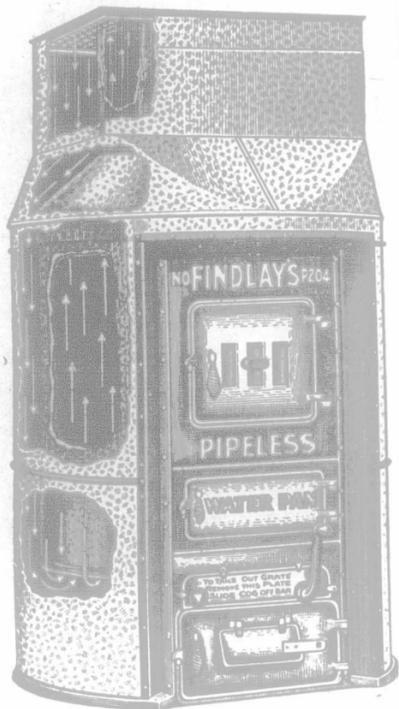
The Bell Telephone Company of Canada

THE FINDLAY Pipeless Furnace

will do for you what it is doing for hundreds of other home owners. It has given them all the comfort, health and safety of furnace heat freed from the labor and annoyances of stoves, and cut down their fuel bill from 25% to 50%. All this because it is built on scientific principles of heating efficiency and utilizes most perfectly the natural laws on which pipeless heating is based.

THE FINDLAY PIPELESS

installed in your home means comfort, convenience, economy and cleanliness. Every room a comfortable temperature. One fire to tend and regulated from a convenient place on the first floor. One-third to one-half saving on last year's fuel bill. Dirt, dust and ashes abandoned from your living rooms.



Will not heat your cellar. No pipes to take up important space. No tearing up of walls and floors for registers.

Will burn hard or soft coal or wood.

SATISFACTION GUARANTEED

Write for Booklets and full particulars.

**FINDLAY BROS.
CO., LTD.**

Carleton Place, Ont.

SEE OUR DISPLAY AT
TORONTO AND OTTAWA
EXHIBITIONS.

Ayrshires at Valleyfield.

The exhibition at Valleyfield, Quebec, is steadily coming into prominence, and it is reported that this year the exhibit of live stock was the best ever seen on the ground, Ayrshire cattle leading all other kinds of stock. Among the exhibitors of Ayrshires were R. R. Ness, Howick; D. T. Ness, Howick; J. P. Cavers, Ormstown; L. J. Tarte, Boucherville; E. C. Budge, Beauharnois; D. Murlou, Valleyfield; and R. Holmes, Howick. The judge was J. A. Ste. Marie, Central Experimental Farm, Ottawa. The awards were as follows:

Bull, aged: 1, R. R. Ness & Sons, on Holehouse Hopeful; 2, D. T. Ness, on Bonnie Brae Lad; 3, J. P. Cavers, on Burnside Fanny's Sensor; 4, L. J. Tarte, on Auchinbay Sir Andrew; 5, E. C. Budge, on Riverside Champion 34th; 6, D. Murlou. Bull, two years: 1, Ness & Sons, on Killock Volunteer; 2, Robt. Holmes, on Burnside Sir Andra. Bull, one year: 1, Ness & Sons, on Sandhill Optimist (Imp.); 2, Cavers, on Braeburn Chief; 3, D. T. Ness, on Thornhill Renewer (Imp). Bull, senior calf: 1 and 4, Ness & Sons, on Burnside Henny Hopeful, and Burnside Baroness Masterpiece; 2, D. T. Ness, on Edgewood Day Star; 3, L. J. Tarte, on Clarion du Lac; 5, Cavers; 6, D. T. Ness. Bull, junior calf: 1, Ness & Son; 2, Cavers; 3, 4 and 5, D. T. Ness. Cow, aged: 1 and 6, Cavers, on Orange Blossom, and Florence 2nd; 2 and 4, Ness & Sons, on Burnside Flora Ryan, and Isobel; 3, D. T. Ness, on Morton Jean of the Briars; 5, Tarte, on Lady of Riverside. Cow, three years: 1 and 5, D. T. Ness, on Edgewood Buttercup, and Ravensdale Susie; 2, Ness & Son, on Burnside Pearlina; 3, Tarte, on Blanche du Lac; 4, Cavers, on Oakdale Fairy. Cow, dry: 1, Ness & Sons, on Chapmanton Henny; 2 and 4, Cavers, on Ryanogue Genevieve, and Violet 4th; 3 and 6, D. T. Ness, on Ravensdale Tinkers Bell, and Blossom; 5, Budge, on Ravensdale Carrie. Heifer, two years, in milk: 1 and 2, Ness & Sons, on Burnside Randy 3rd, and Burnside Emma's Blossom; 3, Cavers, on Braeburn Genevieve; 4, D. T. Ness, on Edgewood Miss Nelly. Heifer, two years, dry: 1, Ness & Son, on Burnside Jemima Jane; 2 and 3, Budge, on Dorothy Hay, and Tipperary Blossom; 4, D. T. Ness, on Edgewood Queen; 5 and 6, Cavers, on Braeburn Florence and Braeburn Dewdrop. Heifer, senior yearling: 1, Budge, on Palmerston Snowdrop; 2 and 3, Ness & Son, on Burnside Henny Chapmanton, and Burnside Rosey Hurley; 4 and 6, D. T. Ness, on Lady Catharine, and Edgewood Lady; 5, Cavers, on Braeburn Maggie. Heifer, junior yearling: 1, Budge, on Palmerston Hyacinthe; 2, Ness & Son, on Catlins Pansy; 3 and 5, Cavers, on Braeburn Dewdrop and Braeburn Lottie; 4 and 6, D. T. Ness, on Edgewood Queenie and Edgewood Flossie. Heifer, senior calf: 1 and 3, Ness & Sons, on Burnside May Scott, and Burnside Maggie Finlaystone; 2 and 6, D. T. Ness, on Edgewood Tinkers Bell, and Edgewood Blossoms Best; 4, Cavers, on Braeburn Violet; 5, Tarte, on Ravenette du Lac. Heifer, junior calf: 1, Ness & Sons; 2 and 3, D. T. Ness; 4 and 6, Cavers; 5, Tarte. Aged herd: 1, Ness & Sons; 2, Cavers; 3, D. T. Ness; 4, Budge; 5, Tarte. Young herd: 1, Ness & Sons; 2, D. T. Ness; 3, Cavers. Get of sire: 1 and 3, Ness & Sons; 2 and 5, Cavers; 4, D. T. Ness. Produce of cow: 1, Cavers; 2 and 3, Ness & Sons; 4, D. T. Ness; 5, Tarte. Four calves of 1920: 1, Ness & Sons; 2, D. T. Ness; 3, Cavers; 4, Tarte.

A New Percheron Importation.

The Lafayette Stock Farm Company of Canada, Limited, are making a new importation of Percheron and Belgian stallions. These are all blacks and grays and range in age from three to six years. These horses will be exhibited at the Western Fair, and they will be housed in Barn No. 6. Do not fail to see these horses at the Western Fair. If interested in this importation write to the Company at London, Ontario.

J. F. Werden & Son, Picton, Ontario, write that they have sent their wool to Guelph since the co-operative grading and selling system was started and they are more than pleased with that method of marketing their wool. They would be pleased to send copies of their grading results to interested people, and would also send copies of the pedigrees of the Shorthorn bulls which they are advertising elsewhere in this issue.



FREEMAN'S FERTILIZER

has been growing good wheat for over forty years.

It increases the yield per acre.

It makes the wheat grade high.

It helps prevent winter killing by making strong, healthy plants.

It makes the wheat "stool out."

It feeds the wheat.

Ask for

FREEMAN'S

by name.

The farmer's favorite.

The W.A. FREEMAN CO.
HAMILTON - Limited - CANADA

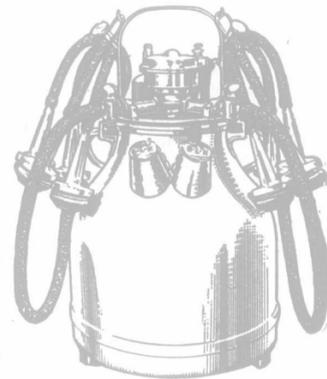
Two Cents Per Cow Per Day

"The annual cost of operation for a 25 to 35-cow outfit, including repairs, power, labor in caring for engine and washing machines, interest on investment, and ten per cent. depreciation on machine, would amount to approximately \$225.00.

The above is approximately one-third of what the farmer is now paying the hired man, where board is not taken into account.

Divided between 30 cows, this brings the RUNNING EXPENSES down to two cents per day."—Special circular, "THE MILKING MACHINE," Dominion Experimental Farm.

The average man will not milk more than seven cows per hour, which at 25 cents per hour costs 7.2 cents per cow per day for hand-milking. One man with the BURRELL



(B.L.K.) MILKER can milk 20 to 25 cows per hour, which brings the total cost of machine-milking, including daily running expenses, to 4.5 cents per cow per day.

BURRELL B.L.K. MILKER

The Burrell Milker also enables one man to milk more cows than it is physically possible for him to milk by hand.

Write us for pamphlets which tell all about the modern Burrell (B.L.K.) Milker.

D. Derbyshire Co., Limited, Brockville, Ont.

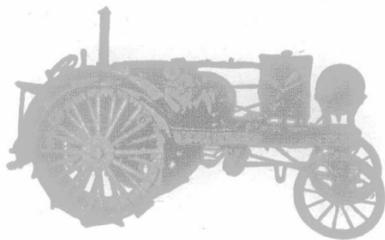
The Hit of the Season For the Farmer's Boy



You want him good and healthy, You want him big and strong, Then give him a pure wool jersey, Made by his friend Bob Long. Let him romp with all his vigor He's the best boy in the land, And he'll always be bright and smiling, If he wears a Bob Long Brand.

BOB LONG
Pure Wool
Worsted Jerseys
For Dad and the Lad
Pull-over or Button Shoulder Style
Made for Hard Wear, Comfort and Smart Appearance
R. G. LONG & CO., Limited
Winnipeg TORONTO Montreal
Bob Long Brands
Known from Coast to Coast

Tractors and Threshers



WATERLOO BOY.
The Simplest, most Accessible, most Powerful 3-plow Tractor on the market. Suitable for handling 3 plows, Threshing, Silo Filling and General Farm Work.



Individual Farmers' Threshers, suitable size to be driven by small Tractors and Gasoline Engines. Do your own Threshing. Keep your farm clean and save expense. Write for free catalogue, prices and any information wanted.
THE ROBT. BELL ENGINE & THRESHER COMPANY, LIMITED, Seaforth, Ont.
Also Steam Tractors and large size Threshers.

SEE HEMME'S LATEST
Weed Destroying Machine

It will kill any weed that grows. It will cultivate, disk, pulverize, harrow, sow and double the crop. Our latest animal trap will catch rats, gophers, or any animal, without re-baiting or looking after. It is always ready to catch more. Our latest root seeder will sow corn, beans, mangels, turnips, etc., spacing them any distance apart you like, scattering as much fertilizer as you like around the seed. Our large steel disk cuts a groove for same. It does not clog or trail the seed, saves seed and labor in hoeing and doubles the crop.

Patented, manufactured and sold by
A. Hemme Sons & Co., Ltd.
Elmira, Ontario

See our exhibit at the Toronto and London exhibitions, or call and see us at our factory in Elmira, Ont.

Holstein-Friesian Leaders in the U. S.

The Holstein-Friesian Association of America gives the following as a list of the ten leading Holstein-Friesian cows and heifers, by class in the yearly division over the United States, up to August 1, 1920.

MATURE COWS.	Pounds of Milk	Pounds of Fat
Duchess Skylark Ormsby	27,761.7	1205.09
Finderne Pride Johanna Rue	28,403.7	1176.47
O.K. L. Pearl Tula	27,389.2	1093.40
Emeretta Korndyke De Kol	28,035.7	1077.55
Ona Button De Kol	26,761.2	1076.44
Maple Crest Pontiac Application	23,421.2	1075.44
Aaggie Acme of Riverside 2nd	24,690.0	1065.42
Laurameka	29,899.0	1061.27
Tilly Alcartra	33,425.3	1058.42
Banostine Belle De Kol	27,404.4	1058.34

SENIOR FOUR-YEAR OLDS.

Keystone Beauty Plum Johanna	25,787.5	1035.77
O. K. L. Royal Beets	28,084.9	966.87
Lucille Jolie Pontiac	23,830.2	938.52
Lindenwood Hope	20,404.7	931.45
Dinah Pauline Clothilde Ormsby	24,078.1	916.81
Queen Piebe Ormsby Mercedes	24,123.1	908.81
Beautiful Josephine	25,283.3	874.57
Miss Colantha Korndyke Ormsby	22,350.3	871.55
Jolie Topsy Pauline De Kol	28,416.1	866.74
Maple Knoll Snow Flake 2nd	25,000.2	865.45

JUNIOR FOUR-YEAR OLDS.

Queen Piebe Mercedes	30,230.2	1111.56
Glen Canary De Kol 2nd	25,590.6	1058.69
Milanhurst America De Kol	26,433.4	985.08
Daisy Grace De Kol	21,718.3	962.80
Fryslan Waldorf	24,648.6	894.39
Maple Crest Pontiac Girl	22,730.2	887.53
Aaggie Acme of Riverside 2nd	19,577.3	876.08
Rose King of Cornelia	19,173.1	836.12
K. P. Lilith Clothilde	22,229.8	834.62
Florence Idella Sharp	24,667.4	821.41

SENIOR THREE-YEAR OLDS.

Jewel Pontiac Segis	27,068.5	936.92
Duchess Hengerveld Korndyke	22,897.0	903.38
Beaver Dam Ormsby Johanna	25,516.5	838.19
Mable Ormsby Pontiac	23,032.3	883.76
Ormsby Segis Marie	27,025.7	859.63
Duchess Vevie Ormsby	24,270.4	847.87
Novelty McKinley Hengerveld	23,770.1	839.63
Nina May De Kol of Cooley Farms	23,324.7	837.08
Queen Julianna Dirkje	19,124.3	817.38
Johanna Fayne Piebe Homestead	23,065.3	811.17

JUNIOR THREE-YEAR OLDS.

Finderne Holigen Fayne	24,612.8	1116.05
Johanna Princess Mooie 2nd	25,596.5	937.74
Miss Valley Mead De Kol Walker	22,021.1	890.86
Beauty Girl Pontiac Segis	24,924.7	890.33
Keystone Beauty Plum Johanna	22,496.6	887.11
Finderne Lady Fayne	18,523.5	860.23
Bess Johanna Pietertje Mercedes	23,360.0	858.08
Chloe Pietertje Ormsby	20,253.3	854.31
Oak Dale Flossie	20,899.6	833.35
Floa Walker Pontiac Segis	20,546.4	825.93

SENIOR TWO-YEAR OLDS.

Pontiac Irene	25,324.6	882.15
Beauty Beets Walker Segis	25,343.3	832.51
K. P. Manor Kate	22,106.4	818.73
Beaver Dam Rosie	22,926.1	809.07
Pabst Champion Hengerveld	20,996.1	792.48
Queen Piebe Mercedes	20,825.2	784.17
K. P. Cornucopia	17,916.0	779.79
O. K. L. Albina	22,270.5	770.26
Inka Beets De Kol	19,673.6	763.57
K. P. Gem	19,675.3	758.44

JUNIOR TWO-YEAR OLDS.

