The JOURNAL of AGRICULTURE

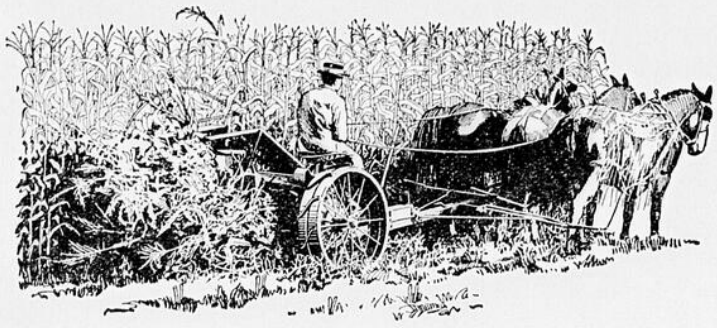
AND HORTICULTURE

Volume 31 *September 1st 1927* *Number 3*

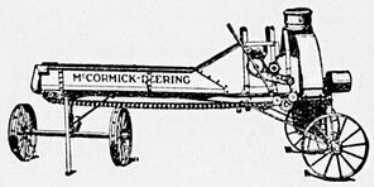


AN ENTICING LAURENTIAN ROADWAY.

PUBLISHED BY THE DEPARTMENT OF AGRICULTURE OF THE PROVINCE OF QUEBEC.



McCormick-Deering Ensilage Cutters —built in 5 sizes. Capacities, 3 to 25 tons of cut fodder an hour. All sizes have reliable safety devices, force feed, large throat, and heavy, large-capacity flywheels of boiler plate steel. Horsepower required ranges from 4 to 25 h.p.



Corn, Potatoes, or What Have You? Cut Your Harvesting Costs With McCORMICK-DEERING Equipment!

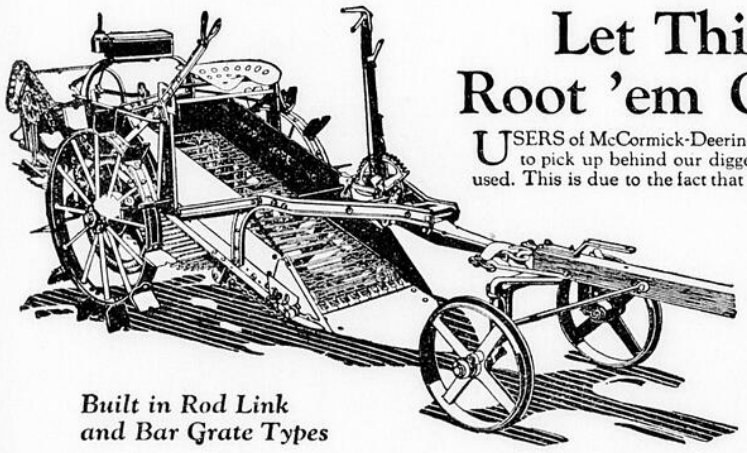
WHEN you go into the corn with a McCormick or Deering Corn Binder you are equipped to do the work of from 5 to 7 men with corn knives. And you sit in comfort while you are doing it. Instead of turning standing corn into loose, unwieldy stalks that are hard to load or shock, the corn binder bundles and ties the corn for fast handling without loss of labor or corn. This saves time at harvest and afterward.

If you feed silage you especially need the fast, sure work of a McCormick or Deering Corn Binder. With the Binder in the field and a McCormick-Deering Ensilage Cutter at the silo every stalk can be turned into the highest grade of silage at lowest cost, because the fast-working equipment handles the corn when it is at its best.

See the latest McCormick or Deering Corn Binder at the local agent's store. He will also show you the McCormick-Deering Ensilage Cutter in a size to suit your acreage.

For use in corn borer infested territories, McCormick and Deering Corn Binders can be equipped with a special low-cutting device.

INTERNATIONAL HARVESTER COMPANY
of Canada, Ltd.
HAMILTON CANADA

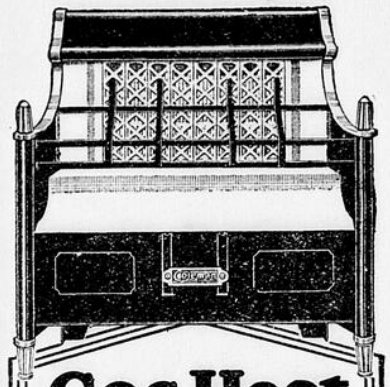


Built in Rod Link and Bar Grate Types

Let This Digger Root 'em Out for You

USERS of McCormick-Deering Potato Diggers tell us that it is easier to pick up behind our digger than any other digger they have ever used. This is due to the fact that the McCormick-Deering shakes all the soil free from the potatoes and deposits them on top of the ground in compact rows, making it easy to get them. This feature is a great time and labor saver, and makes friends everywhere.

The McCormick-Deering is designed to operate with light draft. This makes it possible to operate the digger at sufficient depth to make sure of getting all of the potatoes without overstraining the team or the machine.



Gas Heat Wherever You Live

Now, with the Coleman Radiant Heater you can enjoy all the conveniences of gas for heating, no matter how far your home is from gas mains. The Coleman makes and burns its own gas; it's a complete heating unit in itself—no piping, no wiring, no installation expense.

Just the thing for the cool days of fall and spring when it is too chilly to be comfortable and not cold enough to start the furnace or heating stove. Also fine for additional heat during severely cold spells of winter.

Radiates a penetrating fan-like zone of clean, live heat—like sunshine. Warms lower part of room first, always maintaining a steady even temperature. It's hotter than city gas. It's portable; use it anywhere.

Speedy action. Instant regulation. Double valve-control. Operates on the safety pressure principle like Coleman Quick-Lite Lamps and Lanterns. Uses any good grade of gasoline for fuel. Model 2 price $37.50.

Ask Your Dealer to show you the Coleman Radiant Heater. If he is not supplied, write us for full particulars. Address Dept. 82

The Coleman Lamp Co. Ltd.
Queen St. East & Davies Ave.
Toronto, 8, Ontario
(H-2)

Coleman
TRADE MARK REG.
Radiant Heater



SOUFFLERINE

A guaranteed cure for HORSE HEAVES, COLD, BROKEN WIND. Certificates in our hands prove the real merit of "SOUFFLERINE". Don't delay to learn about, write at once.

5 lb-box $4.80, 10 lb. $9.00
Sent by mail C. O. D.

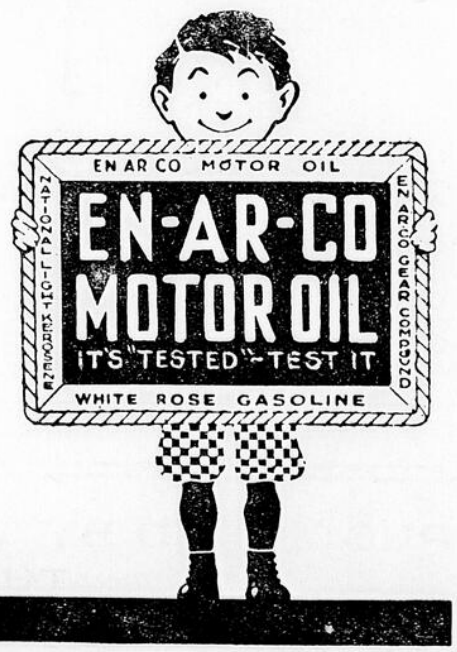
MAINLAPBERT, P. O. Box 1597, Montreal.



With these two You'll never lack A team to take you There and back

Wherever you see the boy and slate sign there you will find *White Rose Gasoline and *En-ar-co Motor Oil. *White Rose Gasoline costs more to buy but less to use because of its exceptional purity and uniform quality. *En-ar-co Motor Oil—the oil of a million tests—insures a smooth-running motor: we can't say more. Team up with this smooth-running pair.

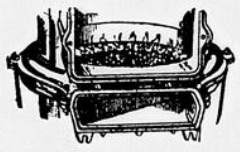
*Products of
CANADIAN OIL COMPANIES, LIMITED



Thousands of Homes
Now Heated this NEW WAY

McCLARY'S Furnacette has transformed thousands of cold, badly heated Canadian homes into homes of genial warmth and comfort—at 30 to 50 per cent. less cost than was formerly required to heat them by old-fashioned methods.

This remarkable performance is due to a new and revolutionary heating principle. Instead of radiating heat as a stove does, the Furnacette *circulates* heat. Moist, warm air goes all over the house, filling every corner and crevice. Result—a snug, healthful home that is never too hot or too cold, but always *just right.*

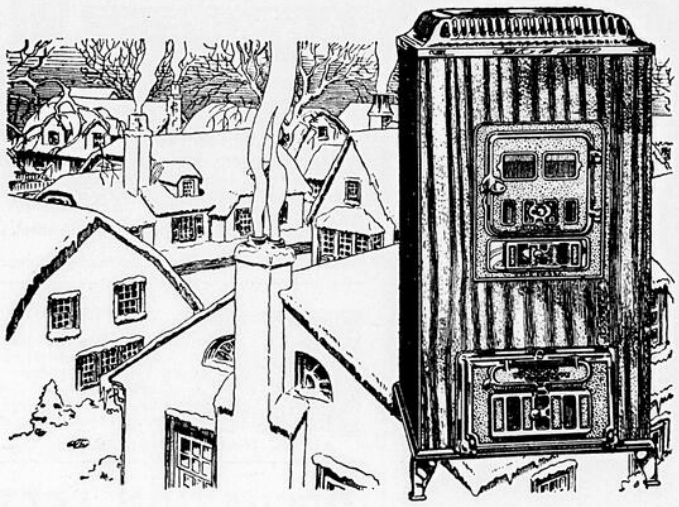


A constantly moving current of moist, warm air passes from McClary's Furnacette and circulates through every room. The exclusive Ventiblast ring permits the burning of soft coal as well as hard coal, coke or wood, giving utmost heat at minmum fuel consumption.

A Beautiful Cabinet

McClary's Furnacette requires no basement. You place it in your living or dining room as you would a fine piece of furniture. It's all steel, porcelain enameled finish is easy to clean. It creates no dust or soot. It lifts air in through openings at the bottom, heats and moistens it and circulates it evenly into every room.

Clip and mail attached coupon for complete information and Furnacette testimonials.



Mail this Coupon

THE McCLARY MFG. COMPANY
LONDON, CANADA

Send without obligation literature describing the Furnacette Cabinet Heater.

NAME.....

ADDRESS.....

McClary's Furnacette

603

A GOOD INVESTMENT

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"Something New 'most Every Day"

"A NEW little frock for Jane that she can wear to school tomorrow. A smart new dress for myself made complete in an afternoon—stitching, trimmings and all. New curtains and draperies for every window in the house. Something new 'most every day. I never dreamed I could do such things before."

No wonder women feel that they have made a discovery when they find what a modern Singer will do. It is so smooth, so quiet, so easy to operate, so swift in the completion of each task that sewing itself becomes a delightful pastime. And when you realize that it makes possible three lovely dresses at the usual cost of one, you know a Singer is never an expense, but the best investment a family ever made. Often it saves its cost in a single season—then goes on saving money through the years.

And whatever fashion may call for, a Singer is ready to do. Its perfect, even stitching, on sheer or heavy fabric, is a distinction in itself. But ruffling, shirring, tucking, plaiting—trimmings of every kind are as quickly done as simple seams, with Singer easy-to-use attachments.

There is an easy way to prove to yourself what a modern Singer will do. The nearest Singer Shop will gladly send a machine to your home to use for a few days, in doing your own sewing. You may have your choice of the widest variety of models—electric, treadle and hand machines. Any one of them may be yours on a convenient plan by which you will receive a generous allowance for your present machine, and your new Singer will pay for itself as you save.