Finderne Mutual Fayne	22,150.4	960.51
Rose De Kol Wayne Butter Boy	20,830.4	913.86

LA FAYETTE STOCK FARM CO.

OF CANADA, LIMITED

Announce the arrival of their new Importation of

Percheron and Belgian Stallions

which they will exhibit at the Western Fair. The stallions are Blacks and Grays in color, 3 to 6 years old, the right kind.

While attending the Fair, don't fail to see this grand lot of stallions in Barn 6.

ALL STOCK GUARANTEED

G. R. CROUCH, President, London, Canada

Barrett MONEY SAVERS for FARM and HOME

THESE are products of experience, made by one of Canada's oldest and largest manufacturers of Roofings, Plastic Cements, Metal Paints and Specialties. The name "Barrett" is a pledge of big value and sure satisfaction.

Everlastic "Rubber" Roofing

The biggest value in roll roofing on the Canadian market. It is made of the best grade of waterproofing materials, is low in cost, easy to lay, staunch and durable.

You can't go wrong if you buy Everlastic—it has proved its worth on thousands of farm and factory buildings all over the Dominion.

Made in three weights (1-ply, 2-ply and 3-ply). Rolls contain 108 sq. ft. Nails and cement with each roll.



For Repairing Your Old Roofs

Here are two of the greatest roof-repair materials ever produced:

Everlastic Liquid Roofing Cement

Unequaled for re-surfacing worn-out felt and "Rubber" roofs. Has the consistency of thick molasses; is easy to apply and dries quickly into a hard, elastic, wonderfully durable coat that adds years to the life of your roofs.

Comes ready for use in packages ranging from 1-pint tins to 40-gallon barrels.

Elastigum Plastic Patching Cement

For patching holes and leaks in all kinds of roofs, repairing flashings, re-lining gutters, etc. Known as "waterproof cement of a thousand uses." Elastigum is tough, elastic, plastic, waterproof, acid-proof, and inexpensive. Comes all ready to use.

Put up in 1-lb. and 5-lb. cans; 25-lb. and 100-lb. packages; 1/2 barrels and barrels.

Everjet Elastic Carbon Paint

Your farm implements and metal roofs don't wear out—they rust out. Everjet prevents rust. You'll be surprised how it lengthens the life of all kinds of metal work. Gives a lustrous, black finish which wears stubbornly under the most severe conditions and is proof against moisture, acids and alkalis.

Although Everjet has been on the market less than 10 years, it enjoys tremendous popularity among both large and small users of protective paints. We manufacture no product which we can more enthusiastically recommend.

Put up in 1, 5 and 10 gallon cans: 1/2 barrels and barrels.

If your general store or hardware dealer can't supply you with these Barrett Products, write us and we will. Descriptive booklets sent free on request.

ST. JOHN, N. B. HALIFAX, N. S. SYDNEY, N. S. **The Barrett Company LIMITED** MONTREAL TORONTO WINNIPEG VANCOUVER

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

The Key to Separator Efficiency



ON correct lubrication depends the efficiency of your cream separator. For, to do its work properly each bearing part of the separator's mechanism must work in perfect harmony with the rest. And friction in the working of any part affects the operation of the whole machine.

IMPERIAL Standard Hand Separator Oil

A lubricating oil made specially for cream separators. Protects every working part and bearing from the action of friction, keeps the separator's fine mechanism in perfect balance and thus assures the separation of all the butter fat.

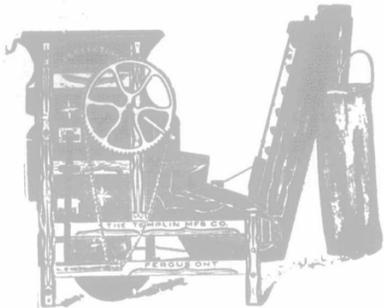
For sale by dealers everywhere in sealed cans; sizes from 1 pint to 4 gallons.

"MADE IN CANADA"

IMPERIAL OIL LIMITED

POWER • HEAT • LIGHT • LUBRICATION
BRANCHES IN ALL CITIES

THE PERFECTION SEED AND GRAIN SEPARATOR



Will assist you to increase your production in 1921. Will pay for itself in one season. Wherever tried it gives satisfaction. If it is good enough to be used on the Government Farms at O.A.C. and Prison Farm at Guelph, and Harrow, Ont.; Farnham and St. Casimer, Portneuf, Que.; Fredericton, N. B.; Truro, N. S.; Charlottetown, P. E. I., and Indian Head, Sask., it is surely good enough for everybody. Turns twice as easy as any other mill, and will do work no other mill will do. Full particulars in Circular A by writing for it. THE TEMPLIN MFG. CO., Fergus, Ont.

FARMERS! Baled Shavings

Ask for delivered price your station. BUY NOW.

John B. Smith & Sons Limited, Toronto
Established 1851

Fall Wheat Seed for Sale, "Abundance"
A heavy yielder. Grown from selected seed and clean; \$3.30 per bush. Bags free.
G. PEAL Rockwood, Ontario

Miss Aaggie Acme		
Burke	24,338.9	827.73
Walcowis Ollie Mooie	21,569.7	808.55
Jewel Pontiac Segis	21,891.8	803.40
Pabst Korndyke Cornflower	22,656.3	801.97
Forest View Korndyke		
Beets De Kol	19,386.0	787.50
Johanna Deen Segis		
Pontiac	22,937.2	777.07
Dutchland Pietertje		
Vale	21,309.2	773.68
Glen Canary De		
Kol 2nd	17,584.2	760.84

Feeding and Fitting Show Horses.

Continued from page 1515.

Colts, especially, should have their first pair of shoes several weeks or even months before they are to be shown, six months where this is possible is not one bit too long. They should be exercised in them at all gaits they will have to go in when showing. They should not be subject to sudden change or rigging or shoeing just before a show, but should have plenty of time to get accustomed to the change. If shown to harness the same conditions will be found and the same precautions must be taken. A green horse is too risky a proposition in the show-ring.

In feeding a horse for the show-ring it should always be kept in mind that stuffing should not be indulged in by any means. A good nutritious diet and one that is not rich will do the job very well. Plenty of cooling feeds and green feeds are a great help and almost a necessity for the animal that is being fitted. Roots will take the place of such feeds when there is difficulty in getting them. There is no need for corn in the ration of the horses that are being prepared for the show. Oats with plenty of bran and good clean bright hay, with plenty of salt and pure water whenever they need it, is all that will be required. Extremely heavy feeding is dangerous to the animal from the fact that it is apt to bring on founder; this condition is not very likely to occur if the animal has sufficient exercise while being gotten ready. Do not pamper an animal as that only makes for trouble in the end. A bran mash or some linseed oil meal will keep the bowels in good condition and is to be recommended as a part of the diet. It is not a good policy to send the animal into the ring in a stuffed condition, or directly after eating a hearty meal. A little less feed would make a considerable difference with some horses. Too great a change in amount, however, should be guarded against. Give water whenever the animal wishes it and sufficient to quench the thirst.

To successfully fit and show horses requires a careful study of each individual in order to determine those things that will enable you to present each animal looking his very best. Things that might work with one animal might not work with another at all, so it is largely a matter of individuality. Be sure above all else to give your self and the animal plenty of time to get in proper condition.

It is needless to say that an animal should never be taken into the ring unless it is thoroughly groomed in the very best possible manner and properly outfitted. Good appearances must never be counted upon too little in the opinion of the owner of an animal even though he may have an horse excelling in quality. Very few individuals can wink at beauty and forget it so quickly. It may in some cases unconsciously influence a decision somewhat. Keep it in mind.

"The seeds of most sorts of weeds are so hardy, as to lie sound and uncorrupt for many years, or perhaps ages, in the earth; and are not killed until they begin to grow or sprout, which very few of them do unless the land be ploughed, and then enough of them will ripen amongst the sown crop to propagate and continue their species, by shedding their offspring in the ground (for it is observed they are generally ripe before the corn) and the seeds of these do the same in the next sown crop, and thus perpetuate their savage, wicked brood, from generation to generation."—JETHRO TULL, 1731.

GOMBAULT'S CAUSTIC BALSAM

THE STANDARD REMEDY
HUMAN and VETERINARY



It is generally true that an external remedy that is good for the animal is also good for the human body, and Gombault's Caustic Balsam is no exception to this rule. The many testimonials received from physicians and veterinarians are convincing proof of its merits. Rheumatism, Backache, Neuralgia, Sprains, Strains, Lumbago, Sore Throat, Stiff Joints, in fact any ailment requiring an external application can be treated with absolute safety and the beneficial results produced are all that could be desired.

Soothing and Healing--A Perfect Antiseptic

As a veterinary remedy its curative qualities have been acknowledged for many years in cases of Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Spavin, Ringbone and other bony tumors. A trial will convince anyone that here is a remedy without an equal. Write for any information desired. \$1.75 per bottle at druggists or sent by parcel post on receipt of price.



The Lawrence-Williams Co., Toronto, Ont.

Right In the Bowl

lies the secret of the great success and popularity of the Vega Cream Separator.

It is this part that really separates the cream from the milk—and upon its design and mechanism depends how close and clean you can skim.

Clean Skimming is Now an Accomplished Fact

The disc system of bowl construction in the Vega Cream Separator alone would produce satisfactory results.

But the Vega goes further than that, in distinctive design in making easier work and more perfect separation.

Work-Saving and Money-Saving Construction

Interchangeable discs, not numbered as in other separators, are used. They are easily removed for cleaning purposes, and quickly replaced without any trouble of reassembling them in order—Vega discs go in any order.

Plenty of room for proper separation is allowed for by having a large and wide bowl which is self-balancing. No adjustment is necessary when placing in position.

Every part of the bowl is easy to get at to clean.

WRITE FOR THE VEGA BOOKLET TO-DAY

It tells you all about this Vega Cream Separator—made at Eskilstuna, "The Sheffield of Sweden." For over 30 years it has been the best of the world's famous skimming machines which have emanated from Sweden—the home of cream separator perfection.

Remember—when at the Toronto Exhibition—visit the Vega exhibit.

Factory Representatives for Canada:

Fortuna Cream Separator Co., Limited
TORONTO ONTARIO

VEGA SWEDEN'S GREATEST CREAM SEPARATOR

LEARN TO SAVE WHILE YOU ARE YOUNG

You can earn money by securing NEW SUBSCRIBERS to THE FARMER'S ADVOCATE AND HOME MAGAZINE. Write for instructions to THE WM. WELD CO., LTD. LONDON, ONTARIO



Quality Commands the High Prices.

The British farmer has recently been freed from the somewhat burdensome control of beef and mutton to which he was subjected during the war and since. "As we predicted some months ago, when the question of the decontrol of meat was first discussed," says the "Agricultural Gazette," London, England, "one of the results of a free market has been that there has been a considerable advance in the price of meat of prime quality, while second and lower grade stuff has advanced little or nothing. This was only to be expected. Articles of prime quality are always scarce, and as long as the demand exceeds the supply, the prices for these articles are certain to be high."

"This fact is well recognized in every industry; and yet, so carping is the public spirit with regard to agriculture, and so ready are many people to blame everybody but themselves, that it has been quite common during the last few days to see in the daily press scare headings as to the enormous rise in the price of meat, and many paragraphs putting the blame for the rise entirely upon the shoulders of the farmers. 'There is not the slightest reason for this rise in the prices of meat except greediness on the part of the producer,' says one of the evening papers. 'Everything has favored him—his cattle feed is plentiful, and the Government has encouraged him,' it says, by the controlled prices previously fixed. Many other papers make remarks of a similar nature."

"Farmers, of course, know better; but it is a pity that the editors of newspapers professing to speak with authority in other matters, should publish rubbish of this kind without ascertaining the facts. Over 90 per cent. of all the fat cattle and sheep sold by farmers are sold by public auction. The farmer has no voice, therefore, in the price they make, unless he is prepared to put them in and take them home again. This he did not do, it is evident, with animals whose meat was exposed for sale. The high prices were given by the butchers each in competition with the other, each wishing to be able to supply his best customers with the prime joints."

"To price sirloins of prime bullocks or legs of Southdown mutton on a West End butcher's shop, and then, because 2s. 6d. or 2s. 9d. a pound is asked, to make out that the public is being overcharged and the farmer is making inflated profits, is neither truth nor justice. It would be as fair to price suits of clothes in the West End, and then to make out that no one could get a suit under fifteen guineas. The papers joke over the 25s. silk ties, but in the same issue get very angry over two-and-ninepenny mutton. Yet the reason of either is exactly the same. Neither the well-cut suit, nor the distinctive tie, nor the prime joint is produced without greater skill and care, nor without greater expense, than the inferior article."

"The moral to the farmer is the same, however, in each of these cases. It is the best that pays best—or, at any rate, it makes the most money, and should pay the best if skill and knowledge are used in its production. It is only beef and mutton of prime quality that are commanding the high prices. There is plenty of inferior stuff to be got cheap enough; and yet if merely the actual cost of the food and labor involved were reckoned up, it is doubtful if the inferior meat in such respects costs very much less to produce."

"Quality in meat is partly a matter of breed, and partly of skill in feeding. But there are still grades where all the animals are fed alike on grass. It is then that breed tells; and that it tells immensely every farmer knows. The badly-fed mongrel is never prime fat; and assuming it to be good enough to be saleable, it makes less money per pound than does a well-bred animal of the same weight. This rule applies to all cattle, sheep and pigs; and that no allowance was made for quality was one of the chief complaints against the controlled prices. This also applies equally to all other kinds of farm produce. It is the best barley or wheat, the best butter or cheese or wool, that makes the most money; and even in milk although there is as yet little general

A BRIDGE That Never Fails

THE best bridge to carry you smoothly over tire troubles—that abyss which yawns for every motorist—is a "Gutta Percha" Inner Tube. Rough usage and constant service have little effect on "Gutta Percha" Inner Tubes.

"The Tubes It Pays To Buy"

"GUTTA PERCHA" INNER TUBES

Gutta Percha & Rubber, Limited

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Branches in all leading cities of the Dominion

"Gutta Percha" High Grade Inner Tube
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MADE BY GUTTA PERCHA & RUBBER, LIMITED
TORONTO, CANADA

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CANADA'S
STANDARD MILKER
H.F. BAILEY & SON, MFRS., GALT, ONT.

THE Milker Your Friends have used for Years, because it runs when they need it most.

TORONTO, OTTAWA and LONDON FAIRS

Afford splendid opportunities for you to see this most Reliable Milker demonstrated. When attending the Fairs

LOOK FOR THE HINMAN EXHIBIT

Aberdeen - Angus
A few typey young bulls and females to offer, of choice breeding and individuality.

Shropshire and Southdown Sheep
Yearling Rams and Ewes for breeding purposes or fitted for the show ring.
Inspection invited, satisfaction assured.
Larkin Farms - Queenston, Ont.

SUNNY SIDE HEREFORDS
12 bulls, serviceable ages; 5 by breeding; size and individual merit are good enough to head any pure-bred herd. Females of different ages. Inspection invited. They are priced to sell.