Singer Shops in Eastern Canada

Ontario

Barrie,	53 Elizabeth St.
Belleville,	279 Front St.
Brantford,	201 Colborne St.
Chatham,	179 King St.
Cochrane,	3rd Ave. and 4th St.
Cornwall,	228 Pitt St.
Ft. William,	115½ S. May St.
Hamilton,	199 King St., E.
Kingston,	269 Princess St.
Kitchener,	12-14 Young St.
Lindsay,	9 Kent St.
London,	122 Dundas St.
North Bay,	43 Main St., E.
Ottawa,	106 Bank St.
Oshawa,	46 King St.
Owen Sound,	753 Second Ave., E.
Peterboro,	174 Hunter St.
Renfrew,	361 Raglan St., Haynes Block
Sault Ste. Marie,	353 Queen St.
Stratford,	Ontario St.
St. Catherines,	269 St. Paul St.
St. Thomas,	624 Talbot St.
Toronto,	252 Yonge St.
Windsor,	18 Pitt St., W.

Quebec

Chicoutimi,	108 Racine St.
Hull,	202 Main St.
Levis,	64 Cote du Passage
Montreal,	530 St. Catherine St., W.
Quebec,	223 St. John St.
Riviere du Loup,	325 Lafontaine St.
St. Hyacinthe,	61A St. Francois St.
St. Jerome,	139 Labelle St.
St. Johns,	59 Richelieu St.
Sherbrooke,	63 Wellington St.
Thetford Mines,	345 Notre Dame St.
Three Rivers,	102 Des Forges St.

Maritime Provinces

Campbellton, N. B.,	Water St.
Charlottetown, P. E. I.,	115 Kent St.
Fredericton, N. B.,	321 Queen St.
Halifax, N. S.,	138 Granville St.
Moncton, N. B.,	822 Main St.
New Glasgow, N. S.,	26 George St.
St. John, N. B.,	45 Germain St.
Sydney, N. S.,	365 Charlotte St.
Yarmouth, N. S.,	Main St.
St. Johns, Newfoundland,	202 Water St.

For address of nearest shop in Western Canada write

Singer Sewing Machine Co.
368 Portage Ave., Winnipeg, Man.
869 Granville St., Vancouver, B.C.

SINGER
SEWING MACHINES

Ready! "How to Make Dresses"

If you would know how delightfully easy it is to make smart, becoming clothes for yourself, send for a copy of "How to Make Dresses", just published, a new practical guide to the swift creation of lovely frocks. Simple, easy-to-follow instructions, with more than 100 illustrations. Worth many times its small cost. Only twenty-five cents at any singer Shop, or send the coupon by mail.

76-W

Mail This Coupon Today

To get a copy of "How to Make Dresses", mail this coupon with 25 cents (coin or stamps) to Singer Sewing Machine Co., at nearest address above.

Name.....

Address.....

City..... *Prov.*.....

My machine is a.....

about..... *years old.*



The best shoes where the going is heavy

"ROUGH going", which tears ordinary shoes to pieces, only serves to demonstrate the strength and durability of Sisman Shoes. Only the best materials and the most thorough workmanship are applied in their construction. No wonder Sisman Shoes give such wonderful value. It pays to buy them.

When buying working shoes, always look for the Sisman tag and label. These are your protection.

The T. SISMAN SHOE CO., LTD.
Aurora Ontario
RS-44

SISMAN'S Best Everyday SHOE TRADE MARK REG.

SISMAN SHOES

The Partnership of Marriage

He the breadwinner, she the homekeeper, standing together through good and ill, sharing the burden—equal partners in the great business of building a home and bringing up a family.

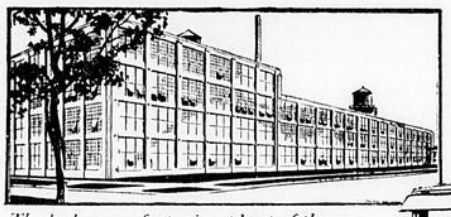
Equal partners ? She was left without support to shoulder it all—earn the bread, keep the home, meet the obligations his death had created.

There can be no equality in the marriage partnership where life insurance is left out. No man has shouldered his full share of the burden, until he has made the future safe for his loved ones.

Protection with Profit

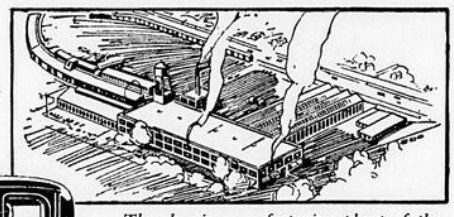
THE Great-West ASSURANCE Life COMPANY
HEAD OFFICE WINNIPEG

CHRYSLER helps create greater industrial prosperity for Canada

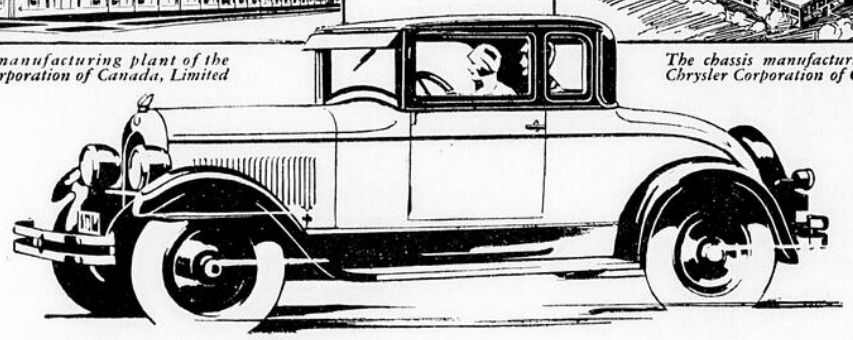


The body manufacturing plant of the Chrysler Corporation of Canada, Limited

Below: *The Great New Chrysler "62" offering sensational features of quality and value.*



The chassis manufacturing plant of the Chrysler Corporation of Canada, Limited



Building the Chrysler of Canadian Parts Benefits Canadian Industry

Demand for the Chrysler car has been so insistent that Chrysler production has actually increased 491% since 1924.

The Chrysler Corporation of Canada, Limited, profoundly appreciates the full measure of confidence thus expressed for the Chrysler—and welcomes the opportunity to show its appreciation by employing Canadian craftsmen and using Canadian materials and parts, wherever possible, in manufacture.

To this end, the Chrysler Corporation of Canada, Limited, early in 1927 took over an additional large plant for body manufacture in Windsor, Ontario, thereby further increasing its facilities for building Chrysler cars very largely of Canadian materials.

It is a source of deep pride and satisfaction for Chrysler thus to have a hand in the expansion of Canada's many and varied industries which develop materials for automobile manufacture — a source of inspiration to build so soundly that present success shall increase and multiply to the permanent benefit of Canada and Canadians.

CHRYSLER CORPORATION OF CANADA, LIMITED, WINDSOR, ONTARIO
WALTER P. CHRYSLER, *Chairman of the Board*

Chrysler "52"	*Chrysler "62"*	*Chrysler "72"*	*Chrysler Imperial "80"*
$925 to $1095	$1375 to $1695	$1795 to $2320	$3245 to $5270

All prices f. o. b. Windsor, Ontario, including standard factory equipment (freight and taxes extra)

THE CANADIAN-BUILT CHRYSLER FOR CANADIANS

DON'T CUT OUT
A Shoe Boil, Capped Hock or Bursitis
FOR
ABSORBINE
TRADE MARK REG. U.S. PAT. OFF.



will reduce them and leave no blemishes. Stops lameness promptly. **Does not blister** or remove the hair, and horse can be worked. $2.50 a bottle delivered. Book 6 R free.

ABSORBINE, JR., for mankind, the antiseptic liniment for Boils, Bruises, Sores, Swellings, Varicose Veins. Allays Pain and Inflammation. Price $1.25 a bottle at druggists or delivered. Will tell you more if you write.

W. F. YOUNG, Inc., 134 Lymans Bldg., Montreal, Can.

Absorbine and Absorbine, Jr., are made in Canada.



ATTENTION

A complete garden for $1.00 including 20 packages of vegetables and assorted flowers. Write today. Write for our big catalog of watches, etc.

ALLEN Novelties, St. Zacharie, Que.

OPERATION LEFT HER VERY WEAK

Letter Tells of Wonderful Relief After Taking Lydia E. Pinkham's Vegetable Compound



Coniston, Ontario.—"After a severe operation and a three weeks' stay in a hospital I returned home so weak that I was unable to move a chair. For four months I was almost frantic with pains and suffering until I thought sure there could not be any help for me. I had very severe pains in my left side and suffered agony every month. One day when I was not able to get up my mother begged me to try your medicine. My husband got me a bottle of Vegetable Compound at once and I took it. I started a second bottle, and to my surprise and joy the pains in my side left me completely and I am able to do all my work without help. I am a farmer's wife, so you see I can't be idle long. In all, I have taken six bottles of Lydia E. Pinkham's Vegetable Compound, five boxes of the Compound Tablets, two bottles of Lydia E. Pinkham's Blood Medicine, and have also used the Sanative Wash."—Mrs. L. LAJEUNESSE, Box 103, Coniston, Ontario. C



FREE

Beautiful dinner plate, splendidly decorated. (Value 40¢). Given away FREE with every pound of

MIKADO

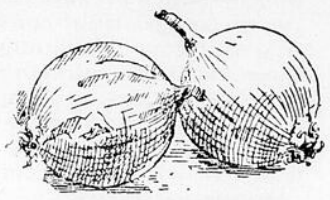
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GREEN, BLACK or JAPAN

On sale everywhere. Ask for it to your dealer

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To insure the best crop use only pure and fresh ONION SEED OF VALENCIA ONIONS, price Ptas 25c — per kilo supplied by.

CASA VEYRAT

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VALENCIA

Spain

It is advisable to send your orders promptly; they will be executed from September to March.

How To Reduce Varicose Veins

Rub Gently and Upward Toward the Heart as Blood in Veins Flows That Way.

Many people have become despordent because they have been led to believe that there is no remedy that will reduce swollen veins and bunches.

If you will get a two-ounces original bottle of **Moone's Emerald Oil** (full strength) at any first-class drug store and apply it night and morning as directed you will quickly notice an improvement which will continue until the veins and bunches are reduced to normal.

Moone's Emerald Oil is a harmless, yet most powerful germicide and two ounces last, a very long time. Indeed, so powerful is **Emerald Oil** that old chronic sores and ulcers are often entirely healed and anyone who is disappointed with its use can have their money refunded.—A—sells lots of it.

A Good Investment

You are deeply interested in the increase production of your farm. You must then keep yourself well posted as to the best means to do it.

The Journal of Agriculture contains valuable information in every issue and its costs only $1.00 per annum. Send your subscription to Mr. O. Lessard, secretary of the Council of Agriculture, Parliamentary Building, Quebec, Que.

On request we sand a sample copy.

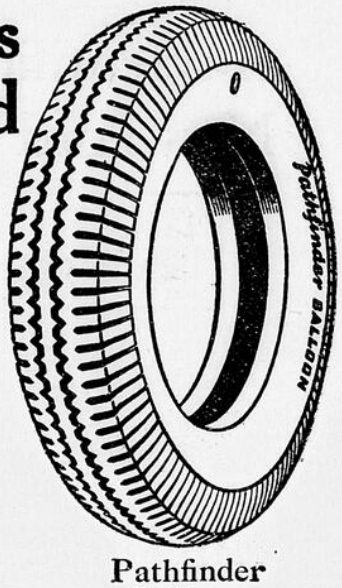


All-Weather Balloon

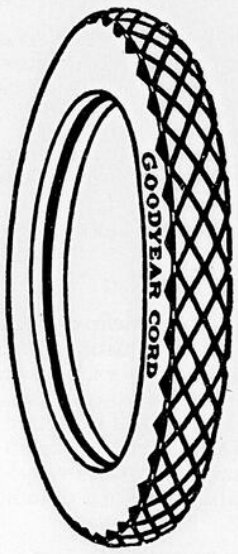
The Best Tires are Low-Priced Today

NO need today for experimenting with cheap, unknown brands of tires just because you want to keep your tire costs low. When rubber was high in price perhaps you had to do it. But Goodyear prices are low now. No more than you were formerly paying for "cheap" tires. And they are full Goodyear quality.

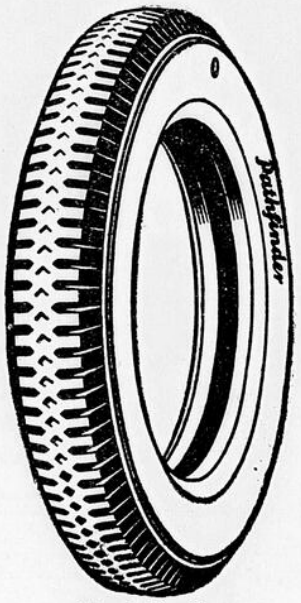
Goodyear Tires are sold by Goodyear Selected Dealers—and backed by a service which adds dollars to the value of the tires without adding a cent to the cost.



Pathfinder Balloon



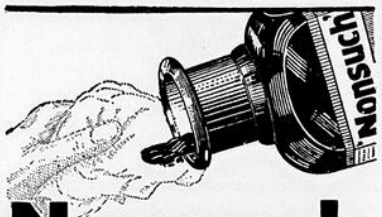
All-Weather Cord



Pathfinder Cord

GOODYEAR

MADE IN CANADA



Nonsuch Stove Polish

As good as Nonsuch Silver Polish

Liquid and Paste
Gives a Quick Shine that Lasts a Long Time
Made in Canada
Nonsuch Limited - Toronto

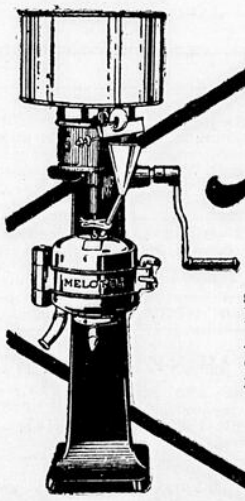


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World wide satisfaction— since 1888



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CREAM SEPARATOR

"I have used a Melotte Separator for over 20 years with perfect satisfaction"—so writes Mr. Bernard Kellett.

All over the world Melotte owners are deriving real satisfaction from their machines.

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113 St. Paul Street,
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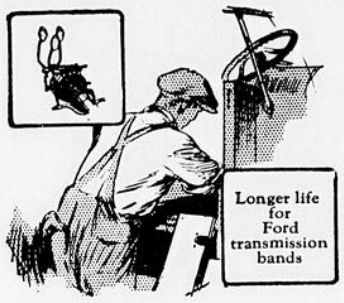
(7)
Please send me FREE illustrated catalogue of Melotte Separators.

Name.....

Address.....

Easy term payments. Liberal allowance on any make of machine.

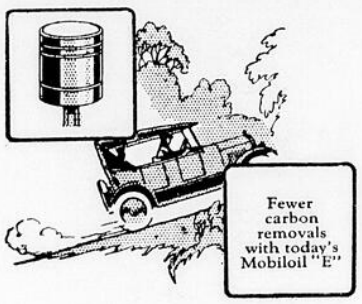
A scientific achievement!
New Ford economies--New Ford smoothness



The achievement of the Mobiloil engineers in producing the improved Mobiloil "E" does not lie in any *one* characteristic of this finer Ford lubricant, but in its ability to cut operating costs in so *many* directions.

With the improved Mobiloil "E" in your Ford crankcase you insure smooth starts and smooth stops. And more—you definitely extend the life of your transmission bands. The improved Mobiloil "E" provides this new margin of safety in driving your Ford.

Still more mileage between carbon removals with today's Mobiloil "E"



In any car carbon is a costly menace. Carbon accumulation cuts power. It jumps gasoline consumption. Oil consumption, too. And carbon removal jobs are a real item in operating expenses.

With today's Mobiloil "E" you will experience unusual freedom from carbon. At the same time your transmission bands will keep soft and pliable. The combination of these *two* Ford advantages is unique.

Cheapest lubrication

Mobiloil "E" makes no claim to be a cheap oil. It costs a few cents more per quart than ordinary oil. But Mobiloil "E" gives you lower cost per mile and per year. *That* is what counts. Thrifty Ford owners never say that Mobiloil "E" is high-priced. They have had too much experience with the oil itself. Mobiloil "E" contains an extra margin of safety to meet every lubricating need of the Ford engine, the Ford clutch and the Ford transmission.

The year around use Mobiloil "E" in your Ford car and truck. In your Fordson tractor use Mobiloil "BB" in summer and Mobiloil "A" in winter.

Make this **CHART** *your guide*

YOUR guide—If your car is not listed below see any Mobiloil dealer for complete Chart. It recommends the correct grades for all cars, trucks and tractors. And remember that . . . . **609** automotive manufacturers approve it!

The grades of Gargoyle Mobiloil, indicated below, are Mobiloil "E," Mobiloil Artic ("Arc."), Mobiloil "A," Mobiloil "BB," and Mobiloil "B."

NAMES OF PASSENGER CARS	1927		1926		1925		1924	
	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter
Cadillac	BB	Arc.	BB	Arc.	A	Arc.	A	Arc.
Chandler Sp. 6	A	A	—	—	—	—	—	—
Chandler Other Mods.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Chevrolet	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Chrysler 4	A	Arc.	A	Arc.	A	Arc.	—	—
Chrysler Other Mods.	A	A	A	A	A	A	A	A
Dodge Brothers	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Ford	E	E	E	E	E	E	E	E
Franklin	BB	BB	BB	BB	BB	BB	BB	BB
Hupmobile	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Jewett	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Jordan 6	—	—	—	—	Arc.	Arc.	Arc.	Arc.
Jordan 8	A	Arc.	A	Arc.	A	Arc.	—	—
Lincoln	A	A	A	A	A	A	A	A
McLaughlin-Buick	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Moon	A	Arc.	A	Arc.	Arc.	Arc.	Arc.	Arc.
Nash	A	Arc.	A	Arc.	A	Arc.	Arc.	Arc.
Oakland	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Oldsmobile	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Overland	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Packard 6	A	Arc.	A	Arc.	A	Arc.	A	A
Packard 8	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Paige	A	Arc.	A	Arc.	Arc.	Arc.	Arc.	Arc.
Pierce-Arrow	A	A	A	A	A	A	A	A
Star	A	Arc.	A	Arc.	A	Arc.	Arc.	Arc.
Willys-Knight 4	—	—	B	Arc.	B	Arc.	B	Arc.
Willys-Knight 6	A	Arc.	A	Arc.	A	Arc.	—	—

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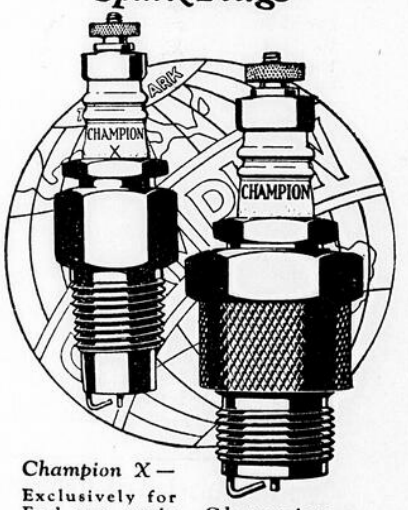
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EDITORIAL COMMENT

THE FARM BOY AND EDUCATION

With the coming of September, one subject takes on an importance that warrants our giving it first place in our discussions: that is the subject of education. For September brings with it the opening of the public and high schools of the Province, and the final planning for the university courses that open at the end of this month.

And, while we ordinarily hesitate to give advice, knowing as we do that advice is found by most to be distasteful, and fearing as we do that our advice may not always be founded on a perfect knowledge of the situation under advisement,—this is one time when we come out flat-footedly and make pronouncement, and do so fearlessly and conscienciously. And our advice is this: parents, send your boy back to school this fall (oddly enough, the girl usually gets back anyway), or, of he has finished high school, send him on to college for one of the agricultural courses—unless he has definitely decided to train for one of the other professions.

We have heard men confess to having too much of practically everything but education. If anyone has ever been sorry he took as much schooling as he did, we have not yet met him. But we have met thousands who have expressed regret that they left school when they did—men who did not realize the value of the schooling until they had let so many years of life slip past that they felt they could not go back and pick up the threads again.

A fuller life is his whose faculties have been developed by training, whose mind has been stored with the wisdom of the ages; —aye, and a life with greater chances for success, judged even by the standard of earning power. For, while monetary rewards are really the least important fruits of education, the fact that surveys carried out in the United States show a definite relationship between increased education and increased earning power should carry some weight with us, as parents, when we are planning for our boys' future.

All of us want to see our boys succeed. Many of us would like to see them have a somewhat easier time than we have had. And to help lay the foundation for the success that we wish for them—even if it be financial success—we can approach the matter in no surer way than in seeing that they get all the education that we can afford to give them. The findings of the surveys mentioned above are that the boy who leaves school at the end of his public school course to take up work will be receiving (on the average) about $2000 a year by the time he is 20 years of age (of course this includes the high wages paid to those skilled in trade as well as the low wages of the easual worker), that he will advance to about $2200 at his fortieth year, when his earning power will begin to decline; on the other hand, the boy who continues through high school and university will receive (on the average) but $1000 during his first year out of college, and that in spite of the fact that he has invested, say, eight years and a considerable amount of money in his extra education during a time when the public school worker is earning—*but* with his superior training his chances for advancement are increased manyfold; his income will advance with his years, reaching its maximum at the age 60, when it will average for his earning years not $2200, but $6000.

Such survey figures, of course, are averages. No college would guarantee that its graduates would receive any given amount of money at any given time after graduation,—nor should we use this argument with a boy who asked us our opinion as to the value of a college education. The real benefits of an education are not counted in dollars and cents, but in the fruits of the spirit. Yet we consider that the figures quoted have a real value to parents who want to do their best by their sons. For the problem so often comes down to this: shall we spend so much in giving John an education, or save the money to help him get established? And among our acquaintances we have yet to find the man who will not admit that the best investment he ever made, or had made for him, was that made in his education.

Increased education helps ensure success for the boy by training him in thinking for himself, by giving him a wider basis for forming judgment, in the thousand and one questions that come up, no matter in what walk of life he may travel. Three centuries ago the situation was summed up Bacon in these words: "For expert men (and by expert he meant what we do when we refer to an expert stoker or an expert sausage-stuffer) can execute, and perhaps judge of particulars, one by one; but the general counsels, and the plots and marshalling of affairs, come best from those that are learned."

So, to the parents of farm boys, we say; send your boys back to school this fall : or, if they have finished school, send them to an agricultural college to get an equipment for their life work. They may think they are too big to go to school; but, while the opinions of youth are often interesting, they are not always right. Two things are frequently lacking which are needed in the making of such momentous decisions: experience of life, and knowledge of the situation. It is here that parents have an opportunity of assisting with advice; and no one, no matter how diffident, need fear to proffer the advice we have given so freely in this editorial: *go back to school !*

BRIEF PARAGRAPHS FOR BUSY PEOPLE

To have eaten chicken in forty-two countries is an experience denied most of us—but we who live in Quebec may feel that we are not really missing anything, even if we cannot dine so variously. For we have the word of Edward Brown, President of the recent World Poultry Congress, who has had, this opportunity of sampling roast chicken in forty-two languages, that he has never tasted anything more delicious than the Quebec milk-fed variety served him while in Montreal. Incidentally, Mr. Brown will have more than his memory of tasty chicken to remind him of his Montreal visit, for at a special convocation held at Macdonald College last month, McGill University conferred on him the honorary degree of Doctor of Laws, in recognition of his work for agriculture.