ARTHUR F. O'NEIL & SONS, Denfield, Ont., R. No. 2
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It is astonishing how quickly Caustic Balsam relieves Stiffness and Lameness, Rheumatism, Neuralgia, Strains, Sprains, Lumbago, Backache, Sore Throat, Chest Cold, Stiff Joints, etc.

Serious results through Blood Poisoning are liable from scratches, cuts or wounds from rusty nails or other metal. This great remedy applied at once will prove a preventive, is a perfect antiseptic, soothes while it heals. *What it has done for others it will do for you.*

Write us for any information desired. \$1.75 per bottle at druggists or sent parcel post on receipt of price.

THE LAWRENCE-WILLIAMS CO.
TORONTO, ONT.

What Canada Requires To-day

is a plentiful supply of pure-bred heavy Shire Stallions and Mares for breeding purposes. They and their offspring will prove a most valuable asset to this country in producing really heavy draught horses such as buyers are looking for at the present time, but are unable to find. Co-operative Horse Breeding Associations to purchase good Shire Stallions for the use of their members and others should be formed at once all over Canada. There should be no difficulty in financing these as there is plenty of money in Canada that would be better invested in this way than to be sunk in wild cat quick-rich schemes to fleece the unwary.

G. de W. GREEN

Secretary-Treasurer

The Canadian Shire Horse Association
58 GRENVILLE STREET
TORONTO



The main ingredient
ready for good butter making

Windsor Dairy Salt

THE CANADIAN SALT CO., LIMITED

ALLOWAY LODGE STOCK FARM

Angus--Southdowns--Collies
Recent addition of Imp. Idealist of Maisemore as
junior herd sire. Yearling rams and ewes,
all of superior merit, priced to sell
No Collies at present.

ROBT. McEWEN, R. R. 4, London, Ont.

PATENTS Canadian, Foreign
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10 Adelaide East TORONTO

recognition of differences in quality, the farmer with a good name for superior milk has a constant market at the best price going. Soon he will get a better price as a matter of course.

"There is nowadays little excuse for inferiority in the majority of farm products. Crops may be spoiled by the weather, it is true; but there are farmers whose crops are much less often spoiled than those of their neighbors. Breed tells in the quality of his stock; skill and care tell in the quality of his meat or milk, and most certainly in their cost.

"The period of Government control through which we have just passed has most certainly had a detrimental effect on production, both in quantity and quality. It has now passed away, unwept, except by a few fanatics; and we are very hopeful of seeing a marked improvement all over the country. It has already commenced; but it can only be retarded by foolish comments such as those to which we have alluded, made whenever the recognition of superior quality produces the higher prices that it so well deserves, and that those who are sound judges are only too willing to pay."

Growing Tobacco Seed.

The insufficient supply of strong viable seed has caused the tobacco growers of Ontario considerable loss and trouble each year. This can be easily remedied if each tobacco grower will select a few seed plants and produce his own seed.

On the Harrow Tobacco Station it has been found, through four years' experiments, that good home-grown seed not only produces earlier seedlings in the plant beds but also produces plants which mature earlier and more uniformly in the field than foreign grown seed. Since a ripe plant, when cured, weighs more and gives a product of better color and quality than an immature plant, the value of the acclimatized seed is readily recognized.

In selecting seed plants the field should be gone over carefully, before topping, and about twice as many plants selected as are required for the amount of seed to be produced. The plants chosen should be typical of the type of tobacco grown, early, with well-shaped leaves of good size and with not very coarse veins, and the distance between the leaves on the stalk should not be too great. The number of leaves on the plant and the color of the leaves about ripening time and, if possible, after curing should also be considered.

After the first selection these plants should be carefully studied and any developing undesirable characteristics discarded.

Although tobacco is naturally a self-fertilizing plant insects flying from one flower to another in quest of the nectar will produce crosses. Therefore, it is necessary to bag the flower heads to produce pure seed and seed which will give plants of the same characteristics as the parent.

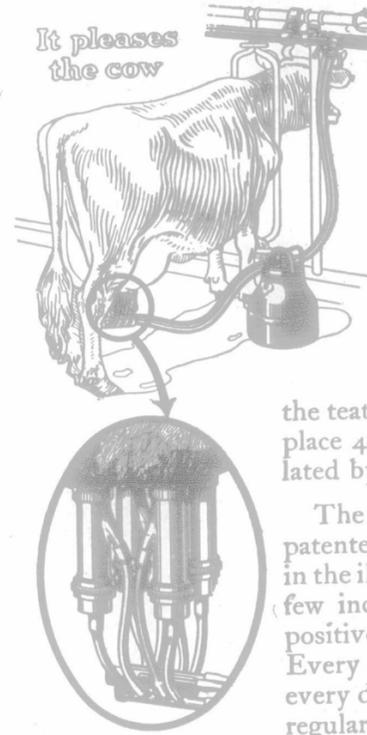
Just before the first flowers open each seed head should be trimmed up until only the five top branches are left. This should then be covered with a 14-pound manilla bag, the mouth of which is tied loosely around the stalk. About every ten days these bags should be removed and all suckers, late pods and fallen blossoms taken out and the bags replaced. When the seed pods have formed and begin to turn brown the bags should be removed and the head allowed to ripen in the open. By doing this the pods mature more quickly, and there is not so much danger of the seed moulding.

After the greater portion of the pods turn brown the seed heads should be harvested and hung in a dry place for about two months, after which the seed may be shelled.

From experiments conducted it would seem that, in fairly normal seasons, tobacco plants may be bagged for seed up until about the tenth of August and good results obtained. Plants bagged after that date produced seed showing a marked deterioration in viability.

It requires from 20 to 30 seed heads trimmed up as described previously to produce a pound of cleaned seed—D. D. Digges, Supt., Harrow Tobacco Station.

It pleases
the cow



The DE LAVAL MILKER

Teat-cups and Udder Pulsator

The De Laval teat-cups alternately draw the milk from the udder and massage the teats. This change in action takes place 45 times a minute and is regulated by the Udder Pulsator.

The Udder Pulsator is an exclusive, patented De Laval feature. As shown in the illustration, it is located within a few inches of the teats, resulting in positive, snappy action of the teat-cups. Every cow is milked in the same way every day and the result of this gentle, regular action is maximum production.

The De Laval Milker possesses many other new and exclusive features that are of inestimable value to the careful dairyman and owner of valuable cows. Its action is positive and uniform from day to day, and it is faster, more reliable and more sanitary than any other method of milking.

Wherever cows are milked the world over, the name "De Laval" stands for quality and highest value to the user. The fact that it bears the name "De Laval" is a guarantee that it will give the service claimed for it.

Write to nearest De Laval office for Milker
Catalogue, mentioning number of cows milked

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MONTREAL PETERBORO WINNIPEG EDMONTON VANCOUVER

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Tires "deliver the
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Northern Ontario

A vast new land of promise and freedom now open for settlement to returned soldiers and sailors FREE; to others, 18 years and over, 50 cents per acre. Thousands of farmers have responded to the call of this fertile country, and are being made comfortable and rich. Here, right at the door of Old Ontario, a home awaits you. For full particulars as to terms, regulations and settlers' rates, write:

H. A. MACDONELL,
Director of Colonization,
PARLIAMENT BUILDINGS, TORONTO

HON. MANNING DOHERTY,
Minister of Agriculture,



The Hecla Pipeless Furnace brings you the comfort of balmy June air in January.

A New Heating System that saves expense, saves coal

TO-DAY THERE IS NO OBSTACLE in the way of heating any home properly—old or new—with a good cellar or with only a small excavation.

A new modern heating system has been devised by Clare Bros.' engineers—the Hecla Pipeless Furnace. This invention will prove a boon to thousands who have so far been denied the comfort of a proper heating system. For it can be installed—in a day—in any home, new or old.

No tearing up of partitions or walls is needed. No muss or fuss. And when installed the Hecla Pipeless leaves the cellar so cool that fruit and vegetables can be kept within a few feet of the furnace.

No Pipes—Free From Gas and Dust. Amazingly Economical—Easy to Tend

Instead of having a maze of pipes and registers, the Hecla Pipeless has but a single large register—

directly above the furnace! Through the centre of this register the warm air rises and passes to every room in the house. Cold air is drawn down through the same register at the sides (See illustration)

The Hecla Pipeless Furnace has been perfected after years of experiment and study.

It has the same safeguards against leaks of gas and dust as the famous Hecla Furnace, for it is built with our Patented Fused Joint. It has the same extra large circular waterpan supplying every room with the proper degree of health-giving moisture. It has the same Steel-Ribbed Firepot that gives quicker heat and saves coal. It has the large Hecla firing door and heavy durable triangular grate bars. Burns coal or wood. At every point of construction the Hecla Pipeless is as high-grade a job as could be built

Hundreds of Owners—Read What They Say

J. G. KARN, WOODSTOCK, ONT., says: "Your No. 128 Pipeless Furnace installed in my store is giving perfect satisfaction. It saves coal and also room in my cellar."

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

J. E. JOHNSTON, FORT ERIE, ONT., "The downstairs we have no difficulty in keeping at 76 degrees Fahrenheit—upstairs is 4 or 5 degrees cooler."

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

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

HECLA PIPELESS FURNACE



Positively Guaranteed to Heat Your Home Properly

We guarantee positively and absolutely that the Hecla Pipeless Furnace will heat your home efficiently—at low cost. We can't make it stronger than that. The testimonials alongside are but typical of hundreds. Get the complete story about the Hecla Pipeless. Our booklet "Buying Winter Comfort" explains the whole principle. It's free.

Send a Post Card Now

CLARE BROS. & CO., LIMITED
Dept. D4 PRESTON, ONT.

Winnipeg, Saskatoon, Calgary, Edmonton, Vancouver

Maple Shade SHORTHORNS

A dozen young bulls imported and my own breeding at moderate prices.

W. A. DRYDEN

Brooklin - - - Ontario

Shorthorns

Present offering: Six young bulls, Reds and Fawns; also a number of females. They have size, quality and breeding from good milking dams. Prices moderate. Satisfaction guaranteed.

CHAS. GRAHAM - Port Perry, Ont.

BROOKDALE HEREFORD FARM

Young stuff for sale at all times. Visitors always welcome and met any time.

Telephone. **W. READHEAD, Milton, Ontario**

Roan Bull—Calved April 23rd, 1919

Sire, Chief Orator = 122385 = (Imp.). Dam, Spring Beauty = 138815 = (Imp.). Good enough individually and in breeding to head a good herd. Could spare a few females.

J. T. GIBSON, Denfield, Ont.

SPRUCE GLEN SHORTHORNS

We have a few choice, well bred, thick, deep level, mellow young bulls of breeding age for sale; also heifers in calf to a right good sire. Write for particulars.

JAMES McPHERSON & SONS - DUNDALK, ONTARIO

Irvinedale Scotch Shorthorn Heifers—For the present we are all sold out of bulls of serviceable age, but we have the largest and strongest offering of Scotch-bred heifers and young cows we have ever had on the farm. Call and let us show you our breeding herd of cows, headed by Marquis Supreme, that great son of Gainford Marquis (imp.). **Jno. Watt & Son, Elora, Ont.**

Fairview Clydesdale Champions—We have at present several mares that have been champion winners at Toronto, Guelph, London and Ottawa. Look up our past winnings and call on us if you want something choice. We also have Shorthorn bulls and females of show individuality.

ROBERT DUFF & SON, Myrtle, Ont.

Aneedia Farm Shorthorns and Shropshires We offer Five Ram Lambs, one Shearling and one 2 shears. From Imp. and home bred Ewes, Allby Imp., Buttar ram. Also three bulls of different ages, 2 pure Scotch, one Scotch topped. All of high quality and priced to sell.

J. F. WERDEN & SON, R. R. 8, PICTON, ONT.

be announced in these columns later. One of these comes from the herd of A. D. Foster & Sons, Bloomfield, and one other from the herd of J. B. Wiley, Almonte. Other consignors to the sale include H. W. Imerson, Harlam; J. H. Havey, Arnprior; R. H. Earl, Merrickville; Neil Sangster, Ormstown, Que.; J. W. Stewart, Lyn; X. Plaunt, Northcote; James Knapp, Merrickville; J. C. Jakes, Merrickville; John Willoughby, Smith Falls; E. E. Muirhead, Clarkson; A. Ireland, Easton's Corners; R. J. Mercur, Dorval, Que.; and Marshal Miller, Brougham Centre, Que. All requests for catalogues should be made to Wm. R. Cummings, Cummings-Bridge, Ont.

Preparing Grains for Fall Fairs.

(EXPERIMENTAL FARMS NOTE.)

It pays to advertise. There is no better advertisement than to be a prize winner at the fall fairs, and no crop on the farm can be exhibited to better advantage than the cereal crop. To attain the best results, a special plot should be maintained and kept thoroughly clean, free from weeds and all impurities. Harvesting should be done by hand, keeping the sheaves as neat and straight as possible.

First and foremost the grain in the sheaf must not be weathered, it must be perfectly dry and of good color. The best results are obtained by the use of slightly immature straw, as it will be found to be less brittle and easier to handle. The straw should be spread in thin layers in the sun to dry; the sun will bleach the straw as well as dry it. Use only straight, uniform straws to make the sheaf; two or three sheaves should be collected in the field to allow for waste.

The majority of persons have the idea that all the straws should be the same length and the heads all placed on the same level. This would give us the square head in which, when tied, the majority of the straws would break off below the head. The ideal sheaf has a rounded head with a gradual curve. This rounded head is procured by allowing the central straws to stand a little higher than the surrounding straws and each layer of heads that are added, to gradually slope away from the centre. The large sheaf may be conveniently formed by first making a number of small sheaves and then placing them together as though they were individual heads, gradually sloping them off in the same manner. To finish the sheaf a layer of individual heads should be placed around the whole producing a finished exhibition sheaf. All the loose leaves should be plucked off the outside of the sheaf with a jack-knife leaving only the white shining straws, and all heads that do not conform to the symmetry of the head may be cut off, leaving a perfect sheaf. Colored ribbon about 1/2 to 3/4 inches wide may be used with good effect to cover the binding strings.

The remainder of the plot should be threshed by hand. This will form the bulk sample for the fair. If the plot was kept pure in the field there will be very little that will need to be done to the threshed sample. A good fanning mill will remove all shrunken and small kernels, all chaff and dirt. The fanning mill must be clean; many an excellent sample has been ruined by a dirty fanning mill. Thoroughness is the secret of a good sample, the fanning mill should not be spared even if it means fanning away 50 per cent. of the original sample.

The bulk sample may be double bagged for shipping to the fair. The sheaf should be shipped in a box, 3 to 4 inches longer and 1 to 2 inches broader and deeper than the sheaf. The sheaf should be wrapped in paper and tied, fitted into the box and kept in position by supports.

With our present-day standards always improving, great care must be taken in preparing the exhibits for our fall fairs. No prize will be won by the farmer who puts up a rough sheaf or a poor sample. The secret of success is thoroughness.—**P. R. COWAN, Cereal Division.**

Questions and Answers.
Miscellaneous.

Removal of Bees.