The showing of live stock at Ottawa last month was not as large as some of the fairs held there a few years back brought out, but much good stuff was paraded before the judges. Quebec was ably represented in dairy cattle by the Raymondale herd in Holsteins, the Ness herd in Ayrshires and the Maxwell herd in Jerseys. Perhaps the Ness offering commanded most attention, including as it did some extremely nice stuff newly imported from Scotland—stuff that in most cases stood as the top of the classes in which the various animals competed. One of these newly imported animals, Howie's Top Grade, a junior yearling, carried off

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NOTICE TO SUBSCRIBERS

Subscribers and members of agricultural societies, of farmers' clubs and of the Provincial Dairymen's Association, who do not regularly receive either the English or the French Journal of Agriculture and Horticulture are requested to address their complaints to the Secretaries of their respective Societies, who will transmit them to the Secretary of the Council of Agriculture at Quebec.

Grand Championship honors for males, while the Grand Champion female was the old winner for the Ness herd, Burnside Blossom Andrietta. Arnold with Percherons, and Ness and McCormick with Clydesdales, helped make Quebec's showing of horses an impressive one at the same fair.

On My Way

ONE night when I was yet a very small boy I was driving home with my father from the Bay, which was our nearest town. It was August. Even then in my little thoughtful way I was impressed greatly with the still sleeping silence lying upon the world about me. The old team walked eagerly homeward, breaking at times into a running gait where the grade was downward. The dust was damp with dew and deep upon the roadway. Along we came in that high old-fashioned express waggon, the seat of which was so far from the ground that my climbing ability was well tested in reaching it. There was some noise of trace chains, and a squeaking of whiffle trees as they see-sawed back and forth on the pole. That was a long road from where the turn was made at the brick school house to where the next turn was made near home. The man who sat beside me holding the lines loosely in his hands was quiet and seemed to be thinking. Often my questions were twice asked before his thoughts were interrupted and he made reply. So we sat behind the trudging team as down the long straight lane we went, passing by on either side fertile fields all garnered except for the squares of turning grain. Then above a certain place in the Eastern rim of the world a glow came up the sky followed by an edge of moon. When it came into full view it was very large and seemed so near. It gave a faint light to all the country around and cast a moving shadow of our homely outfit on the road beside us. Then, encouraged by the interest my father showed in this big congenial ball that had appeared to be companion to us, I asked more questions. How I listened with childlike wonder as he told me that this was the harvest moon that always came when the grain was full. That the mellow gold so rich and deep upon its face was caught and held by the fields of wheat and barley and rye, and that was how they were made ripe and ready to cut.

That was a marvelous story to me, and I heard it on a night that was one great enchantment to live with me always no matter from what strange pathways I was to look in later years upon that same moon giving of its colour to unfamiliar fields. The long road I feel quite sure remains, though it has been left behind with those early years. Maybe its dusty state has changed to a finer surface on which patterned treads make new trails, bearing along with speed and ease new vehicles that have left behind the old carriage on which I used to perch. Likewise the driver, too, has gone from my side, gone beyond the hearing of questions that continue to be asked.

I have come on my way since then through a number of August moons. Can it be, I ask myself, that I am the man of the child that was ? Have I really known the experiences that spread themselves over the pages of time, or am I to awake one day from a monstrous dream ? If I were to set myself to write a book it would not be a story deep and complex with unusual plot, of things that might possibly happen, but a simple tale of living, of events great and small that make up the career of the country man or woman. Its scenes would oft times fall in this particular time of year, the time of gleaning. Maybe I would call it "Past Harvests that Remain", or something such as this. Not that this would be an indication of the most unkind experiences I have known, nor yet a record of those most pleasant, but rather a composition of all those feelings and emotions, so well known to humans, which are blended beyond hope of separation and which reflect in us all the varied moods we are so capable of.

I saw the first reaping done today. Bob Armitage had just cut a field of mixed grain on one side of the road, while Phil. Stacey was cutting his last bit of hay on the other. No wonder we ask where has all the time gone that we used to have between haying and harvest. Of course one of these men is always one or two leaps ahead of the average, while the other belongs to the more leisurely who get there some time.

There is something to think about in these two types of men. The first is usually classed amongst the up-to-date farmers, while the later is typical of the careless, indifferent sort. I always estimate more highly the man whose ways of working are reflected in the good appearance of his place, even to the passerby. Yet I must admit that often the proprietor of the untidy establishment is a more jolly, contented individual than the careful one. As far as money-making goes the difference seems to turn out to be very little indeed.

The harvesting process is also a question I have thought considerably about. Where binders are not a possession on many farms the difficulty of getting the reaping done at the proper time is considerable. Also, many find that to be sure of getting the grain into their already crowded barns, binding it is the only way. I have noticed the doings of a number of my neighbours for a few years, and I have chosen the plan, as some of them have, to continue with the old mower and rake, having plenty of room to store it. The chances of saving it in good condition are much in favor of the loose grain, and if the straw is to be used for feeding its quality is likely to be much better. However, each man's choice may not be wisdom to the other fellow, but it suits him best, and that is the chief thing. Soon the cutting will be general and the fields will be looking empty. There is a noticeable decrease in the length of days, and one or two nights have already been decidedly cool. Tonight a mist was rising in the dell, while still the western sun was lighting the eastern hills. The mountains in their deep blue color were very clearly lined against the even sky. For a while I sat and smoked where I could look on the resting, peaceful view, and when the great mellow moon rose up I was deep in thought, thinking again of the wonder, the grandeur, the majesty of Nature and her ways.

H. H.

Varieties of Tobacco for the Province of Quebec

SOIL and climatic conditions suitable for the successful growing of tobacco prevail over a large part of the St. Lawrence river valley in Quebec. Commercial production, however, has been concentrated in two main districts near Montreal, one of which centres in Montcalm and L'Assomption counties and the other in the Yamaska valley. The tobacco produced in these districts may be roughly classed as of two sorts, cigar leaf and rough cut pipe smoking and of these many varieties are grown.

That too many different varieties are grown is the opinion expressed in a new circular issued by the Dominion Experimental Farms Branch on the "Varieties of Tobacco Recommended for the Province of Quebec." Some of the varieties now used are entirely unsuitable to Quebec soil and climatic conditions and will always produce an inferior leaf. In fact before tobacco-growing in the province can be made the commercial success of which it is capable the number of varieties grown must be drastically curtailed. Specialization on a few varieties would relieve the market of large quanties of mixed nonder script leaf which are disposed of at a low price.

In the circular, which may be obtained free from the Publications Branch, Department of Agriculture, Ottawa, in either English or French, it is recommended that not more than two varieties in each type should be considered as standard and that growers limit themselves to these. Of the small pipe-smoking varieties Canelle and Petit Havane are recommended as they are native to Quebec, thoroughly acclimated, and produce a mild aromatic tobacco. As to cigar types, Connecticut Havana, No. 38 and Comstock Spanish have given uniformily the best quality of cigar binders. Little Dutch and Belge are excellent cigar filler varieties and have the advantage of being at the same time good pipe tobaccos.

Turnips Increase Milk Production

TURNIPS have been found at Nappan, N. S., Dominion Experimental Station to increase the yield of milk, but they have also been found to increase the cost. During the winter of 1924-25, an experiment detailed in the latest report of the Superintendent, W. W. Baird, was conducted to ascertain the feeding value in milk production of the three main succulents, corn silage, sunflower silage and roots. Four cows were used in two tests. Each feeding period lasted three weeks but the production only of the third week was used.

Taking the average of the two corn silage periods, one fed previous to and one following turnips, a daily average production is shown by a statistical table given in the report of 13.8 pounds per cow, while with turnips it was 14.5, the fat being practically the same. The cost to produce 100 lbs. of milk was 13 cents less with corn than turnips. This, it is explained, was partly due to the fact that in order to supply an equal amount of dry matter during the root period twice as much roots as corn ensilage had to be fed, the roots containing 11 per cent of dry matter compared with 22 per cent in the corn silage. It also cost $2.49 more to produce 100 pounds of butterfat with roots than with corn.

As regards the respective merits of corn and sunflower silage a daily average production was shown by the corn silage of 12.9 pounds of milk per cow and by the sunflower silage 12.4 pounds. The cost of production was 10 cents less per 100 pounds with corn silage than with sunflower silage.

The tests are to be continued until fair averages can be calculated, as the year of the tests here recorded was particularly noted for a superior harvest of corn.

Irish Free State Creamery Industry

(Commercial Intelligence Journal)

CREAMERIES in the Irish Free State are of district types in the matter of control, the co-operative and the proprietary. The co-operative creameries number 400 and are owned by farmers, while there are 180 proprietary creameries which are owned by limited companies or individuals, making a total of 580 creameries in the Free State. In order to eliminate overlapping and unprofitable competition in this industry, the Dail Eireann recently voted the sum of £455,000 for the purpose of purchasing certain proprietary creameries in the counties of Limerick, Tipperary and Cork. The number of creameries involved is 113, of which it is estimated 50 are redundant and will be dismantled. The remainder will in due course be transferred to co-operative societies.

In connection with the operation of the Dairy Produce Act, the Department of Lands and Agriculture have instituted a system of surprise butter inspections with a view to improving and maintaining the quality of butter manufactured for export. As previously stated, butter may only be exported from the Free State from registered premises. The surprise inspections are held at irregular intervals at the Butter Testing Station in Dublin. The chief inspector simply instructs the various creameries, by letter or telegraph, to forward a sample case of butter for inspection, on a certain day. All identification marks are covered up, the cases are numbered and then graded independently by three testers. The maximum awards for the various qualities are—flavour, 60; texture, 30; colour, 5, packing and finish, 5.

Each creamery is furnished with a report on its own sample, and the names of the first five creameries in point of scoring are made public. Eventually when Part IV of the Act has been placed in operation, providing for a national mark for butter, the data thus secured may be used as a basis for determining the minimum marks which any creamery must gain in order to be entitled to use the national mark.

It is stated that the Free State supplies only 7 per cent of England's butter imports. By making Irish butter "consistently good, rather than occasionally excellent" by means of legislation and education, and by eliminating unhealthy competition at home in buying up and dismantling redundant plants, the Ministry of Agriculture is following a constructive policy which will eventually place this country's creamery industry in a position to command a share of Great Britain's butter trade more in keeping with her productive power and her proximity to the latter country.

WHAT FEED SHALL I BUY?

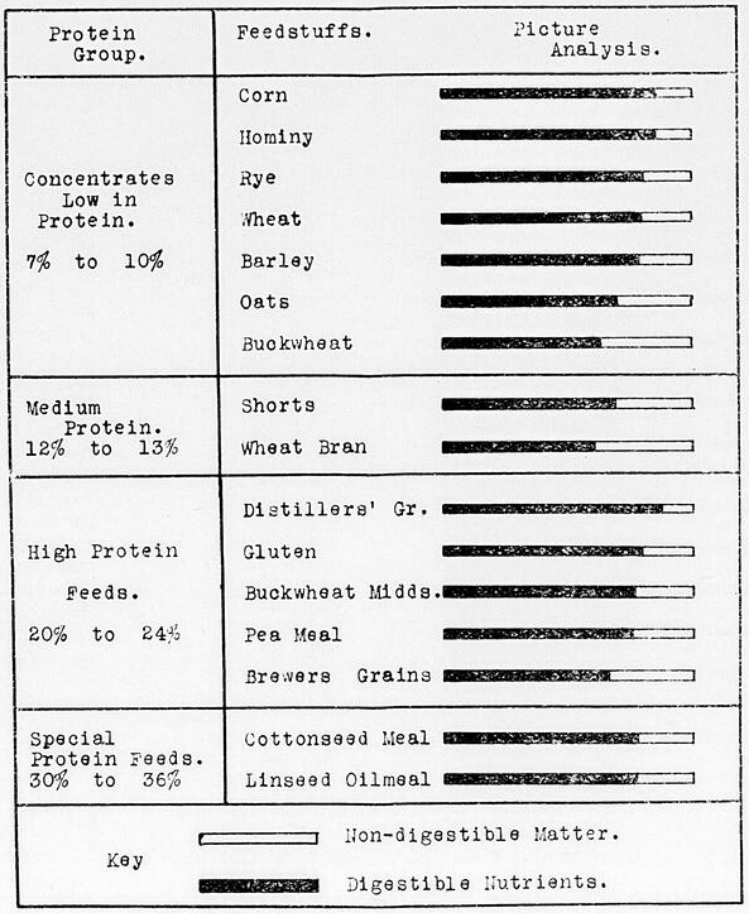
E. W. Crampton, Animal Husbandry Dept., Macdonald College.

WITH the close of the pasture season already in sight, the problem of supplying the winter feed is again on the docket. Not only how much must be bought, but which feed shall I select, is involved in this problem. The first part of the question must be solved by the one on the spot, but with regard to the selection of the varieties, it may be possible to outline briefly some of the differences between feeds which are of significance in their proper use, and which should be considred in making one's choice.

In selecting feeds as ingredients of rations for farm animals there are three factors to be considered. First, the requirements of the animals to be fed. Second, the composition of the feeds available. And third, the cost.

The question of animal requirements is of itself a big subject, and one which cannot be more than touched upon here. Brief mention should, however, be made of three items which are fundamental to an understanding of correct feeding. In the first place, it must be appreciated that no feed is entirely digested by an animal. In other words, there is always more or less waste material in a feedstuff which has no value as a source of nutrition to the animal. It passes through the digestive tract and out again, its only use being that of distending the digestive system and thus aiding the normal intestinal movements. Where roughage is fed along with the meal allowance, as with all classes of stock but hogs, there is no reason to attempt to supply this bulk in the concentrate ration. Within certain limits, therefore, we look for feeds that are low in non-digestible matter. The differences in some of the common feeds in this respect are indicated in the chart accompanying this article, of which more will be said later.

CHART I.



Secondly, the importance of protein in the ration must be understood if maximum return is to be obtained from our operations. Protein is that part of the ration which is used by the animal to repair its body tissues, to build new tissues (to grow), and, in the case of the dairy cow, as an ingredient of the milk produced. Did you know that in every three gallons of milk there was a pound of protein ? This must be supplied to the cow in her feed. In addition to this amount, a mature cow weighing 1000 pounds live weight requires almost a pound and a half of protein for the repair of her own body.

Another thing which makes protein, or rather the proper supply of protein in the rations of farm animals, a very vital factor, is that there is no other part of the food that can be used by the body to replace it, and strange as it may seem, there is practically no provision in the body for storing up this vital nutrient in time of plenty against a time of need. Thus if there is shortage of this material in the feed allowed a given animal, the body must curtail its work accordingly. In the case of the dairy cow it is the milk production which suffers first, as the body takes care of its own needs before thinking about production.

It is probably quite safe to say that 90% of the trouble feeders have in properly feeding their stock can be traced to this one nutrient, protein. There are two reasons for this. First, protein is not present in the cereal grains in sufficient amounts to meet the needs of most farm animals; and secondly, those feedstuffs which are rich in this nutrient are almost without exception expensive, and feeders do not use sufficient of them to properly balance their rations.

Secondly, the importance of protein in the ration must be understood if maximum return is to be obtained from our operations. Fortunately the demand of animals for protein is relatively small as compared with their needs for fuel, so the question is not as formidable as it might at first appear. A discussion of the specific amounts of protein required daily by animals of various classes, and under various conditions, is not within the scope of this paper. This information, however, should be the possession of every man before he starts to get together the ingredients for the winter's feed mixtures.

In addition to the very vital supply of protein, every animal demands a certain amount of fuel, i. e. nutrients which are to be used to produce energy for the work that the animal is called upon to do. A certain amount is also needed to maintain body temperature, and as was the case with protein, each gallon of milk produced also contains considerable quantities of these nutrients which of course must originally come from the ration.

The daily supply of carbohydrates and fats, (the chief materials used as body fuel) is not as critical as is that of protein, for the animal body does have storage facilities for this material from which it can draw in time of shortage. There is a certain minimum requirement, however, below which the animal cannot operate to full capacity. Animals on short rations will not, and can not work at high speed. On the other hand most animals will, if given the opportunity, eat more food than they pay for in production. The proper adjustment of the quantity of food allowed per day to a given animal, therefore, is necessary in the interests of efficiency and economy.

THE COMPOSITION OF OUR FEEDS

With the question of animal requirements in mind let us now have a look at the make-up of some of the common feedstuffs available in Eastern Canada. The cereal grains and their by-products, which are used for animal food, divide themselves quite naturally into four groups according to their protein contents. The grains, with the exception of Peas, fall into a low protein class, carrying as a group less than 10 percent of this nutrient. Hominy Feed, a corn by-product, also falls into this class, though most of the by-products are to be found in another group. Wheat Bran and Standard Wheat Middlings, commonly called Shorts, form a second class with about 13 percent of digestible protein. Then we find a larger group, composed mostly of grain by-products, which analyse around 20 percent protein, and lastly the special protein supplements of which Linseed Oilmeal and Cottonseed Meal are typical representatives. They carry 30 and 36 percent of this nutrient respectively.

Within certain limits feeds of a class may be substituted one for another in the ration, this making possible some choice according to the market at the time. And right here is where the catch comes. Feeds are sold so much for a ton, or per 100 pounds as the case may be. But unfortunately not all of the weight paid for is nutritionally of use to the animal. According to the feed purchased you are getting from 13 to 40 pounds of non-digestible material in each 100 pounds of product, which of course you must pay for just as though it were of some value. Put in another way, the real cost of a feed is not its price per ton, but its cost per unit of digestible nutrition. Thus it is often the case that of two feeds, between which there is a difference of a few dollars per ton, the more expensive is the cheaper in the end, since it really supplies nutrition at a lesser cost than the other.

To bring out the differences in the amounts of digestible protein, and in the proportions of non-digestible material found in some of the common feeds of this section Chart I. has been prepared. In it the feeds are arranged according to protein classes, and within the classes, according to the amounts of non-digestible matter which they carry. A study of this chart soon makes clear why oats, for instance, are some 20 percent less efficient than corn for fattening purposes,—it takes about 20 percent more of them to supply the same amount of digestible nutrients as is found in a given weight of corn. And so we find that while many of the feeds are considered as interchangeable, some allowance must be made for differences in the total digestible nutrition which is found in them, especially when we come to the question of cost vs. value.

TABLE I

Pounds of Digestible Nutrients Obtained for One Dollar With Feeds at Various Prices.

(Figured to nearest whole pound)

FEEDS	Cost per ton or per 100 lbs. of Feed. $25 Ton or $1.25 cwt.	$30 Ton or $1.50 cwt.	$35 Ton or $1.75 cwt.	$40 Ton or $2.00 cwt.	$45 Ton or $2.25 cwt.	$50 Ton or $2.50 cwt.	$55 Ton or $2.75 cwt.	$60 Ton or $3.00 cwt.
Corn	69	57	49	43	38	34	31	29
Hominy	68	57	48	42	38	33	31	28
Rye	65	54	46	41	36	32	29	27
Wheat	64	53	46	40	36	32	29	27
Barley	64	53	45	40	35	32	29	26
Oats	56	47	40	35	31	28	26	23
Buckwheat	51	42	36	32	28	25	23	21
Shorts	55	46	40	35	31	27	25	23
Wheat Bran	49	41	35	30	27	24	22	20
Distillers' Grains	71	59	51	44	40	35	32	30
Gluten	65	54	46	40	36	32	29	27
Buckwheat Midds.	61	51	44	38	34	31	28	26
Pea Meal	61	51	44	38	34	30	28	25
Brewers' Grains	53	44	38	33	29	26	24	22
Cottonseed Meal	63	52	45	39	35	31	28	26
Oilmeal	62	52	45	39	35	31	28	26

FINDING THE BEST BUY

As a guide to determining which feed is the most economical, in the sense of supplying the greatest amount of digestible material for the dollar spent, Table I is presented. It gives the amount, in pounds, of digestible nutrients obtained for a dollar with feeds at varying prices per ton or per 100 pounds. For example, Dried Brewer's Grains may be offered for $30 per ton in your locality, while Distillers' Grains are quoted at $40. Which is the better buy? Looking at the Table we find that in either case we are getting 44 pounds of digestible nutrients for one dollar. One is as economical a buy as the other at these prices, and the deciding factor will be something other than cost. By refering to Chart I it will be seen that. Distillers' Grains carry a much larger proportion of digestible material than do the Brewers' Grains, which accounts for the difference in cost of the nutrition supplied by the two feeds.

The dollar is not always the most important factor to be considered by any means. Take, for instance the case of Bran vs Shorts for dairy cattle feeding. Where the two are quoted at the same price per ton, a dollar buys more nutrition in Shorts than in bran, but the former feed lacks the peculiar physical properties which make bran so highly prized by the dairyman. On the other hand the very things that make bran so useful in the dairy ration are a liability rather than as asset in the fattening hog ration, and Shorts are here much more suitable. Such factors often outweigh a difference of several dollars in the price of a ton of one feed over another.

LIST OF AGRICULTURAL FAIRS FOR 1927 TO BE HELD UNDER THE AUSPICES OF THE AGRICULTURAL SOCIETIES.