A, owner of farm, rented same to B for pasture for one season. B gave permission to C to put his bees on said farm. A did not rent again to B but rented to another party. C continued to leave his bees on said farm without permission from owner or tenant. C also built a fence around the hives, and comes and takes the honey. A has never seen C and only knows his name through others telling him. The hives have been on the premises now for three years.

1. Can A claim hives and bees?
2. Can C take them away?
3. Can A prevent him from taking them away?
4. What should A do?

Ontario. J. P. W.

- Ans.—1. No.
2. Yes, under the circumstances.
3. No.

4. He should arrange with his present tenant to have the latter notify C for the removal of hives and bees; and at same time warn him that after a reasonable time (to be stated in the notice) he will be regarded and treated as a trespasser if he enters upon the premises for any purpose.

Provincial Highways.

How is the cost of construction and maintenance of the Provincial Highway appointed? Is there any frontage tax?

A. S.
Ans.—Under recent Federal Legislation, the Dominion Government pays 40 per cent. of the cost of construction of Provincial Highways, the designation, specifications, etc., of which have been approved by the Dominion Highway Commissioner. The balance of the cost of construction is borne in the proportions of 40 per cent. by the Province and 20 per cent. by the County. In the case of Provincial Highways adjacent to the larger cities and towns certain portions of the road may be designated as Provincial Suburban, in which case the cost of construction is proportioned as follows: Dominion Government 40 per cent.; Province of Ontario 20 per cent.; County 20 per cent.; City 20 per cent.

The federal subsidy is payable only for road construction and does not apply to maintenance or to the construction of bridges; their proportion in these two cases being assumed by the Province and the percentage therefore being as follows:

MAINTENANCE OR BRIDGE CONSTRUCTION.—Province 80 per cent.; County 20 per cent.

In the case of maintenance of a road designated as a Provincial Suburban Road the cost would therefore be distributed as follows: County 20 per cent.; City 20 per cent.; Province, 60 per cent. There is no frontage tax. K. A. C.

Veterinary.

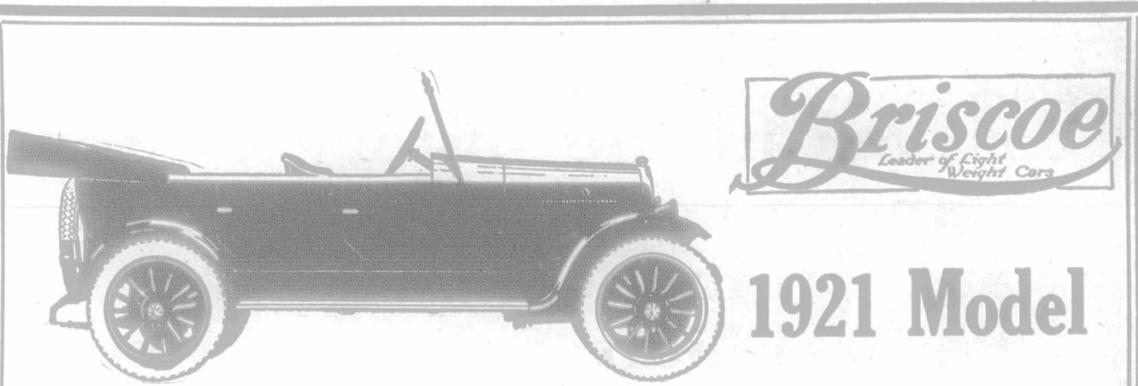
Fatality in Pigs—Bloody Milk.

1. Have litter of pigs 3 months old. One took sick, vomited and died the next day. I have lost two more and another is sick in the same way. I am feeding barley meal. They appear to choke at first.

2. Cow gives bloody milk out of one quarter, frequently. The condition is getting worse. There is a lump in the teat. Would it be better to fit her for beef? Is the milk from the other quarters fit for use? Will the quarter be all right after next calving? J. E. S.

Ans.—This is due to indigestion, give each of the remaining ones a purgative of 1 oz. Epsom salts. Feed on milk, a little middlings, a little chopped oats with the hulls sifted out and allow free run on a grass plot daily.

2. This is due to weakness of the blood vessels. All you can do is treat each attack by bathing the quarter frequently with cold water and giving 1 oz. tincture of iron in a pint of cold water as a drench twice daily until the milk becomes normal. It will doubtless be wise to do as you suggest, "fit her for beef" as the trouble will probably continue and the lump in the teat will cause trouble. The milk from the other quarters is healthy. V.



**Which is the Most Important in a Car—
ECONOMY? COMFORT? APPEARANCE? STRENGTH?**

From a viewpoint of Briscoe manufacturers, all are equally important, and the 1921 Model Briscoe embodies every one of these features developed to a surprising degree.

Economy of operation has been a Briscoe feature for so long that the words "Briscoe" and "Economy" are almost inseparable in the Motor-car World. The famous Briscoe Motor that has established a wonderful record for low gasoline consumption, is expected to achieve even greater triumphs in the 1921 Briscoe, by reason of new refinements in motor and design.

The appearance of the 1921 Briscoe is a masterly accomplishment in itself. The tilted radiator, a new Briscoe feature, adds a trim smartness to Briscoe's beauty of line. At the same time tilting the radiator at this slight angle gives a straight line drive from front bearing to rear axle, and increases the cooling efficiency to the maximum. The new Briscoe color, called BRISCOE TRUE BLUE, and the upholstering of genuine long grain leather, further enhance its rich appearance.

Briscoe light weight has accomplished a saving in tires as exceptional as the fuel saving. Although weight has been reduced in the 1921 Briscoe to satisfy the requirement of correct engineering principles, not one atom of strength, sturdiness or comfort has been sacrificed. In fact, the Briscoe Spring Suspension with a long, low semi-elliptic spring has accomplished an action that completely absorbs all road shocks, conserving the wear on the car as well as increasing the riding comfort.

The 1921 Briscoe by its record in gasoline, and tire mileage, by its comfort and ease of riding and handling, will prove that Briscoe engineers have developed to marvellous perfection the features that make for unqualified satisfaction in a motor car.

The Canadian Briscoe Motor Company, Limited
Head Office and Factory : BROCKVILLE

UNITED STATES: Briscoe Motor Corporation, Jackson, Mich.
TORONTO DISTRIBUTORS: HAMILTON DISTRIBUTORS:
Bailey & Drummond Motor Company, 497 Yonge St. Livingstone Bros., 97 King St., West
LONDON DEALERS: Binder & Morrison, 174 Fullarton St.

Puslinch Plains Shorthorns—Bulls for Sale—Royal Signet = 134979 =, red; born Oct. 7th, 1919. Sire, Royal Ramsden = 128067 =. Dam, Roan Lady 50th = 143772 =. Price \$300. Goldale = 138906 =, roan; born Dec. 15th, 1919. Sire, Browndale Reserve = 118615 =. Dam, Roan Bessie 11th = 140322 =. Price \$200. A. G. AULD, R. 2, Guelph, Ont.

Newcastle Herd of Shorthorns and Tamworths for Sale—Three nice bulls, 11 to 13 months old, and several yearling heifers and cows with calves at foot, both sexes, all splendid milking strain. Several Tamworth sows due to farrow in May, June, July. Young stock, both sexes, at weaning up to six months old. All from prize-winning stock. Long-distance Phone. A. A. COLWILL, R.R. No. 2, Newcastle.

Pear Lawn Shorthorns, Hackneys and Yorkshires—One imported-in-dam Miss Ramsden bull, 14 months; one Secret bull, 12 months, imp. sire and dam; one Golden Rose bull, 6 months, imp. sire and dam; one bull, a Flattery, 12 months, imp. sire. A few young cows with calves at foot. One imported Hackney stallion, A 1; two Hackney stallions rising one year; one registered Clyde mare; also Yorkshires at weaning time. HERBERT J. MILLER, Keene P.O., Ont. Stations—Keene G.T.R., Indian River C.P.R. Peterborough County.

Spring Valley Shorthorns—Herd headed by Sea Gem's Pride 96365. We have a number of good bulls for sale, including the Champion Ivanhoe 122760, and his full brother also, an extra well-bred Rosewood, and others. Write for particulars. KYLE BROS., Drumbo, Ont. Telephone and telegraph by Ayr.

Imported Scotch Shorthorns For Sale—Three imported bulls, one yearling one two-year-old and our three-year-old herd sire; also a choice two-year-old Orange Blossom of our own breeding, and three well-bred bull calves about a year old. Would consider exchanging an imported bull for Scotch females. R. M. MITCHELL, R.R. No. 1, Freeman, Ont.

GREEN GROVE SCOTCH SHORTHORNS
Our herd represents the most fashionable families of Scotch Shorthorns and is headed by Master Marquis = 123326 =, one of the choicest sons of Gainsford Marquis Imp. Stock priced reasonable. GEO. D. FLETCHER - (L.D. 'phone and station, Erin) - R. R. 1 ERIN, ONT.

**Struan
Scotch Shorthorns**

For sale: Rosewood, bull calf, eight months old; dark red; a proper good one. Sired by my herd bull, Escana Star, an Orange Blossom, son of Right Sort (Imp). This calf, individually and with his breeding, is worthy to head a superior herd of Shorthorns. Write, or come and see him. Inspect his sire and dam and my herd of Scotch Shorthorns. Families represented: Rosewood, Clipper, Claret, Clemantina, Nonpareil, Mary Anne of Lancaster, Balloch Daisy and Marr Flora.

N. S. ROBERTSON, Arnprior, Ont.

Maple Leaf Shorthorns—Herd headed by: Gloster Benedict 112498, by Master Ruby, and Ury of Myreton (imp.) 155608. One for sale. Also cows with calf heifers and young bulls. Shropshire sheep. J. BAKER, Hampton, Ont., Bowmanville Station.

Shorthorns and Leicester—Present offering: A number of 1 and 2-year-old heifers; also 1 and 2-shear rams and ewes and ram ewe lambs, which have been fitted for showing; all from imported stock. W. A. DOUGLAS, Caledonia, Ont.

Never in the history of Shorthorns in Canada has there been a more important announcement than that of the Pettit-Elliott Sale of Imported Scotch Cattle now scheduled for sale at Freeman, Ont., on Wednesday, Sept. 29th. The quality of the cattle, the richness of the pedigrees, and the sires to which the females are bred, make it without exception Canada's Premier Sale of all time. One or more of these bred females should leave a great impression on even the stronger herds.

BOG Spavin

Cure the lameness and remove the bump without scarring the horse—have the part looking just as it did before the blemish came.

FLEMING'S SPAVIN CURE (Liquid) is a special remedy for soft and semi-solid blemishes—Bog Spavin, Thoroughpin, Splint, Curb, Capped Hock, etc. It is neither a liniment nor a simple blister, but a remedy unlike any other—doesn't irritate and can't be imitated. Easy to use, only a little required, and your money back if it ever fails.

Fleming's Vest-Pocket Veterinary Adviser describes and illustrates all kinds of blemishes, and gives you the information you ought to have before ordering or buying any kind of a remedy. Mailed free if you write.

FLEMING BROS., Chemists
75 Church Street, Toronto, Ont.

English Dual-Purpose Shorthorns

We offer a grand choice of young bulls and bull calves from imported dams and sires, bred on the English system for milk and beef. They will add value to any herd. The dual characteristics have been impressed by scientific treatment for continuous years. Prices moderate.

Always on hand, sows and boars of the most satisfactory breed of pigs, English Large Blacks.

F. W. COCKSHUTT
Lynnore Stock Farm, Brantford, Ont.

Mardella Dual-Purpose SHORTHORNS

Eight choice young bulls, 30 females, cows and heifers. All of good size, type and breeding. Herd headed by The Duke; dam gave 13,599 lbs. milk, 474 lbs. butterfat. He is one of the greatest living combinations of beef, milk and Shorthorn character. All priced to sell. Write, call or phone.

THOMAS GRAHAM, Port Perry, R.R. 3, Ont.

DUAL-PURPOSE SHORTHORNS

A number of females, some with heifer calves by their side. Also Dorset Horned sheep.

VALMER BARTLETT - Canfield, Ontario

A Rainy Day.

EDITOR "THE FARMER'S ADVOCATE":

As I wend my way with the plow along the furrow, over yonder hill huge masses of grey are piling banks upon bank. Real clouds they are. I need not tell you what is coming. They advance by leaps and bounds. Here, the only place in the universe order is unobserved. One mass colliding with another is shattered, only to reappear in another form. So they keep on rolling, tumbling and falling.

I unhitch, put the horses in the stable and go to the house. Already objects in the shadows are indiscernible, it is growing dark. The wind dies down and it begins to rain. Not a splash, but a steady down-pour.

I take a book and sit down by the window but do not want to read. My thoughts wish to find their own entertainment. I glance out of the window and wonder what causes the rain drops. Then I remember the book and who it was led me to know that the moisture of the air condenses on every small particle of dust that is always present there. The air like the oyster in protecting itself from possible harm, gives us not the beautiful pearl, but something of infinitely more value, those innumerable little messengers coming upon bush, field and garden calling forth new colors and new life.

Still they are falling, myriads and to spare. The overplus of Nature's generosity. The infinite giving its breast to its child the finite. The placid earth is sated.

All sounds are hushed, the birds no longer twitter, the cattle and horses are quiet, alone is heard the half smothered velvet rapping of the rain.

I look out over the fields, the trees are blurred. They are phantom trees. In the pasture an old elm stands enshrouded by mist, its arms upraised like the very spirit of earth transfixed in prayer.

The sky is not light but is permeated with the ghost of light. The sunny brightness of that vast expanse is gone; heaven has nestled closer, and now broods over the earth.

Night has come. It is still raining as if it had always rained and was going to forever.

WM. R. MILLAR.

A NEW IMPORTATION OF

40 SCOTCH SHORTHORNS

arrived home Dec. 17th. From our herd of 125 head we can offer a large selection in choicely-bred bulls and females. Anyone in need of foundation stock may find it to their advantage to look over our offering before making any purchases.

J. A. & H. M. PETTIT :: **FREEMAN, ONTARIO**
Burlington Jct., G.T.R., only half mile from farm.

Braeburn Scotch Shorthorns

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. They are nearly all roans, and are priced to sell. Can also spare some breeding cows in calf to Nero of Cluny (Imp.).

CHARLES MCINTYRE, Scotland, Ontario
L.E.N. Electric R.R. Cars every hour.

Brantford 7 miles. Oakland 1 mile.

Eighty-three years without change we have been breeding

SCOTCH SHORTHORNS

My herd is stronger than ever, and I have cows with calves at foot, heifers in calf, younger heifers, young bulls fit for service soon, for sale in any number at reasonable prices. Augusta Sultan—93092—, one of the greatest living sires, at head of herd. Write me, and, if possible, come and see me, it is worth while. Post Office, Telephone, Telegraph and Station is Stouffville, Ont. I pay the freight.

ROBERT MILLER :: **STOUFFVILLE, ONTARIO**

Reyburn Milking Shorthorns

Herd headed by Victor 3rd, Imp., Grand Champion at Erie Show and Congress. Herd average over 9,500 lbs. milk per cow. Choice cows, heifers and herd-heading sires for sale.

R. R. WHEATON :: **THORNDALE, ONTARIO**
Long-distance phone and telegraph.

Dual-Purpose Shorthorns

Bulls from 3 to 7 months old for sale, also several cows. Inspection of herd solicited.
WELDWOOD FARM, Farmer's Advocate **LONDON, ONTARIO**

MILKING SHORTHORNS

Young stock for sale, from Record of Performance cows, by imported sires.
G. L. SMITH, Credit Grange Farm **MEADOWVALE, ONTARIO**

Plaster Hill Herd Shorthorns CANADA'S OLDEST DUAL-PURPOSE HERD ESTABLISHED 1859

Herd sires: Green Leaf Record 96115. Sire and dam imported of best English breeding. Commodore 130056, bred by late S. A. Moore. His two nearest dams average 12112 lbs. Seven young bulls from R.O.P. cows. Tubercular free herd. **ROSS MARTINDALE, R. R. 3, Caledonia, Ont.**

20 Bulls—SPRUCE LAWN—100 Females—Clydesdales, Shorthorns, Yorkshires. Herd headed by Imported Golden Challenger 122384, a Rubyhill, bred by Earl of Northbrook, by Ascott Challenger, bred by L. De Rothchild. Special bargains in farmer's bulls. Cows and heifers in calf, yearling and heifer calves. Yorkshires either sex.
J. L. and T. W. McCAMUS, Cavan, C.P.R.; Millbrook, G.T.R. and P.O., Ont.

Our Scottish Letter.

July has been a very disappointing month to agriculturists almost every where. In the south and west of Scotland the rainfall has been excessive. A splendid hay crop alike in respect of bulk, and particularly of the wealth of clover, has in some districts been sadly spoiled. It would be too much to say that the hay crop has in these areas been ruined, but it is the bare truth that the feeding value of one of the best crops of hay seen in Great Britain for many years has been undoubtedly reduced. In the north of Scotland, around Inverness and in Easter Ross and Caithness there has been a great lack of moisture, consequently the crops are light and the bulk of straw promises to be rather deficient. The turnip crop everywhere promises to be much better than the crop of 1919. This root crop is in some respects the key of the rotation; without it the land could not be cleaned. The years of war have left their impress on agriculture in a legacy of foul land. Under pressure of food shortage the taking of two white crops in succession was largely resorted to, with the result that the land now has become unclean. This means excessive labor in connection with the succeeding green crop. In this way a war legacy has been entailed which will take years of close unremitting labor to liquidate.

Through the death of Lord Polwarth during the past month a notable figure has been removed. His Lordship belonged to a very old Scottish family, that of the Scots of Harden. The Polwarth peerage came into the family on the female side through marriage. The deceased baron was a notable stock breeder in his time. For many years he stood at the head of breeders of Border Leicester sheep. A Polwarth ram meant much in the pedigree of a Border Leicester. Unfortunately his lordship cherished the idea that his own stock could not be improved by any possible introduction of fresh blood from other flocks. He paid the penalty. His splendid flock deteriorated in value. The ewes became uncertain breeders; the rams offered, which were the choicest of the produce, became characterized by bare fleeces, especially beneath; and, to use a common phrase, the flock simply ran to seed. The upshot was a collapse in popular favor and when financial adversity came, the auction ring, which is the ultimate test, yielded results disappointing to a degree. A somewhat similar fate overtook his lordship's herd of Shorthorn cattle. The day was when representatives from Mertown, which was his lordship's seat, took the highest honors at the national shows. Lord Polwarth was an adherent of the Booth cult, and as with his Border Leicesters, cherished the notion that it was impossible to improve upon that. The consequence was that his Shorthorns deteriorated almost as completely as his Border Leicesters, and the fame of his herd vanished. The history of the Mertown herd and flock is a warning not to carry Bakewell's principles of selection and close inbreeding to an extreme. The introduction of a judicious out-cross into the Mertown Border Leicester flock might have prevented the extinction of one of the best flocks of sheep ever known in Great Britain. Even in their old age many of the ewes sold at the dispersion were conspicuous by reason of their handsome carriage and great scale.

A curious commentary on pedigree breeding has recently been furnished in a northern civil court. A breeder of Aberdeen-Angus cattle sold by public auction two heifers, the one belonged to the Jilt family, and the other to the Erica. The day was when an Erica, no matter how mean or scrubby looking, would have sold on her pedigree at a high price. That day would seem to have passed. Through the illness of the exposor of the heifers in question, and the action of those acting for him, the Jilt heifer was substituted for the Erica and made by far the lower price, although she was much the superior heifer. When the exposor discovered the mistake that had been made in his absence he sought the intervention of the court to reduce the sale because the heifer on her merits as

OIL CAKE MEAL

The Best Food for Live Stock

The well-known LIVINGSTON BRAND is made by the old Patent Process, which cooks the food, insuring its keeping for any length of time, and making it easier to digest.

KEEPS STOCK IN GOOD CONDITION. INCREASES MILK AND BUTTER. IMPROVES CALVES. PIGS THRIVE ON IT.

Fine Ground and Coarse Ground. Pea Size—especially adapted for sheep.

LINSEED MEAL FLAX SEED

If your dealer cannot supply you, write direct to us.

The DOMINION LINSEED OIL COMPANY, Limited

Manufacturers of Flax Seed Products

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FEEDS FEEDS FEEDS

We are supplying feed for use in the various live stock barns at the Exhibition this year, and would invite your inspection and attention to the high standard and quality of each commodity used.

A cordial invitation is extended to you to visit our warehouse during your visit to Toronto for the Exhibition.

We carry complete and large stocks of the following, and are in a position to fill all orders immediately:

- Linseed Oil Cake Meal Feeding Cane Molasses (in bbls.) Cotton Seed Meal Feed Corn and Corn Meal Gluten Feed (25% protein) Dairy Feeds Shorts Hog Feeds Poultry Feeds and Supplies Car Lots or Less

Kelley Feed and Seed Company

780 Dovercourt Rd., TORONTO



PAUL RAUWERD

Calved May 17, 1919

Dam Lulu Pauline, 535 lbs. milk, 26.48 lbs. butter in 7 days. Her grandam is the 26,000-lb. cow. Sire Hill-Crest Rauwerd Vale. Come and see this bull before buying. Farm is just an hour's drive from the Toronto and Kingston road. Good roads.

W. FRED. FALLIS Millbrook, Ontario

Summer Hill Holstein Females—We are at present crowded for room and are pricing twenty-five head of one and two-year-old heifers of our own breeding at prices which any good breeder should be pleased to pay for this sort of quality. See these if you appreciate the best. We have one young bull left—a show calf. D. C. FLATT & SON, R.R. No. 2, Hamilton, Ont.

Cream Wanted

Ship your cream to us. We pay all express charges. We supply cans. We remit daily. We guarantee highest market price.

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LONDON Limited ONTARIO



BOOK ON DOG DISEASES, And How to Feed

Mailed free to any address by the Author,

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

RAYMONDALE HOLSTEIN SIRE

We have for immediate sale a 24 months bull sired by King Segls Alcartra Spofford and from Princess Echo De Kol 2nd, who has the following record—

Table with 3 columns: Product, Quantity, and Price. Rows include Butter (7 days, 30, 60 lbs) and Milk (7, 30, 60, 90 lbs).

This young bull is a good individual and is guaranteed right in every way. Write quick or come and see him.

RAYMONDALE FARM, Vaudreuil, Que. D. RAYMOND, Owner, Queen's Hotel, Montreal

SPECIAL--Young Holstein Bulls

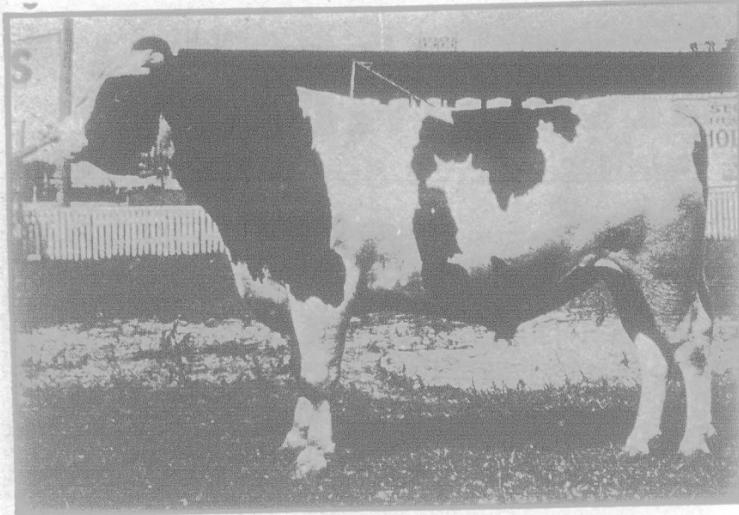
No 1. Calved Dec. 30, 1919. Sire—a 32-lb. son of Avondale Pontiac Echo. Price \$250. No. 2. Calved May 4, 1920. Sire—a 32-lb. son of Rag Apple Echo Sylvius. Price \$150. No. 3. Calved Feb. 14, 1920. Sire—a 32-lb. son of Avondale Pontiac Echo. Price \$100. Would exchange these calves for heifers of equal value.

CEDAR BROOK FARM - INGLEWOOD, ONT.

20,000 lb.—Holstein Bulls—20,000 lb.

Write us for extended pedigrees and full particulars of 1920 bulls whose dam and sire's dam average over 20,000 lbs. milk and 850 lbs. butter in R.O.P. R. HONEY & SONS, Dartford, Ont.

When writing please mention Advocate



AVONDALE SEGIS PONTIAC KORNDYKE An Ottawa Valley Herd Sire and Champion at the Central Canada Exhibition, 1918-1920

Hamilton House Holstein Sires

Our young bulls of serviceable age have all been sold, but we have a number of the best young calves we have ever bred. All are from dams with good combination records for both milk and butter. Several are up to 700 lbs. of milk and 31 lbs. of butter for 7 days. If you are interested in a good calf, write or see them now—they can be purchased at considerably less than we will be pricing them next winter.

D. B. TRACY - All Railways Bell 'Phone - COBOURG, ONT.

Hospital for the Insane, Hamilton, Ont.

HOLSTEIN BULLS ONLY FOR SALE

Senior sire is from one of the best sons of King Segis Alcartra Spofford. Junior is grandson of the noted May Echo Sylvia, by Champion Echo Sylvia Pontiac.

Write to the Superintendent for prices, etc.

a Jilt would have made a higher price than she would have sold as an Erica. Evidence was led in support of the contention that the Jilt was the more valuable tribe and the sale was reduced. When one recalls the position of affairs about twenty-five years ago, when a Trojan-Erica could have been sold for almost any price, irrespective of merit, this decision comes almost as a shock. As a matter of fact, the craze for families in stock breeding is almost a pure superstition and it is always a fashion. It should never be forgotten that Amos Cruickshank created the Northern or Aberdeen Shorthorn type by subordinating pedigree to form. He did not despise pedigree, but he resolutely acted on the principle that a good pedigree or succession of line crosses in a pedigree could never atone for inferior merit in the individual.

Veterinary science has struggled to its present position in this country in spite of government neglect. Perhaps in no department of knowledge and research has government aid been less influential than in connection with the promotion of veterinary science. The profession has had to find resources within itself and to an exceptional degree it has made progress in spite of this official neglect. At the present time the standard of education insisted on for entrants to the study of the profession is higher than it has ever been. It is anticipated that the effect of this policy will be greatly to elevate the profession in the eyes of other learned professions. The necessity for this is obvious. Too many of the present-day practitioners are men who cannot be classed as well-educated. Many of them are excellent general advisers in matters affecting the health of farm animals, but it would be a misnomer to call the profession as represented by them a learned profession. The efforts of the leaders of the profession for the past twenty years have been directed to the elevation of the standard. This begins to tell, but the levelling up, of necessity takes time. An important veterinary congress has been taking place in Edinburgh during the past week. The head of the Royal "Dick" Veterinary College, Principal Charnock Bradley, is a man of high attainments in the scientific world. He has got a splendid suite of college buildings, but is sadly crippled through lack of the necessary equipment which would enable him and his staff to get the best results from their use. We have also an excellent college in Glasgow. Up to about ten years ago it was

If You Are a Prospective Buyer of the Best ATTEND THE THIRD ANNUAL SALE

TO BE HELD UNDER AUSPICES OF THE

Ottawa Valley Holstein Breeders' Club

AT THE CENTRAL CANADA EXHIBITION GROUNDS

Ottawa, Ont., Sept. 16-17 (Thursday, Friday) 1920

(The last two days of the Ottawa Exhibition)

Canadians, Britishers, Americans, Jews—everybody—likes to make purchases that are "worth the money." You can always make this sort of purchases at Ottawa. It has been so each year in the past, and this year we are again offering a quality lot of cattle. Among them are some of the "very best" we have in Eastern and Central Ontario. The offering includes four thirty-pound cows; over a score between 20 and 29 lbs., and a lot of choice young cows and heifers from good record dams, and got by great sires. We guarantee the cattle and guarantee no reserve.

One hundred and twenty head. Two great days. Everybody come.

FOR CATALOGUES ADDRESS

W. R. CUMMINGS, Sec., Cummings' Bridge, Ont.
COL. L. D. PERRY, Auctioneer S. T. WOOD (In the Box)

HIGHLAND LAKE HOLSTEINS

I have at present thirty-five young bulls, all under 13 months, and nearly all sired by May Echo Champion—full brother to May Echo Sylvia. Also have a few young calves by my junior herd sire whose two nearest dams 7 day milk records average higher than those of any other bull of the breed.

R. W. E. BURNABY (Take Electric Cars from North Toronto) Jefferson, Ontario

HOLSTEIN BULLS FROM 30-lb. DAMS

If you want 30-lb. bulls—good individuals—and priced right—you should see my present offering. I also have lower priced bulls, and am offering females bred to Ormsby Jane Burke. Correspondence solicited.

R. M. HOLBY, Manchester G.T.R., Myrtle C.P.R., PORT PERRY, ONT.

Cloverlea Dairy Farms—Herd headed by King Pontiac Rauwerd, who combines the blood of Canada's greatest sires and dams. His offspring are a choice lot. We have stock for sale, both male and female, 75 head to choose from. Consult us before buying elsewhere. Could book a few more cows for service to "King."
GRIESBACH BROS., L.-D. 'phone, Collingwood, Ont.

Manor Farm Holsteins

AT OTTAWA

SEPTEMBER 16-17, 1920

We are sending to the Ottawa sale a number of our very best young cows. These are cows that should in nearly every case increase their present records, and practically all are bred to our senior sire, King Korndyke Lulu Keyes. We predict a great future for this sire. He is a son of the great 36-lb. show cow Lulu Keyes, and his first heifers are now just coming into milk. There is also a 5-months son of this sire selling which is from a 24.37-lb. 6-year-old cow that is also listed. Refer also to the pedigree of the 12-months son of Keyes Summerville which is sired by a son of the \$12,750 Het Loo Pietertje.

Look up this consignment the first day of the sale

Gordon S. Gooderham

Manor Farm - CLARKSON, ONT.

"Premier" Holstein Bulls ready for service—I have several young bulls from dams with 7-day records up to 32.66 lbs. of butter, 755.9 lbs. of milk, with 110 lbs. of milk in one day—over 3,000 lbs. in 30 days. All are sired by present herd sire, which is a brother to May Echo Sylvia. Step lively if you want these calves.