SOCIETY.	PLACE	DATE.	SECRETARY.	ADDRESS
ABITIBI	Macamic		J.-U. Dumont	Macamic.
ARGENTEUIL	Lachute	June 22-23-24-25	J. W. Gall	Lachute, Box 12.
ARTHABASKA	Victoriaville	August 17-18	C. R. Garneau	Arthabaska.
BAGOT	St. Liboire	June 29-30	J.-A. Lemonde	St. Liboire.
BEAUCE, Div. A.	Beauceville	Sept. 20-21	Jos. Roy	Beauceville West.
BEAUCE, Div. B.	St. Ephrem-Tring		Ach. Faucher	St. Ephrem de Tring.
BEAUHARNOIS	St. Louis Gonzague		W. Martin	St. Louis de Gonzague.
BELLECHASSE Div.	St. Michel	Sept. 7-8	Caius Lacroix	Boyer.
BERTHIER	Berthierville	July 6-7	J.-A. Lessard	Berthierville.
BONAVENTURE Div. A.	Port Daniel	Sept. 20		
	Shigawake	Sept. 21		
	New Carlisle	Sept. 22	Geo. M. Kempffer	New Carlisle.
BONAVENTURE Div. B.	New Richmond W.	Sept. 15	W. H. Willett	New Richmond West.
BROME	Brome	Sept. 5-6-7	Ed. Caldwell	Brome.
CHAMBLY	St. Bruno	Sept. 28	Alb. Bernard	St. Basile le Grand.
CHAMPLAIN	St. Stanislas	Sept. 1st.	J. T. Jacob	St. Stanislas.
CHATEAUGUAY	Ste. Martine	Sept. 13	Ls. Patenaude	Ste. Martine.
CHICOUTIMI	Chicoutimi	Sept. 7-8-9-10-11	J.-A. Gobeil	Chicoutimi.
COMPTON No. 1	Cookshire	August 16-17-18	T. O. Farnsworth	Cookshire.
COMPTON No. 2	Scotstown	Sept. 6-7-8	Geo. F. Cowan	Scotstown.
TWO-MOUNTAINS	Ste. Scholastique	Sept. 19-20-21-22	Jos. W. Sauvé	St. Placide.
DORCHESTER	Ste. Henedine	August 23		
	St. Edouard	August 24		
	Ste. Germaine	August 26	Evangéliste Felteau	St. Anselme.
DRUMMOND	L'Avenir	Sept. 7	J.-C. St. Amant	L'Avenir.
FRONTENAC	St. Evariste	Sept. 13		
	St. Ludger	Sept. 14		
	St. Sebastien	Sept. 15		
	Lambton	Sept. 16	Edmond Bureau	Lambton.
GASPE, Div. A. No. 1	Cape Cove	Oct. 11	J.-J.-H. Balleine	Cape Cove.
GASPE, Div. A. No. 2	Barachois	Oct. 1st.	Roland Tapp	Barachois.
GASPE, Div. C.	Cap Chat	Sept. 27	J.-O. Roy	Cap Chat.
HOCHELAGA	St. Leonard	Sept. 14	J. A. O'Gleman	90 St. James St., Montreal.
HULL, Div. A.	Aylmer	Sept. 13-14-15	R. K. Edey	Aylmer, Box 114.
HULL, Div. B.	Maniwaki	Sept. 13-14-15	Palma Joanis	Maniwaki.
HUNTINGDON, Div. A.	Huntingdon	Sept. 7-8-9	John Smaill	Huntingdon.
HUNTINGDON, Div. B.	Havelock	Sept. 6	W. P. Fisher	Hemmingford.
IBERVILLE	St. Alexandre	Sept. 5-6-7	J. B. Bessette	Ste. Alexander.
ILES DE LA MADELEINE A.			Isidore Boudreau	Dune du Sud.
ILES DE LA MADELEINE B.			J. J. LeBourdais	Cap aux Meules.
JACQUES-CARTIER			Joseph Boileau	Lachine.
JOLIETTE, Div. A.			Alex. Rivest	Joliette.
JOLIETTE, Div. B.	St. Jean de Matha	Sept. 21	J.-O. Leveillé	St. Jean de Matha.
KAMOURASKA	St. Pascal		P.-W. Levesque	St. Pascal.
LABELLE, Div. B.	Mont Laurier	Sept. 8	A. U. Martineau	Mont Laurier.
LAC ST-JOHN, Div. A.	Hebertville	Sept. 1-2-3-4	J.-E. Simard	Hebertville Station.
LAC ST-JOHN, Div. B.	Roberval	August 24 to 28	J.-Ed. Boily	Roberval.
LAPRAIRIE	Laprairie	Sept. 20	Raoul Lussier	St. Philippe.
L'ASSOMPTION	L'Assomption		P.-J. Marsan	L'Assomption.
LAVAL	Ste. Rose	Sept. 7	P. A. Longpré	Ste. Rose.
LEVIS	St. Romuald	August 20 to 25	Henri Dutil	St. Romuald.
L'ISLET	St. Jean Port Joli	Sept. 20-21	J. N. Bernier	St. Jean Port Joli.
LOTBINIERE, No. 2	Lotbinière	Sept. 8	Jos. Bédard	Ste. Croix.
MASKINONGE	Louiseville	Sept. 7-8	J. L. Désaulniers	Louiseville.
MATANE	Matane	Sept. 13-14	L. A. Chénard	Baie des Sables.
MATAPEDIA			Jos. Brebel	Val Brillant.
MEGANTIC, Div. A.	Inverness	Sept. 8	H. A. Welch	Inverness.
MEGANTIC, Div. B.	Plessisville	Sept. 13	Théod. Fortier	Plessisville.
MISSISQUOI	Bedford	August 30-31 & Sept. 1	C. O. Jones	Bedford.
MONTCALM	Ste. Julienne	Sept. 22	J. F. Daniel	St. Esprit.
MONTMAGNY	Montmagny	August 26 to 30	Alex. Proulx	Montmagny.
MONTMORENCY, Div. A.	Riviere aux Chiens	Sept. 29	J. Ad. Cloutier	Riviere aux Chiens.
MONTMORENCY, Div. B.	Ste. Famille	Sept. 28	Albert Faucher	Ste. Famille.
NAPIERVILLE,	St. Edouard	Sept. 7	Arthur Collette	St. Rémi.
NICOLET, Div. A.	St. Léonard		Henri Leblanc	Grand St. Esprit.
NICOLET, Div. B.	Gentilly	Sept. 15	Nap. Levasseur	St. Angele Laval.
PAPINEAU	Papineauville	Sept. 6-7-8	J.-N. Vallière	St. Andre Avellin.
PONTIAC, Div. A.	Shawville	Sept. 29-30 & Oct. 1	R. W. Hodgins	Shawville.
PONTIAC, Div. B.	Chapeau	Sept. 19-20-21	P. McMahon	Chapeau.
PONTIAC, Div. C.	Quyon	Sept. 7-8	Manary & Smith	Quyon.
PORTNEUF, Div. A.	Pont Rouge	Sept 14-15	Ls. Geo. Bussière	Pont Rouge.
PORTNEUF, Div. B.	St. Casimir	Aug. 31-Sept. 1	J.-A. Foley	St. Thuribe.
PORTNEUF, Div. C.	Notre Dame des Anges	Sept. 22	Geo. Bertrand	Montauban.
QUEBEC	Quebec	Sept. 21	Hil. Payeur	76, du Pont, Quebec.
RICHELIEU	Ste. Victoire	Sept. 20-21	J. Desjardins	Ste. Victoire.
RICHMOND	Richmond	Sept. 13-14-15	W. R. Stevens	Richmond.
RIMOUSKI	Rimouski	Sept. 14-15-16-17	Alf. Dubé	Beausejour.
ROUVILLE	Rougemont	August 30	Anthime Arès	Rougemont.
SHEFFORD	Waterloo	August 24-25-26	N. O. Rockwell	Waterloo.
SOULANGES	Pont Chateau	Sept. 5-6	Geo. R. Vernier	Coteau Landing.
STANSTEAD	Ayer's Cliff	August 23-24-25	Homer G. Curtis	Stanstead.
ST. HYACINTHE	St. Hyacinthe	August 2-3	Réné Morin	St. Hyacinthe.
ST-JOHN	St. John	Sept. 13-14	Chs. M. D. Langlois	St. John.
ST-MAURICE	St. Barnabe	Sept. 15	Raoul Bellemare	St. Banrabe Nord.
TEMISCAMINGUE	Ville Marie	Sept. 21	Joseph Belliard	Ville Marie.
TEMISCOUATA, Div. A.	Isle Verte	Sept. 13-14	Jos. Michaud	Isle Verte.
TEMISCOUATA, Div. B.	Notre Dame du Lac	Sept. 20-21	L.-J. Dubé	Notre Dame du Lac.
TERREBONNE			fred Cherrier, M. V.	St. Jerome.
THREE-RIVERS	Three Rivers	Sept. 27	Médéric Pothier	Banlieue Three-Rivers.
VAUDREUIL	St. Lazare	Sept. 13	Jos. Denis	Vaudreuil.
VERCHERES	Ste. Theodosie	Sept. 14	Louis Dalpé	Vercheres.
WOLFE, No. 1	Marbleton	Sept. 13-14	E. J. Westman	Marbleton.
WOLFE, No. 2	Ham Nord	Sept. 15	J.-A. Comtois	Ham Nord.
YAMASKA	St. Francois du Lac	August 30-31	Alcide Lacharité	St. Francois du Lac.

DISTRICT EXPOSITIONS :—

VALLEYFIELD, August 15 to 20 — Jacques Malouin, Valleyfield.
THREE RIVERS, August 22 to 27 — J.-H. Vigneau, Three Rivers.
SHERBROOKE, August 27 to 3 September—Sydney E. Francis, Sherbrooke.
QUEBEC, September 3 to 10 — Geo. Morisset, City Hall, Quebec.

The Late John Fixter

MR. JOHN FIXTER, Chief of the Division of Illustration Stations, Dominion Experimental Farms, died after an illness of a few days at his home at Ottawa on August 9th. Except for six years when he was Farm Superintendent at Macdonald College, and for three years when he was attached to the Commission of Conservation as a travelling agricultural instructor, the late Mr. Fixter has been associated with the Experimental Farms since their very beginning. Born in London in 1860, Mr. Fixter began his career as farm manager for the late Sir John Carling, Minister of Agriculture, who at the opening of the Experimental Farm at Ottawa appointed him Farm Superintendent. He occupied this position for twenty years under the late Dr. William Saunders as Director. With the organization of the Division of Illustration Stations of the Experimental Farms, Mr. Fixter was made the Chief Supervisor, which position he occupied at the time of his death. Few men were better known by the rank and file of Canadian farmers than the late Mr. Fixter who will be remembered for his enthusiasm in his work and a constant desire to serve in the most helpful ways. He was extremely practical in his ideas and possessed an intuitive judgment of farming methods. He was frequently called upon to judge ploughing matches, standing crop competitions, and similar contests. Mr. Fixter was a great believer in the value of clover as a farm crop and succeeded in extending the growing of red clover seed in many parts of Canada. In the passsing of Mr. Fixter the Department of Agriculture at Ottawa loses one of the oldest and most valued of its officers.

Handling, Picking and Packing Apples

HAPHAZARD days have past. The time is here when methods of handling and of packing, particularly as regards fruit, play almost as important a part in securing trade as the article itself. This fact is well exemplified and emphasized in Bulletin No. 69 entitled "Packing Apples in Barrels and Boxes" just issued by the Fruit Branch of the Dominion Department of Agriculture. Mr. Fulton, Chief of the Markets Extension Division, is the author, and he starts out by telling us that his object is to get the packer to recognize that certain principles in barrel and box packing are of primary importance in maintaining unformity, and that the standard and quality of fruit in the packages under an authorized trade mark form the foundation on which increased consumption and permanent relationship are established.

With the foregoing as his test, Mr. Fulton proceeds to explain what is meant by careful handling, to the absence of which it is estimated that from 12 to 15 per cent of the wastage that occurs is traceable. Many faults in the methods at present pursued in handling are remediable by care and improved equipment. Preventions should commence, our author points out, with the harvesting, by instructing pickers the correct way to avoid abrasions of the fruit and skin punctures. Apples should be pulled by utilizing the full hand and giving a combined twist and upward motion to separate from the spur with the stem intact. The basket should be padded and carried in front of the picker at all times.

From this point Mr. Fulton goes on to describe in the bulletin, the value of which is enhanced by elaborate illustrations, the equipment that is necessary and the methods that should be followed by the packer and shipper in order that the fruit may reach the consumer in the best condition and the most attractive shape. He tells of the different packs and even of the paper that should be used for wrapping and how that should be done. The trade mark on the packages should contain the words "Canadian Apples" in bold black three quarter inch lettering. While the bulletin which is obtainable free of cost by addressing the Publications Branch, Ottawa, is permanently intended for the grower, shipper and purveyor of apples, it is one well calculated to enlighten the purchaser on what to look for and should get.

Gather the well-grown cockerels together and banquet them for a couple of weeks. Chickens will show as good returns for grain and milk as any class of live stock, and when crate-fed they have a higher market value than the poorly-finished birds.

Starve birds from 18 to 24 hours before killing.

Apple Packing

By Prof. T. G. Bunting, Horticultural Dept., Macdonald College.

ALL fruit growers must realize that the competition in selling fruit is keener to-day than ever before. An apple grower need only walk down a principal street of a large city at almost any time during the year to see displayed a great variety of fruit products, coming from many parts of the world, and all attractively put up and well arranged, to realize in part, at least, the severe competition. The apple may be the "King of Fruits", but the public has been buying other fruits in incrasing quantities and we are told that the apple has suffered in competition. If this is true, is the public to be blamed for its choice ? or is it so that the apple grower has not kept pace with the changing conditions and has failed to make the best use of his opportunity ? his crop ?

Our leading cities in Canada, as well as in the United States, are flooded each year with a very large quantity of inferior and low grade apples which do not pay production costs and which at the same time demoralize the market for good fruit. Only the other day a grower told me that while in Montreal this past winter attempting to sell his crop, he was confronted with this very problem, and that at one time he saw six carloads of bulk apples, mostly low grade Ben Davis, which were shovelled out of the cars and into old barrels, and which later apparently found their way to the consumer. This fact, the problem of the cull apple and poor varieties, is probably the most serious one to be faced by apple growers. In spite of this situation good varieties, of high quality, well-graded and well-packed, are usually in demand at satisfactory prices. The trade, both wholesale and retail, are continually on the lookout for grades and packs a little superior to the general run, and for these a premium is usually paid.