H. H. BAILEY, Oak Park Farm, Paris, Ont.

Sylvius Walker Raymondale is the sire of the majority of our young bulls now listed. If you see these calves you will appreciate them. Their dams are mostly daughters of King Segis Pontiac Duplicate. Don't delay if you want a good bull at a right price. We are also offering females.

R. W. WALKER & SONS, Port Perry, Ont.

Elderslie Holstein-Friesians—Am all sold out of heifers, just have three bull calves left, from four to six months old. They are sired by Judge Hengerveld De Kol 8th, a 32.92-lb. bull. The dam of one is a 20.225-lb. cow. Write for prices and come and see them.

ARCHIE MUIR, Elderslie Farm, Scarborough P.O., Ont.

WALNUT GROVE HOLSTEINS

I am offering a choice lot of bull calves sired by May Echo Champion, who is a full brother of world's champion, May Echo Sylvia; also a few cows just fresh.

(Take Radial Car from Toronto to Thornhill). C. R. JAMES, Richmond Hill, R.R. No. 1, Ont.

a private venture of the late Principal McCall. Its head now is Professor Gaiger, F. R. C. V. S., who has won renown in the field of original research both in Africa and in the West Indies. A grant of £6,000 has been made to this Glasgow College for work in connection with research into animal diseases. Professor Gaiger is an enthusiast and under his leadership, with something like adequate funds at his disposal, it is hoped to make real progress in solving some problems in connection with sheep diseases. These diseases are calculated to entail a loss to the country at large of many thousands annually. The necessity for a forward movement in this respect is not open to challenge.

Agriculture shows are in full swing. We seem to have got back to pre-war conditions so far as they are concerned. Many things could better be done without; at the same time a larger number of desirable things could be welcomed. The H. & A. S. Show was held this year in Aberdeen. It was an unqualified success although these terms do not apply uniformly to all departments. A significant fact was the increasing interest taken in the implements and engineering yard. For the first time in the history of the show, the implement catalogues were all sold out by mid-day on the second day of the event. The stock exhibited in almost every section was of unusually high merit. Numbers were disappointing in the Shorthorn section in view of the fact that the show was held in Aberdeen but as a matter of fact the leading breeders in that county and indeed in the North generally have such a keen demand for their produce that they do not need to advertise. The supreme champion of the Shorthorn section was, however, an Aberdeen-bred, two-year-old bull, Inschfield Clipper King, bred by G. A. Bruce, Insch, and owned by Albert James Marshall, Bridgebank, Stranraer. This is a beautiful roan, very short-legged, of the true Scottish type. He won all the champion honors and was sold for a very high price to Casares, for exportation to the Argentine. His sire was Vulean of Naemoor. Among exhibitors A. J. Marshall had phenomenal success; he was first in three classes and in the third for yearling bulls he had first, second and third prizes. His first-prize winners were the breed champion already named, the roan three-year-old Pelfipar Iris, champion at Belfast and Dublin, and his three winning yearlings were, respectively, Rothes King 4th, Gainford

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quality lot of cattle.
Central Ontario. The
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Everybody come.

Bridge, Ont.
OD (In the Box)

OLSTEINS

13 months, and
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DAMS

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PORT PERRY, ONT.

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Better Bull Bulletin
No 7
Ontario Cattle Breeders' Association
Toronto, Canada

The Story of
Two Calves

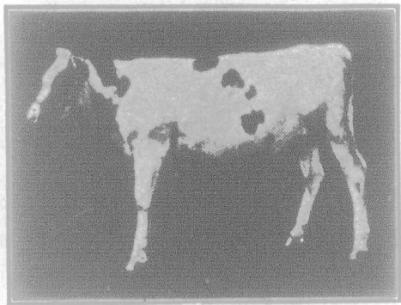
These two calves are owned by the same man.

They were born the same week.

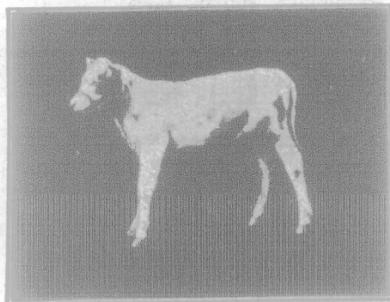
Their mothers were both pure bred Holsteins of good quality. The mother of No. 2 calf was decidedly the better cow of the two.

No. 1 calf was sired by a pure bred Holstein bull of good quality. No. 2 calf was sired by a grade bull.

How much did this man lose through that grade bull getting into his field?



Calf No. 1



Calf No. 2



Use Better Bulls

Nonsuch, and Nonpareil Duke. This is a remarkable record. Another noted feature was the fact that the first-prize old bull and the first-prize youngest bull, that is in the class calved on or after April 20, 1919, were both bred in Ireland, the former in County Londonderry, and the latter County Antrim. No such clean sweep was made by any exhibitor in the female classes and we scarcely think that section was as strong as the bulls. In the Aberdeen-Angus section the overhead breed champion was last year's champion, Etrurian of Bleaton, owned by C. T. Scott, Buckland Manor, Broadway, Worcestershire. The most successful exhibitor of bulls apart from the champion was P. D. Robertson, Castle Craig, Nigg, Ross-shire, who had first in two classes, namely, the two-year-olds, and the three-year-olds. The winners were Proud Eric of Aberlour, and Everest of Bleaton. This last was bred by J. McL. Marshall, Bleaton, Blairgowrie, who also bred the supreme champion, James Kennedy, of Doonholm, Ayr, had two first prizes with females and secured the Ballindalloch Challenge Cup with his cow Mendoza. In the Galloway section, Tarbreoch stock maintained their ascendancy. J. Cunningham secured the championship honors with his well known bull, Sapphire 12268. The female champion was Dorothy of Castlemilk 24676, which also won first at the Royal. Highlanders were, unfortunately, rather disappointing alike in numbers and in merit. At the same time one is glad to hear that the prospects of this breed in respect of foreign demand are improving. They are the most picturesque of British cattle. The most successful exhibitor of Ayrshires was Mrs. Honison-Crawford, Dunlop House, Dunlop. She secured the supreme honors with her well-known high-priced bull, Howie's Hot Stuff. This bull, in fact, swept everything before him. An outstanding feature of the show was the remarkable display of British-Friesian cattle. This breed has

We Have a Few
Bulls and Bull Calves

FOR SALE

One, Mary's Penobscot King, 183443A, son of Plain Mary—268206A, World's Champion Jersey Cow: one sired by Plain Mary's Pogis—158896A (the other son of Plain Mary 268206A), dam's dam half-sister of Plain Mary, also a double grandson of Pogis 99th of Hood Farm—94502A, perhaps the world's greatest dairy sire. Dam of this bull has just completed a Canadian Record of Performance record of 603 lbs. of butter fat, and also a few bulls from Canadian Record of Performance cows. Also a few cows and heifers.

F. G. GALE

Waterville

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At Toronto Exhibition, 1919, we won twenty-five of twenty-seven first prizes. We now have for sale first-prize young bulls from R. O. P. dams, as well as females of all ages.

B. H. BULL & SONS

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Brampton, Ontario

Laurentian Producing Jerseys—The oldest bull we have at present is a year-old youngster, sired by our herd sire, Broadview Bright Villa, No. 5630, and from Brampton Astoria, one of the best imported cows in the herd. We also have others younger of similar breeding, as well as a few bred heifers for sale. FREDERICK C. TODD, Owner, 801 New Birks Bldg., Montreal, P.Q. Farm at Morin Heights. F. J. WATSON, Manager.

DON HERD OF PRODUCING JERSEYS

We have three young bulls of serviceable age—good individuals and priced right. Could also spare a few choice bred heifers. Visitors welcome.

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It is the feed as much as the breed that puts extra money in the milk pail and makes your cattle register weight on the scales. Maple Leaf Oil Cake Meal makes your cows, calves, hogs and sheep fat, heavy and strong. It is absolutely pure; no adulterations. If your dealer does not keep it, write us direct. Put up in 100-lb. bags, and shipped in ton and half-ton lots. Orders can be filled promptly.

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All Bulls of Serviceable Age Sold

A few young bulls sired by Financial Raleigh King, son of the \$6,000.00 Financial Beauty King, for sale, from R.O.P. dams.

JAS. BAGG & SONS (Woodbridge, C.P.R.; Concord, G.T.R.) EDGELEY, ONTARIO

certainly come to stay. Its interests are being handled with consummate skill and its patrons are not afraid to pay high prices. The champion of the breed was Adam Smith's yearling heifer from Lochlands, Larbert. Draft horses were a phenomenal show and an interesting fact is the exhibition of two Percherons by the Earl of Minto, Minto House, Hawick. These were both bred by George Lane, Alberta, Canada. The Percherons made a poor show in respect of weight and draft-horse character as against the Clydesdales. They were shown in the same class as there is no breed classification of draft horses at the Scottish National Show. Consequently the difference between the two breeds was very easily seen. As compared with the Clydesdales, the Percherons looked like useful heavy van horses. The most successful exhibitor of Clydesdale stallions was A. M. Montgomery, of Netherhall, Castle Douglas. He won first in three classes out of four, as well as the male championship. His champion was the first prize two-year-old Fyvie Sensation, a very handsome horse got by Hiawatha Again, and first this year at Ayr, Edinburgh, and the Highland. Mr. Montgomery was also first with the three-year-old Carry On, which last year was first and champion at the Royal, and the yearling Threave Seal which was first at Edinburgh. This is a very interesting colt. He was got by the unbeaten champion stallion Baron's Seal, perhaps the best Clydesdale stallion alive to-day. The first-prize aged horse was James Kilpatrick's Craigie Masterstroke. It is notable that Mr. Kilpatrick has been first this year with aged stallions at the Glasgow Stallion Show, the Royal, and the Highland. The champion mare of the show was the first-prize brood mare Veda, owned by F. L. Wallace, Balcairn, Old Meldrum, the famous breeder of Shorthorns; and the reserve was Mr. Kilpatrick's Craigie Sundry. The unbeaten two-year-old filly

The Gamest of all Game Birds

Partridge in the east, willow grouse in the west—but correctly known as the ruffed grouse—this bird is found throughout the breadth of Canada. Three or four sub-species are found in various parts of the country—the Canada ruffed grouse in the east and Manitoba, as well as in the thickly-wooded sections of Keewatin and British Columbia, the grey ruffed grouse in the drier wooded portions of the interior and the Oregon ruffed or willow grouse of the Pacific coast.

The ruffed grouse has many enemies—feathered, furred and human—yet it survives and is one of Canada's most splendid offerings to the sportsman. Grouse should always be shot on the wing and their wariness and cunning make it necessary to select ammunition that is fast and patterns well.



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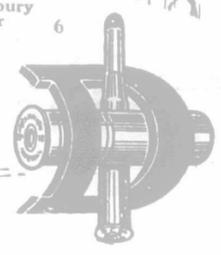
with No. 6 or 7 shot, in all gauges, are considered by many sportsmen the best loads for grouse. Canuck, Regal and Sovereign Shells are dependable under all conditions, water-proofed, steel reinforced and positive as to pattern.

Many sportsmen prefer the .22 rifle for grouse when the cover is thick. In such cases Dominion 22's—short, long or long rifle, smokeless or "lesmok"—are undoubtedly the best. Look for the "D" on all boxes.

Our new game book, "The Call of Canada," with illustrations of Canadian game birds and animals reproduced in full colors, contains valuable information that will interest you. Every sportsman should have a copy of this beautiful book in his library.

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Choice breeding ewes, ram and ewe lambs.

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RAPLA STOCK FARM COTSWOLDS

Yearling rams for flock headers. Yearling ewes and breeding ewes in car lots.

Chas. J. Shore, - Glanworth, Ont.

Oxford Downs—This season I am making a special offering of ram lambs; also my three-year-old stock ram. Prices reasonable. For particular write: Archie Campbell, R.R. No. 1, Newbury, Ont.

Oxford Down Sheep—Shearling rams and ram lambs—big, well-woolled heavy bodied fellows; very desirable for flock headers; also ewe lambs, shearling and two-shear ewes; all bred on the farm. Order early. JOHN M. ROSS, Embro, Ont. Oxford Co.

Cotswolds and Yorkshires—Special Offering: Bacon type sows and boars for sale. Orders taken for fall delivery of Ram Lambs. Write us. R. HONEY & SONS, - Dartford, Ontario

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Green Grove Oxfords—Our Oxfords have been bred from show stock for generations and used for show purposes. The sire of this year's lambs was sold for a large price to University of B. C. A choice lot of ewes and lambs for sale. GEO. D. FLETCHER, L. D. Phone and Station, Erin. R. R. 1, ERIN, ONT.

Oxford Down Sheep, Pioneer Flock—We are offering this season an up-to-date lot of shear ram and a number of yearling and two-shear ewes; also imported two-shear ram and a number of yearling and two-shear ewes; also ram and ewe lambs. H. ARKELL, 207 Sherman South, Hamilton, Ont. Phone Garfield, 3172 W. Shipping Station—Corwin.

of the year, James Gray's Peace, by Botha, was awarded the William Taylor Memorial Prize. The first-prize yearling filly, Perfect Lady, was reported sold for £1,700. Other horse classes were rather disappointing, but there was a magnificent show of Clydesdale geldings. The sheep classes were remarkably well filled, perhaps the most outstanding animal being the champion Border Leicester, Dauntless 600, the two-shear for which his owner Wm. Ross, Milton of Culloden, Inverness, paid £600 at the Kelso Ram sales last year. This is perhaps the most remarkable sheep of his breed ever exhibited. In respect of size and scale his match has never been seen in the show-yard.

SCOTLAND YET.

Celery Growing in Miniature.

EDITOR "THE FARMER'S ADVOCATE":

The growing of enough celery for your family is an easy matter. Sow the seed early; thin the plants just as soon as they begin to crowd, always discarding the weakest seedlings. It is a good thing to transplant the seedlings at least once before they are set in the permanent bed, which should be done early in July. You'll get larger stalks by transplanting. Cultivate the plants often till you place them in the permanent bed.

The celery I like best is the large-ribbed Kalamazoo commonly known as the Dwarf white solid. The stalks are thick, short and meaty of pure white color and rich nutty flavor. Be sure to grow your celery rapidly; anything that gives them a set back is a hindrance, and produces pithiness and hollow-stalk, which is due to an inequality of growth of the tissues of the plants.

Early in July we set the plants in the permanent bed which is a box (2 x 4ft.) and 8 inches high. This is the size of the frame for it is bottomless. This frame is set some place in the garden on top of the soil, in good rich ground. This year I have 75 celery plants in that space. They require no cultivation and blanch as they grow. At this writing (August 3rd) they are 10 inches high and the stalks below the thrifty green heads of foliage are a creamy color. And when the plants are grown they will be wholly blanched. The foliage keep all moist in the frame and there is no danger of the stalks rusting.

F. M. CHRISTIANSON.

Welland County, Ontario.

Flies.

EDITOR "THE FARMER'S ADVOCATE":

Fly time is certainly here in earnest. And that means that every child, woman and man must be enlisted to combat this deadliest pest. Go after every fly you see meandering about. It is looking out for a nest in which to rear its progeny.

There isn't a filthier creature than the fly and yet it is more closely connected with humanity than any other.

When we know that of all the babies born in America one out of every five dies before it is a year old it should make us sit up and take notice. There are no more exquisite tormentors of young animals than flies and mosquitoes and flies are the deadliest foe a baby has.

Flies carry the contamination of all the communicable diseases such as malaria, consumption, infantile diarrhoea, through the pollution of foods.

There are many fly preventives, but we need to go farther and prevent the first fly and in this way prevent future ravages. A single fly will lay 1,000 eggs. In eight hours they are small maggots, and in ten days full grown, busy flies. A premium should be given to persons who will hurt flies. Start a swat-crusade and encourage your youngsters and the grown-ups with which you have to do to kill flies.

Do away with all refuse about your place. Clean up all manure piles, privies etc., and bury your garbage if there is no other way to be rid of it. And keep fly catches busy.

There is a new means to kill flies by means of a powder which may be blown into the air in a room infected with flies and the room kept closed for a short time and the flies will be killed. The powder is not a poison to animals, and that of course, includes man.

F. M. CHRISTIANSON.

Welland County, Ont.

Questions and Answers.
Miscellaneous.

Automobile Guide Book.

Where can I secure an automobile guide book or map with the roads of the Province marked on it? H. W.

Ans.—These may be secured at practically every bookstore.

Weights of Vegetables.

What are the official weights of beets, carrots, parsnips and turnips?

Ans.—Beets, carrots and turnips are 50 lbs. to the bushel and parsnips 45 lbs. to the bushel.

Costs of Obtaining Administration

What should it cost to have papers of administration for an estate of twelve (1200) hundred dollars in victory bonds and one (\$100) hundred dollars in the bank, husband and one child being only next of kin?

Ontario W. M.
Ans.—About \$40.

Black Currants do not Bear.

My black currant bushes grow a good deal of wood but do not produce fruit. What is the trouble? A. S.

Ans. The key to the problem is probably that the bushes seem to grow all to wood. More moderate pruning and a modification of cultural treatment, so as to produce less wood growth, should give results. J. W. C.

Unsatisfactory Hired Man.

On the seventh of April I hired a man for seven months and was to pay him three hundred dollars and feed his horse hay. At first he was very good but after about two weeks he wouldn't do enough to hardly pay for his board. He would lose one or possibly two or three days at a time without even telling me he was going to do so, and they were always when I had some hard job to do. Finally I told him that if he intended to continue losing time that he had better quit work altogether which he did. I have paid him about one hundred dollars and still owe him about fifty dollars. Am I compelled to pay him this remaining \$50 since I now can't get a man for less than seventy-five dollars or more a month, not counting all the inconveniences and time I have lost looking for a man?

Ontario B. M.
Ans.—You are legally liable to pay him at the rate provided by the agreement, but only for the time he actually worked.

Dissatisfied Tenant.

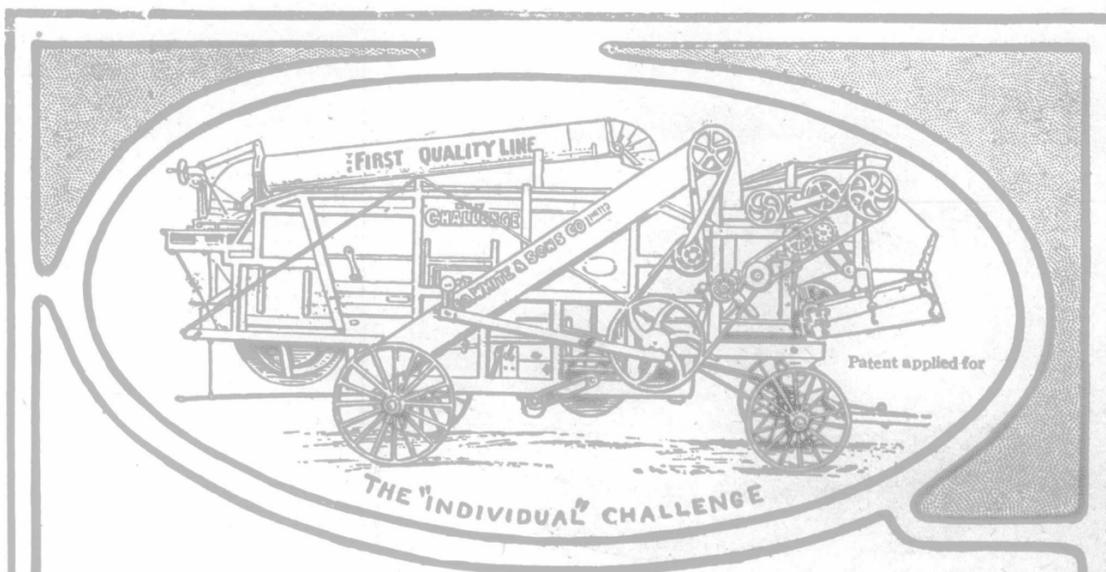
I would like your advice on the matter of leasing a farm. The lease was drawn up March first by a notary public on "The short form of leases act," which says the lessee is to have and to hold the said demised premises for and during the term of five years, to be computed from first day of March, 1920, and from thenceforth next ensuing and fully to be complete and ended. The spring was favorable and the lessee was greatly taken up with farm until the wet weather set in, which retarded growth of crops, although they are growing nicely again, but yesterday his wife told me I could look for another man next year, as they couldn't make enough here to pay. I furnished the land, and all stock, implements and harness, also pay taxes. When we first talked the matter over I said I couldn't afford to put a second house on farm, as my little boy and I occupy the one here, so he sold his lot and moved his house on our farm to live in during the term of lease.

1. Can he throw up farm at end of first year? I have incurred a good deal of expense, re-stocking farm with sheep, cattle, horses and machinery. I give half of wool, half of all increase and pay for half of feed bought (if necessary to buy), and in return get half of crop raised. I feel that I have done fairly by him, and in return expect him to act fair.

2. If he persists in giving it up at end of first year, what steps could I take, as I am a widow and depend on this for a home? A. S.

Ans.—1. No.

2. He would render himself liable to an action for damages for breach of covenants on his part contained in the lease, and you would be entitled to proceed accordingly; but it would probably be better for you to make some suitable settlement with him than to litigate the matter.



You, the Owner of a Gas Tractor

Do you realize that you are paying for the use of somebody else's tractor to do your threshing every year while your own is standing idle? You can pay for a thresher of your own in a year or two with the money you save in threshing bills and the money you make by threshing for the neighbors. After that you will be making a clear profit. More than that, you can do your threshing when you are ready and when the grain is ready. You know how much you lose sometimes by letting the grain stand in the stook. Buy an Individual White No. 3 Challenge Thresher and save all this waste.

This machine is made to be run by gas tractors, an 8-16 or a 10-20 tractor will run it with power to spare. This is largely due to the fact that there is not a crank shaft in the whole machine and undue friction is done away with. It is a light, compact machine with a 20-inch cylinder and a 36-inch body, but has a big capacity.

The deck is in three sections, each section working up and down in conjunction with a set of bumpers which toss the straw clear to the top and increase its velocity as it travels through the machine. This provides perfect separation.

This machine is of entirely new construction and has been tried out for three consecutive years in the hardest possible manner. Like all White machines it is built with great over-strength in every part and is a valuable addition to "The First Quality Line."

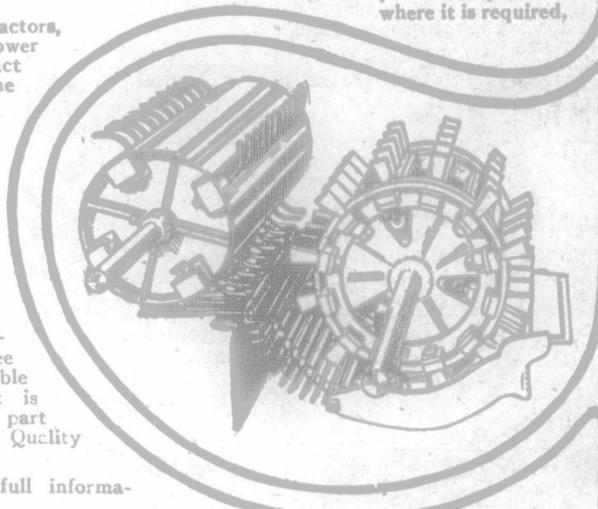
Write for descriptive catalogue and full information.

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"THE FIRST QUALITY LINE"

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Berkshires—Boars ready for service and boar pigs, rich in the blood of Lord Premier's Successor 181500, Grand Champion, 1914, Champion sire of 1915, 1916, 1917. His descendants have won Grand Champion honors at the largest and strongest shows of 1919. The Champion Berkshire barrows of 1918 International were double grandsons of Lord Premier's Successor. We have shipped many Berkshires to Canada with satisfaction to customers. Prices on request.
HOOD FARM, INC., Lowell, Mass.

BERKSHIRES—My Berkshires for many years have won the leading prizes at Toronto, London and Guelph. Highcleres and Sallys the best strain of the breed, both sexes, any age.
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Shakespeare Station, G.T.R.

ELMHURST LARGE ENGLISH BERKSHIRES
From our recent importation of sows, together with the stock boar, Sudden Torredor, we can supply select breeding stock, all ages. Satisfaction and safe delivery guaranteed.
H. M. VANDERLIP, Breeder and Importer, R. R. 1, BRANTFORD, ONTARIO
Langford Station on Brantford and Hamilton Radial.

BERKSHIRES
Choice young stock for sale, all ages. English, Canadian and American strains.
Can supply pairs not akin.
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Chester Whites—Choice young pigs, both sexes, sired by Qauwa Colaway Edd. (imported) No. 19831. Also a few gilts bred to same boar.
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BIG TYPE
Chester Whites
Cleaned up at Toronto and London, 1919. See our 1,000-lb. boar and 800-lb. sows.
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Young sows, bred for June and July farrow, and boars for sale. Write or phone.
JOHN W. TODD, - Corinth, Ontario

YORKSHIRES

Pigs of different ages, both sexes, from large litters.
WELDWOOD FARM
Farmer's Advocate, London, Ontario

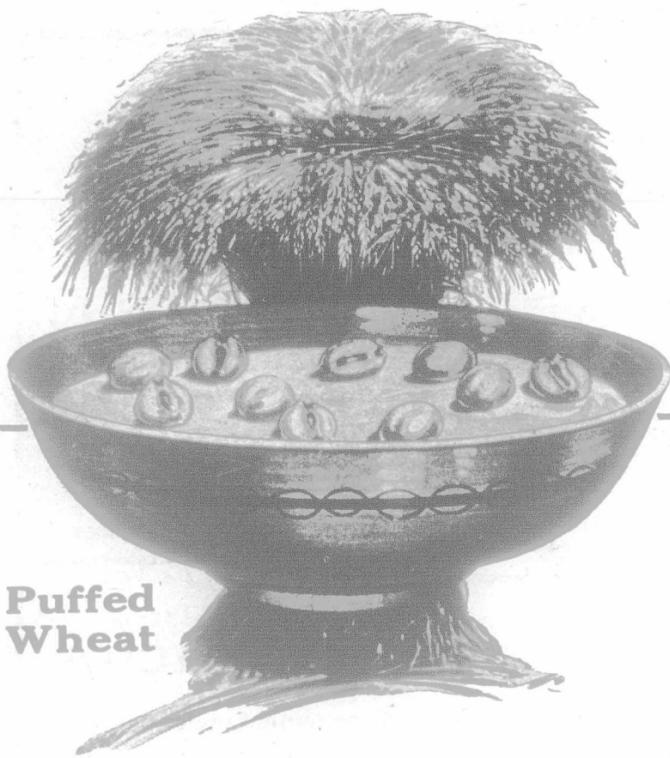
Inverugie Tamworths
Young sows, bred for September and October farrow. Choice boars of all ages.
LESLIE HADDEN, Box 264, Sunderland, Ont.

Meadow Brook Registered Yorkshires—Ten choice young boars fit for service, from prizewinning stock. Prices reasonable for quick sale.
C. W. MINERS, R.R. No. 3, Exeter, Ontario

Shropshire Yearling Ewes bred to Bibby's 84 (imp.), ram and ewe lambs sired by him. Two Shorthorn bulls. Two Clydesdale stallions.
W. H. PUGH, Myrtle Station, Ont.

Lakeview Yorkshires
If you want brood sows of any age, stock boars of any age, or young pigs, write me. All bred from prize-winners for generations back.
JOHN DUCK, - Port Credit, Ont.

Please mention Advocate.

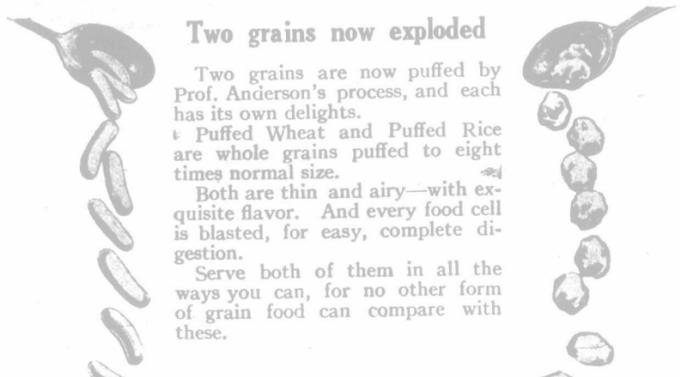


Puffed Wheat

More Bubble Grains
Millions of dishes coming

Direct from the harvest fields we get the choicest wheat that grows. Then we seal the grains in guns, apply a fearful heat and explode them. They come out as bubble grains, flimsy and flaky—puffed to eight times normal size. Yet the grains remain shaped as they grew.
Every night of the coming year millions of children will enjoy this Puffed Wheat in their bowls of milk.

Two grains now exploded



Two grains are now puffed by Prof. Anderson's process, and each has its own delights.
Puffed Wheat and Puffed Rice are whole grains puffed to eight times normal size.
Both are thin and airy—with exquisite flavor. And every food cell is blasted, for easy, complete digestion.
Serve both of them in all the ways you can, for no other form of grain food can compare with these.



Morning delights
The finest cereal dainties ever served with cream and sugar.



Blend with berries
They add what flaky crust adds to a shortcake or to pie.

Puffed Wheat Puffed Rice
Whole Grains Puffed to Bubbles
8 Times Normal Size



Between-meal confections

Crisp and lightly douse with melted butter for hungry children after school. Let them eat the grain bubbles like peanuts or popcorn. Puffed Grains do not tax digestion.

The Quaker Oats Company

Peterborough, Canada Sole Makers Saskatoon, Canada

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Our School Department.

Insect Studies.

THE POTATO BEETLE—THE HOUSE FLY—THE HESSIAN FLY.
BY GEO. W. HOFFERD, M. A.

The summer vacation is over. School has opened. Many interesting groups of boys and girls have gathered to greet the new teachers with a smile, mingled with an expression of wonderment. Other groups, with joyous hearts, greet their good friend, the teacher, who has returned with renewed vigor and sympathy. The spirit of co-operation is mutual. The work in agriculture begins as a vital part of the school program.

The study of a few insect pests during this month is most profitable. The boys and girls have been observing some of the habits of these during their vacation days. Indeed, most of them have been assisting in the destruction of the house fly and the potato beetle. And not a little have they heard, in some districts, about the injury the Hessian fly did to the wheat crop this year. Perhaps the interested teacher will find that these young agriculturists learned just enough about insect pests to want to learn more.