The Canadian Fruit Act is a protection to the consumer, the dealer, and the producer, and has greatly benefited the apple industry in Canada. It is the standard for grades, and it also specifies the various sized packages, in addition to the markings, which must be used. The grades, however, are minimum ones, and of necessity must allow considerable leeway. For instance in grade No. 1 in the variety McIntosh, the color requirement is 65% and the minimum size 2½ inches in diameter. All apples above the minimum requirements can go in a barrel of apples marked No. 1, but in it will be apples of various degrees of color from 65% to 100% and from 2½ to probably 3½ inches or more in diameter. Consider the grading of other fruits which compete with apples and see how nearly uniform in both color and size are all the specimens in the one package. In boxed apples this is also the case, for it would be almost impossible to pack satisfactorily apples of different sizes in one box. There are, however, few boxed apples put up in Eastern Canada, a very small part of the total crop. The barrel is the general package, with some apples going to market in the hamper or bushel basket or the eleven quart basket. In these packages the grower has not felt the same need to grade as carefully as when packing in boxes. Is this not one of the reasons why the apple has not held its own on the large markets? One illustration will suffice: my local butcher in a town of three or four thousand people sells five or six boxes of well graded oranges to one barrel of apples, which too often are "not up to the mark". Better grading and packing of Canadian apples will do much to improve the market situation and increase the consumption of good Canadian apples.

THE BARREL VERSUS THE BOX

Both are desirable and satisfactory for our markets, but it should be pointed out that the market for boxed apples has increased and expanded rapidly during the past thirty years in both the home and export markets. Outside of British Columbia, very few boxes of apples have been packed in Canada. Have the eastern fruit growers made the best of the opportunity to capture and hold a part of this expanding market for boxed apples? This tendency on the part of the markets for boxed apples could be more largely filled with eastern boxed apples than it is now. Some of the wholesale dealers discourage the use of the box in the east, probably because they can obtain their supplies elsewhere and buy local barrelled apples cheaper than boxed apples.

There is an increasing tendency on the part of the consumer, and this is reflected through the retailer, to buy in smaller lots or packages. Would it not be good business to take advantage of this tendency? The carton, or sectional apple carton, the half box, the half bushel and other small packages have recently come on the market, and in many places are gaining favor and increasing in number. These are smaller packages than the standard box and are worthy of consideration even by the larger growers who are out to make the most of their crop.

PACKING STARTS IN THE ORCHARD

Packing starts in the orchard. Many of the problems of grading and packing are solved when the crop is a high quality one, and in addition it gives greater satisfaction. Most apple growers make one picking of the tree; this results in a large proportion of poorly colored and small apples, or if the tree is not picked until late there may be many windfalls. Some growers make two and three pickings, going over the tree first when a fair proportion of the apples are fully grown and well colored. This results in lightening the tree of fruit, in lessening windfalls and in permitting of the better coloring and sizing of the remainder of the crop. A second picking may be made, and often is, before the third and final one. The only objection that I have heard offered to this plan of several pickings is the one of time and expense. However, those who have practised it, and they should know, state definitely that it costs less, for the savings in cost of grading and packing and the better prices received outweigh any additional cost of the picking operation. For varieties of apples of high quality, where color and size are important, this plan of two or more pickings is strongly recommended.

Greater care in picking the apples to avoid finger marks and package bruises is urged; this is one cause of apples spoiling in storage or failing to stand up throughout their season. The packer seldom knows the destination of the package at the time when it is put up, and as a protection to himself and to the prospective purchaser he should see to it that there should be no cause for complaint on account of bruises or rough handling of the fruit. McIntosh and Fameuse, the two leading apples in Quebec, are very susceptible to bruises from finger marks, package rubs, etc., and should be most carefully handled.



THE APPLE HARVEST.

GRADING

The usual plan is to grade entirely by hand from packing tables. This may be quite satisfactory, but often hand grading is carelessly done, and too many off-grade or defective apples find their way into the package. For box packing in the west, grading machines are almost universally used. These machines automatically size the apples into uniform sizes, and at the same time greatly facilitate the operations of grading the apples into two or more classes for quality. The different sizes of each grade, after passing through the machine, are placed in bins so that the packers, whether boxes or barrels, are used, have nought to do except to place the fruit properly in the receptacle. There are now three large Cutler graders in operation in this province, and several smaller machines of other makes. There should be many more, for all who have used them speak in favorable terms of the economy and satisfaction derived from them in handling the crop. Even in the barrel, the apples should be sized. Imagine a 2½ inch and a 3½ inch apple in the same barrel ! Oranges are never so packed, and they are the closest competitors of the apple. A grading machine will solve the problem of sizes for boxes, barrels and hampers.

At this point it is desirable to make a plea for better and more uniform grading of the apple crop. The New York State law requires the packer to specify the minimum size of the apples in the package, and this has brought about compulsory sizing of apples. This would be a wise step for Canada in the barrel and hamper packages. It is sometimes found that a few apples, often less than a peck, spoil the whole grade and reduce the price far more than the value of the few off-grade apples. Fruit growers could do much to improve the grade of Canadian apples by eliminating these off-grade apples from packs and refusing to take advantage of the 10% leeway afforded by the Fruit Act. Many growers have established a reputation for a high grade and uniform pack and there should be more of this class of packer. The Fruit Act now defines the grade of "cull apples", and these should not be permitted to go on the markets under any circumstances. The elimination of No. 3 and cull apples from the principal markets is a fruit grower's problem, and only he can solve it, if he will.

Cheap cotton gloves are a great protection in handling soft-textured, thin-skinned apples, such as the McIntosh variety. Such gloves can be washed quickly when necessary and are valuable in picking as well as in grading and packing operations. It should also be added that one cause of bad bruises is in handling several apples at a time. It is better to take only one apple in the hand at one time, whether in picking, grading or packing.

FACING

The face of the package should fairly represent its contents, and this is another reason for the importance of careful grading and sizing. It is the face of the package which gives the first impression and which goes a long way in determining the value. A good face should be uniform for size and color, and it should be tight. There are several special facing devices now in use for barrels; these are a great aid and should be more generally used. Also for facing hampers, there are several ring face devices on the market which enable one to make a very uniform and smooth surface to the top of the package. All these are great improvements over the old hand facing of packages and are essential in facilitating large scale operations.

(Continued on page 39)

LIVE STOCK AT VALLEYFIELD

Reported by the Editor.

SINCE this year's fair at Valleyfield is the first that I have had the opportunity of attending at that town, I am not in the best position to judge of its merits as a live stock show in comparison with the fairs of previous years. My impressions of the fair, however, were quite favourable. For, while some of the classes were not well enough filled to make for very keen competition, all those that I saw judged had some work for the judges—and the herds that were out were herds that are well known on at least the Eastern Canadian show circuit, as will be seen from the names of the winners in the various classes listed below.

Two full herds of Holsteins competed for the breed honors. These were from Raymondale Farm, Vaudreuil, and Helm Brothers, Huntingdon. The majority of the top placings went to Raymondale Farm, including the Grand Championship in males on the first prize aged bull, Abegweit Silver Chieftain, and the Grand Championship in females on Laningdale Queen Jess, first in the aged dry class, together with both Senior and Junior Herd prizes. Helm Brothers were first in the two year bull class, the two and three year old dry cow classes, the junior calf class and the progeny of cow class.

Four herds of Ayrshires were out—those of R. R. Ness & Sons, J. W. Logan & Son and P. D. McArthur & Sons all of Howick, and that of Braeburn Farm, of Ormstown. In addition, Wilbert McMillan of Franklin Centre was out with one entry, Alta Crest Conqueror Again, with which he carried off first place in the aged bull class, Senior and Grand Championship. The other championships were awarded as follows: Senior and Grand Championship in females, Ness on Burnside Blossom Andrietta; Junior Champion male, McArthur, on his senior calf entry; Junior Champion female, Ness, on his junior yearling. Ness and Logan carried off the majority of red ribbons, while McArthur, Braeburn Farms, and R. T. Brownlee (Hemmingford) each topped one class. Ness was first, with Logan second, in both old and young herd, also in get of sire, while in progeny of cow Braeburn Farm led, with McArthur second.

Second in point of numbers, came the French Canadian cattle. Most classes brought out four or five entries, and many offered interesting competition. Of the three competitors showing full herds, namely Ernest Sylvestre, St. Hyacinthe, Albani Sylvestre, St. Simon de Bagot, and H. Charpentier, Clairvaux de Bagot, Ernest Sylvestre had things pretty well his own way in the bull classes, while Albani Sylvestre won most of the awards in the female classes.

Herds shown by the Estate of Edward Maxwell, Ste. Anne de Bellevue, and by H. J. Snaden, Danville, made up the exhibit of Jerseys. The majority of first places went to Maxwell, including both old and young herd prizes, together with the Grand Championship in females, won on Three Fern's Beauty. Snaden had first in the aged and two year old bull classes, his entry in the former, Petune's Lad, carrying off Grand Championship honors, and first also on two year old heifer and junior heifer calf.

Nor did the dairy breeds have it all their own way, even although Valleyfield is situated in one of Canada's best known dairy farming districts. Shorthorns were well represented—but then they also have a long-standing reputation for milk in this province. Three full herds were out, those of Ed. Hooper, Hillhurst, C. E. Sharman, Canterbury, and Hugh Carson, Ottawa. Hooper had the Grand Champion bull in Chief Browndale, a two year old of high calibre, and an animal which should be heard from on the Eastern Circuit this year, while his White Master, winner in the aged class, was Reserve Champion. One or two other individual classes and both old and young herd classes were also topped by Hooper offerings. Sharman secured firsts on yearling bull, senior and junior bull calves, two year old heifer, senior and junior heifer calves, while Carson had the Grand Championship female in his winning entry in the aged cow class.

In heavy horses, there were a couple of Percherons, a full string of Belgians, shown by G. C. Reid of Chateauguay, and a sufficient number of Clydesdales to make for competition. The chief winners in the Clydesdales were R. Ness & Son, Howick, D. A. McCormick, Brysonville, Charles Turner and A. W. Hunter, both of St. Etienne, and Elzear Roy, St. Stanislas, with Ness leading in number of firsts secured, including both championships.

Feeder Purchase Policy Dominion Live Stock Branch

IN order to insure the success of the feeder shows to be held in Western Canada this fall, and in order to provide a further opportunity to farmers in Eastern Canada to perfect a direct connection with the western ranchers for the securing of their annual supply of feeder cattle and feeder lambs, the Honourable Mr. Motherwell has authorized the Dominion Live Stock Branch to put into effect this fall a Feeder Purchase Policy on similar lines to the assistance which was given during the past three falls.

This policy will be effective for a period of three months commencing September 1, 1927. It applies only on:—

(a) Shipments of feeder steers or lambs purchased at either the Moose Jaw or Calgary Feeder Show.

(b) Shipments of feeder steers purchased direct from a range herd in Saskatchewan or Alberta.

Under the terms of the policy the Branch will pay the oneway railroad fare, berth and living expenses en route from his home to Moose Jaw or Calgary of any applicant from Eastern Canada who complies with the following conditions:—

(1) The applicant must purchase and bring back with him to Eastern Canada one or more carloads of steers or feeder lambs to be fed on his own farm, or on the farms of those for whom he has acted as agent in making the purchase.

(2) An applicant will be expected if possible to attend at least one of the feeder shows mentioned for the purpose of purchasing his shipment. Applicants attending feeder sales should clearly understand that the policy will be allowed only on stock actually catalogued for such sales, and that other stock which may be in the yards at the time, but not entered in the show or sale, are not eligible. Feeder show dates are as follows:—
Moose Jaw, Oct. 12, 13 and 14; Calgary, Oct. 17 and 18.