HINTS ON PROCEDURE.

A. As a preliminary give the pupils a little exercise for seat work, or, better still, as home work, such as:

1. Make a list of five or six insects which fly or crawl about and attack man or his garden and field crops. Mark each in the list with a cross, which you have seen doing harm.
2. Describe the harm each of these insects were doing.
3. What have you seen done to protect man and plants from these greedy feeders?

A little exercise like this will likely come to the ears of the parents in some cases, and arouse a little interest and co-operation. The first lesson in the class can now be a recitation, or report, and discussion of the little home exercise.

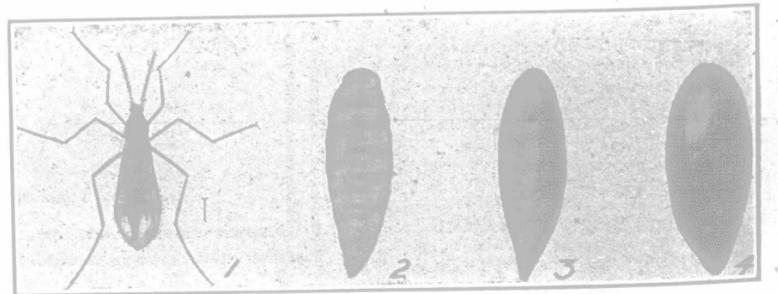
Now the class is ready to appreciate a general study of life histories. To this end secure a few green stalks of potatoes bearing the egg, larva, and

these insects? Discuss what would happen if their numbers were not kept down. The common remedies for the potato beetle are Paris green or arsenate of lead combined with Bordeaux mixture. How is this put on? How many times have you sprayed your potatoes this year? Spraying should be done as soon as any larvæ are hatched, then again in three or four weeks, and then again at intervals of a fortnight if necessary. This persistence will keep down the third, or September brood, which can now be found flying and crawling about in search for winter quarters.

Pupils will be interested in describing home devices used for keeping down the number of flies. Whatever you do see to it that the class-room does not become filled with flies. Carelessness about school lunches attracts them, and too often open doors and unscreened windows bid them welcome. What a shame to have pupils brushing away flies all day long, and to have these pests clean their dirty, germ-covered legs and feet on lunches as they are being eaten. See that this does not happen in your school during these weeks. This is practical hygiene.

B. Make a special effort to give at least one clean-cut lesson on the *Hessian Fly*. In the Farm Department of this issue, and in that of August 12, you can find some valuable information regarding this serious insect pest. Having studied two or more such common insects as the potato beetle and the house fly, considerable can be taught about the life history, injuries and control of the Hessian fly. The seriousness of this pest should make it a live topic in rural communities. Teaching about it in school will stimulate interest.

The accompanying figure shows the life history stages enlarged. To get specimens of these stages for the lesson would be ideal, but nigh impossible in most cases. If you searched wheat stems beneath the leaf at the lowest joint of fallen stems until you found little brown cases which look much like flax seeds, then you have seen the pupa or resting stage of this insect. You may yet be able to find a few in wheat stubble. During these early September days the flax-seed-like pupæ are changing into dusky little slender two-winged flies which resemble a mosquito, but only about one-quarter as large.



The Hessian Fly.

1, adult; 2, mature larva; 3, pupa or "flaxseed"; 4, seed of cultivated flax.

adult stages of the potato beetle. The third brood comes out in September, so it is usually not very difficult to get the three stages. Have a good picture diagram of the stages in the life history of the house fly and study the life history of these two insects by comparison. Their likenesses and differences in detail will not appeal much to the young pupil but his eye should show a sign of interest when it has been made clear to him that, both these pests have a similar life history, viz. the egg, the larva, the pupa, and the adult stages.

Which stage of the potato beetle does the most harm to the plant? What can the adults do which the larvæ cannot? Which stage of the house fly does the most harm? How does it do harm.

Observant and well-taught pupils should be able to answer such review questions during this lesson.

Extermination.—Is it necessary for us to plan ways and means of destroying

LESSON OUTLINE.

1. Have a brief discussion on the Hessian fly outbreak in spring and winter wheat crops this year.
2. Tell the story of its introduction and spread in North America. Use a map.
3. Its lifecycle, egg, larva or maggot, pupa or "flaxseed," and adult stages. Two broods, a spring and a summer.
4. How it spreads.
5. Methods of control. Take up those easiest understood, and any which are practiced in the locality.

C. Follow these lessons by suitable note-book exercises. They should be simple truth-telling descriptions, and be a fair record of the chief points stressed in the teaching. Be definite in your directing; aid in spelling by good use of the black-board when teaching; insist on good penmanship; rarely ever dictate notes.

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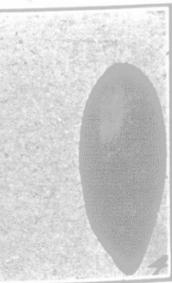
Discuss what would
beers were not kept
remedies for the
is green or arsenate
in Bordeaux mixture.
How many times
or potatoes this year?
one as soon as any
en again in three
en again at intervals
necessary. This per-
down the third, or
which can now be
crawling about in
quarters.

Interested in describing
or keeping down the
whatever you do see
room does not be-

Carelessness about
acts them, and too
unscreened windows
What a shame to
y away flies all day
ese pests clean their
legs and feet on
e being eaten. See
appen in your school
. This is practical

ial effort to give at-
esson on the Hessian
Department of this
August 12, you can
information regarding
est. Having studied
ommon insects as the
the house fly, con-
ught about the life
ontrol of the Hessian
s of this pest should
in rural communities.
school will stimulate

g figure shows the
enlarged. To get
stages for the lesson
igh impossible
ou searched wheat
leaf at the lowest
ns until you found
which look much
n you have seen the
stage of this insect.
ble to find a few in
During these early
flax-seed-like pupae
dusky little slender
ich resemble a mos-
out one-quarter as



ultivated flax.

OUTLINE.

ef discussion on the
reak in spring and
this year.

y of its introduction
rth America. Use a

egg, larva or maggot,
and adult stages.
ing and a summer.
ds.

ontrol. Take up
stood, and any which
e locality.

e lessons by suitable
s. They should be
g descriptions, and
e chief points stressed
Be definite in your
pelling by good use
l when teaching; in-
manship; rarely ever

On the Insulator
look for



It is your guarantee of efficient, satisfactory and economical spark plug service.

It is the selection of over 300 manufacturers of motor-cars, trucks, tractors and gasoline engines in Canada and the United States.

Could proof of service value be more conclusive?

Champion Dependable Spark Plugs, with our famous "3450" insulators and our patented copper asbestos gaskets, are a combination that insure perfect ignition and dependable service under the most adverse conditions.

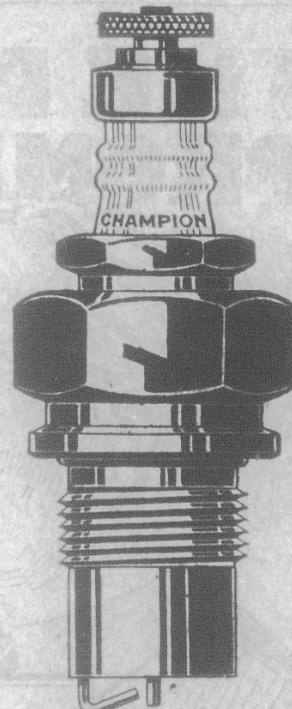
They withstand shock, vibration, expansion and hard usage to an unusual degree, in or out of your motor.

Be sure "Champion" is on the insulator of the plug that we have developed for your particular motor.

Any dealer in motor supplies can sell you the right type

Champion Spark Plug Co. of Canada, Limited
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Largest Factory in Canada making Spark Plugs exclusively

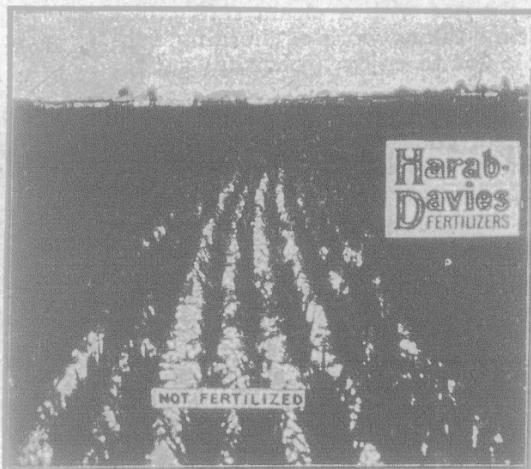


Champion AA-53
5/8-inch, 18 long
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For use in McLaughlin cars, tractors, trucks and stationary engines

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FALL WHEAT Fertilized and Unfertilized



THIS interesting photograph was taken May 27, 1920, on a wheat field near Vineland, Ont. The centre-portion shows one drill width which was not fertilized. The rest of the field was drilled with Harab-Davies Fertilizer when seeding. The contrast is startling. The unfertilized portion is practically 50% winter killed, and what did live is much shorter and in every way inferior to the rest of the crop.

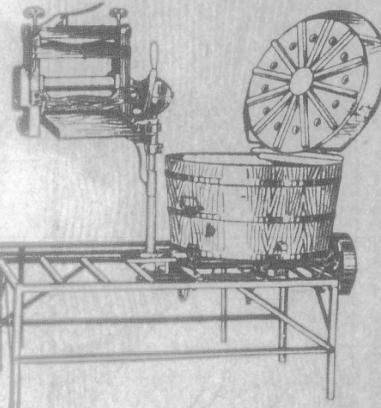
By applying Harab-Davies Fertilizer when sowing your Fall Wheat, and following it with a light top-dressing of the same in the spring, you can be absolutely sure of a crop that will satisfy you both as to quantity and quality.

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Agents wanted in some desirable territories.

Ontario Fertilizers Limited
Dept. L.F. WEST TORONTO, ONT.

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EVERY woman who has washing done in the house should have it done with a washing machine. Consider how tiring hand-washing is, how the back aches, the hands get big, red and sore, and no matter how much one rubs and scrubs and takes the skin off the knuckles, one never can do the washing as thoroughly as the wonderfully successful



LIBERTY WASHER

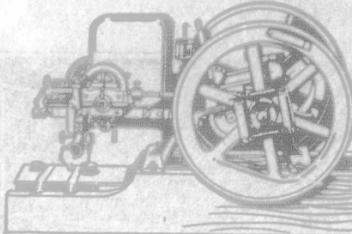
A Liberty Washer doesn't cost much. It would be cheap at twice the price.

Famous both in the United States and Canada for its effective service.

DOES NOT INJURE THE FINEST FABRICS

Washday is a holiday when the Liberty comes in to do your washing. The cheapest High-Grade Guaranteed Washer—and the best at any price. Selected White Cedar Tub, better than metal, can be lifted or tilted; cover is steam tight; will do anything any other washers can do and a few other things besides. Satisfaction guaranteed, or money refunded. Let us send you full particulars.

"Belt Drive" Style, to use with a Gasoline Engine, \$69.50.



THE LUNDY ENGINE

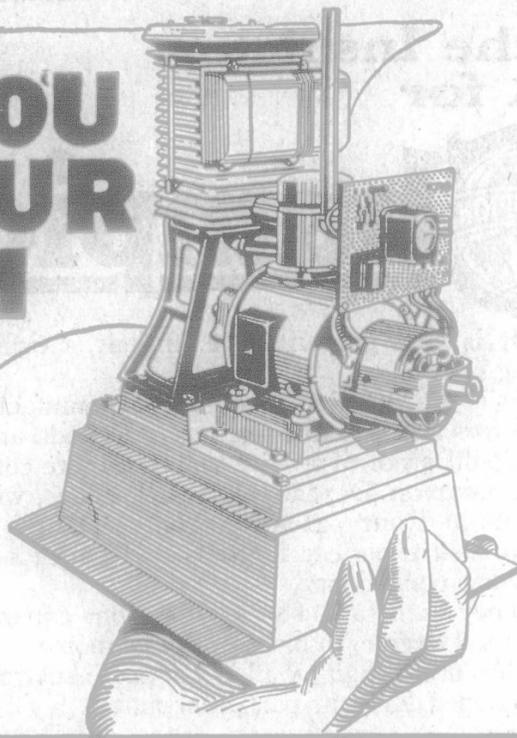
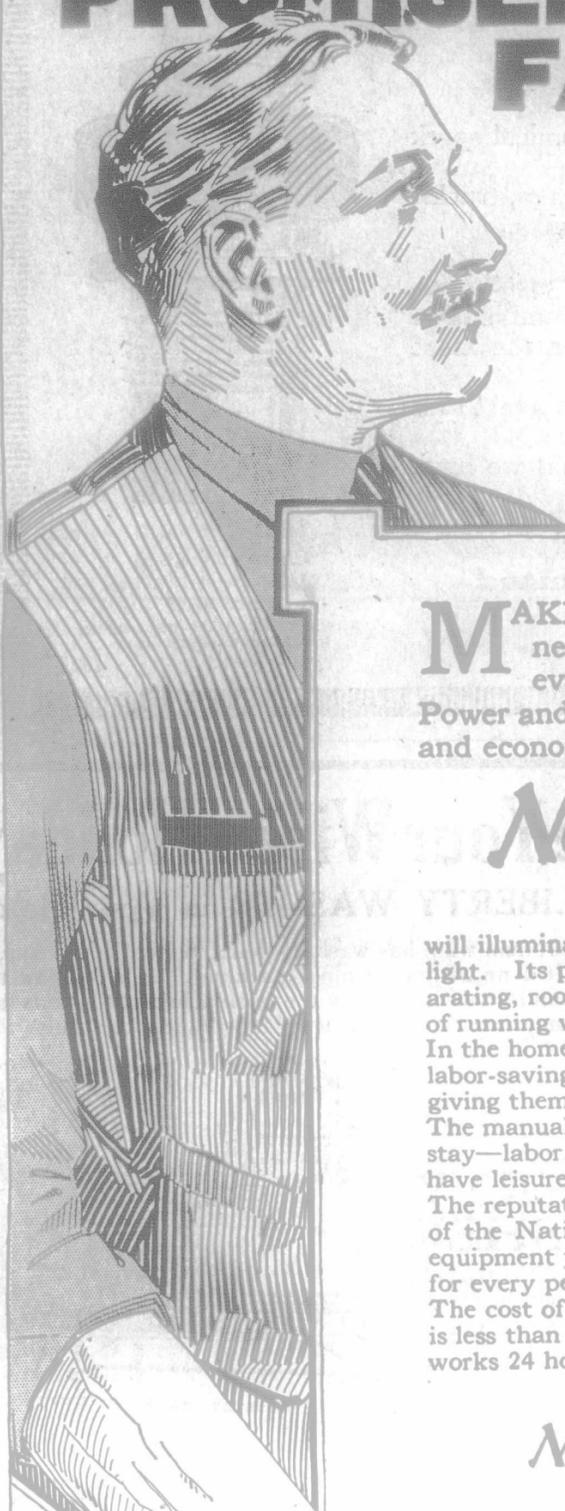
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h.-p. Full particulars about any size engine you want gladly sent on request.

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