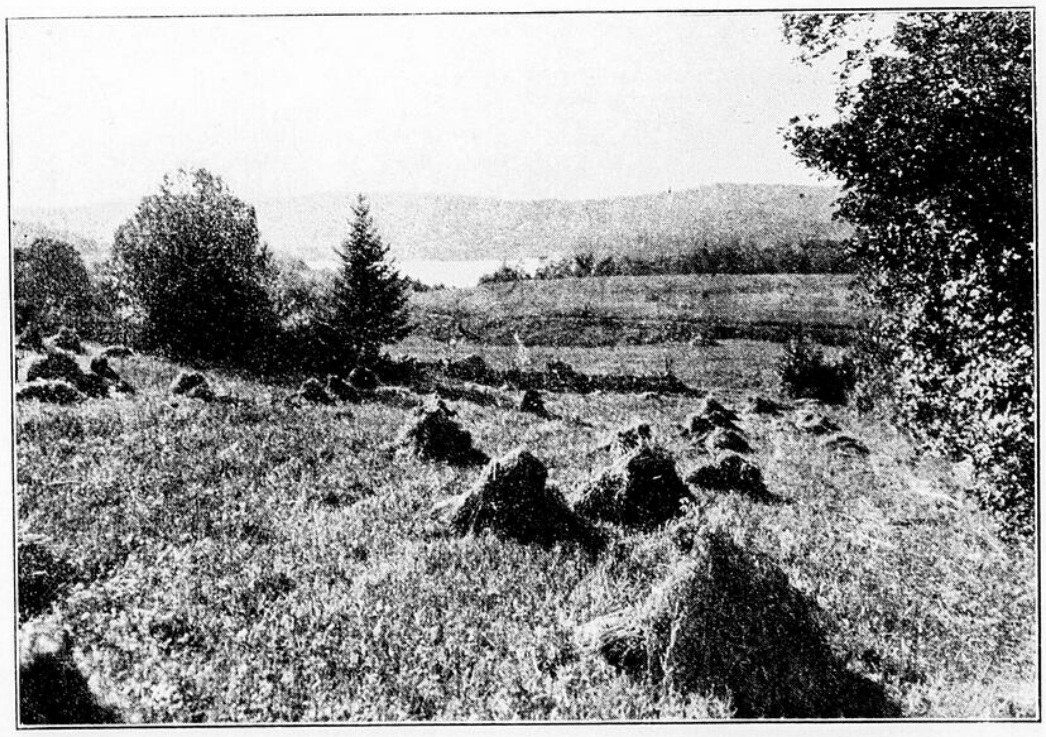
(3) An applicant who prefers to select a shipment of steers from a range herd either in advance of or following the feeder shows must make application for the benefit of the policy on his shipment to the stock yards representative of the Live Stock Branch at :—
Moose Jaw, in the case of purchase from range area in Saskatchewan, Calgary, in the case of purchase from the range area in Alberta.

(4) In the case of shipments made under clause 3, it must be understood that the expenses allowed by the Branch do not apply beyond the stockyards at which application for such purpose is made. Western ranchers are, however, desirous of making a direct connection with eastern feeders and it may be safely assumed that a bona fide purchaser will be at the minimum of expense during any time which he may spend in visiting range herds.

(5) The necessary expense forms, etc., required in taking advantage of the policy may be secured from the stockyards agent of the Live Stock Branch at Moose Jaw or Calgary. An expense account when forwarded to the Branch for payment must be accompanied by a statement signed by the applicant and certified to by the stockyards agent or field officer of the Branch indicating the date and place of loading, the number shipped, the point in Eastern Canada to which they are being shipped and the name of the party or parties for whom they are bought for feeding purposes.

(6) The policy will not apply on shipments purchased for speculative purposes or on shipments which are brought east for other than bona fide feeding purposes. Any violation of this clause will entitle the Branch to collect in full from the applicant any expenses which may have been allowed him.

Any further information desired regarding this policy may be obtained from R. S. Hamer, Chief of the Cattle Division, Ottawa. Prospective applicants are reminded of the importance of interviewing the representative of the Branch at the stockyards which they visit, as expenses will not be allowed on uncertain shipments.



Harvest days in the highlands of Old Quebec.

Feeder Purchase Policy Dominion Live Stock Branch

Effective for four days, Oct. 4th to 7th inclusive.

IN order to further encourage the winter feeding of cattle in Eastern Canada, and to insure the success of the feeder show which will be held at Toronto, October 4th to 7th inclusive, the Honourable Mr. Motherwell has authorized the Dominion Live Stock Branch to put into operation for the period mentioned above a Feeder Purchase Policy on similar lines to the assistance which was given to purchasers of stock in Western Canada during the past three falls.

Under this policy, the Live Stock Branch will pay reasonable travelling expenses of a farmer residing in Eastern Canada or of the authorized agent of farmers residing in Eastern Canada who purchases one or more carloads of feeder or stocker cattle under the following conditions:—

(1) The applicant must purchase at the Toronto Feeder Show and Sale, to be returned to his own farm or to the farms of those for whom he has acted as agent, one or more carloads of stocker and feeder cattle.

(2) A carload shipment must include not less than twenty head of cattle.

(3) An applicant must make formal application to the representative of the Branch at the Union

Stock Yards, Toronto, before commencing to purchase, and must receive from him a certificate authorizing assistance under the policy.

(4) Expenses will be allowed covering railroad transportation from the home of the purchaser to the Toronto Show and Sale, also hotel expenses for a reasonable time required to make a purchase.

(5) The purchaser should secure a receipt for his hotel expenses and should attach this receipt to his account. The account should be forwarded in triplicate on forms which will be supplied for the purpose.

(6) The purchaser is further required when forwarding his account to include on forms supplied by the Branch a statement regarding the purchase. The certificate secured from the representative of the Branch previous to purchasing should also be attached to the account.

(7) The policy will not apply on shipments purchased for speculative purposes or on shipments purchased for other than bona fide feeding purposes. Any violation of this clause will entitle the Branch to collect in full from the applicant any expenses which may have been allowed him.

(8) If desired by the purchaser, the services of the representative of the Branch at the market will be available in an advisory capacity. The actual purchasing must be done, however, by the buyer himself or by his authorized agent. Under no circumstances will any responsibilty in this connection be assumed by any officer of the Branch.

Inquiries regarding this policy may be directed to the representative of the Branch at either of the following stockyards:—

Union Stockyards, Toronto, 9, Ontario.

Point St. Charles Stockyards, 121 Bridge St., Montreal, P. Q., or Dominion Live Stock Branch, Ottawa.

Wool Production a Basis For Flock Culling

WHAT is the average weight of fleece produced by ewes of different breeds ? and what grade should wool of the various breeds be ? These are questions which might very well constitute the basis for very serious consideration on the part of sheep breeders. From the standpoint of wool production for each breed, there is a grade into which the fleeces of that breed should go. Unfortunately, there is a great divergence of quality even in the purebred flocks. This being the case, there is bound to be a greater divergence of quality in grade flocks even although headed by purebred rams.

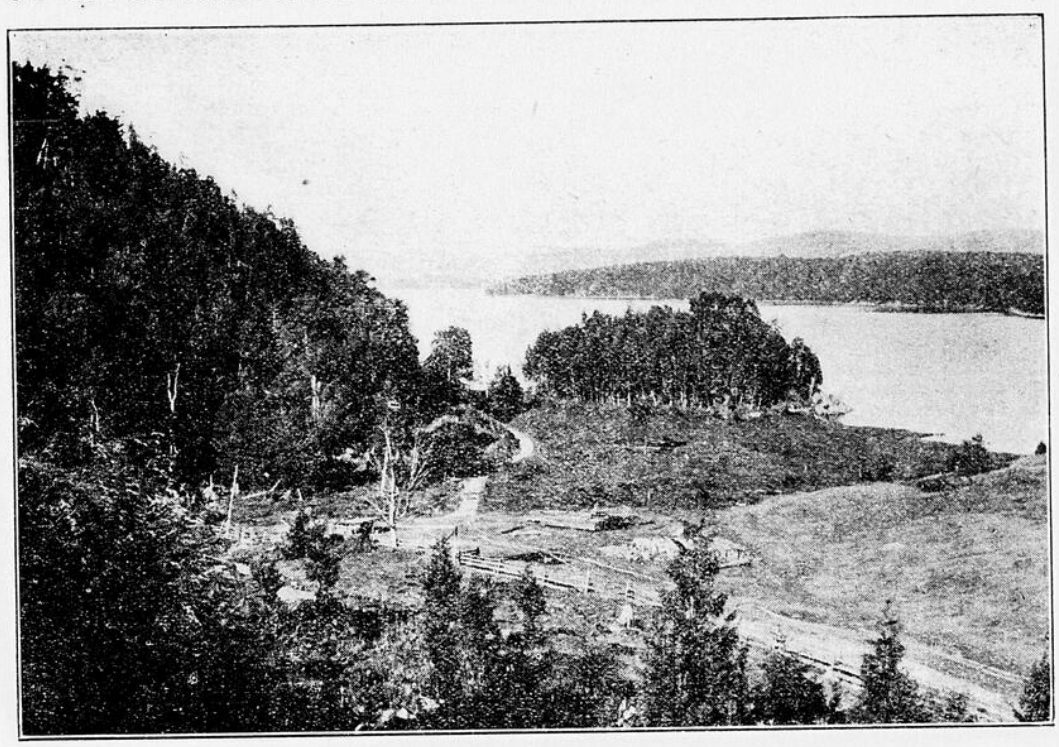
Probably one of the most important things that could be accomplished by way of wool improvement would be for the purebred breeders of each breed to decide upon a definite grade for their respective breeds. Such action would not in any way submerge breed characteristics as pertaining to the fleece, while it would establish a uniform standard in so far as quality or fineness of staple is concerned.

Weight of fleece is another important factor, both from the standpoint of the flock sire and the breeding ewe. If a steady increase in the average weight of fleece in the grade flock is to be made, the increase must come for the most part through the purebred sire. Statistics show that there is a decided difference between the average weight of purebred flocks of the same breed; and, again, there is a big spread between the minimum and maximum weights of individual fleeces.

Shearing time is at hand again and this is the opportunity for checking up on the weight and grade of individual fleeces. Weighing can be done as the fleeces are shorn and a record of the weights made in the flock record book. Compilation of such data, after a few years, will provide a definite guide as to whether the average weight of fleeces in the flock is increasing or decreasing.

Complete information regarding grading for individual rams or ewes may be obtained if the fleeces in a breeder's flock are numbered by the breeder as shorn and a statement of such numbering is forwarded to the Sheep and Swine Division, Dominion Live Stock Branch, Ottawa, with a request that the grading information for each fleece be recorded and returned to the breeder. This service, of course, could only be extended to purebred breeders.

In Canada, there is a growing demand for goods manufactured from wool. The pulp and paper industry is expanding very fast and requires an increasing volume of paper felts. Canadian wools are recognized for their strength and felting qualities, consequently they should be admirably suited for paper felt manufacture both in Canada and the United States. It is true that artificial silk goods have displaced to some degree certain classes of woollen goods. These new classes of goods have undoubtedly created greater competition, and make it necessary, not only for the woollen manufacturer to be absolutely efficient and modern in his methods, but also for the producer to be particularly careful that he produces the types and qualities of wool that are necessary in meeting competition in the most successful manner. A. A. M.



A view of Lake Macdonald, one of Quebec's many beautiful Laurentian Lakes.

Nutritive Value and Supplementation of Pasture.

By Dr. A. McTaggart, Agronomy Dept., Macdonald College.

THE nutritive value of pasture varies, as might be expected, according as it varies in the dominant plant species composing that pasture. For example, a turf containing a high percentage of clovers (high in protein content) will have a higher nutritive value than will a turf consisting almost exclusively of grasses. But there are other factors which influence the nutritive value of permanent pasture. According to recent investigations conducted at Cambridge University, England, notably by Woodman, Blunt and Stewart, the dry matter of closely grazed pasture grass should be regarded as a protein concentrate of high digestibility and nutritive value. Their investigations to date make it appear probable that it is only where the herbage is allowed to grow long and mature, as on poorly grazed pasture or under meadow conditions, that the nutritive value will be influenced primarily by the variation in plant species that constitute the pasture. In other words, the indications are that where pasture is kept close grazed the multiplicity of plant species and the dominance of certain species over the others are not so important, from a nutritive standpoint, as the management of that pasture—the keeping of it close grazed, and thereby the continuous promoting of young, tender, palatable and more nutritious growth.

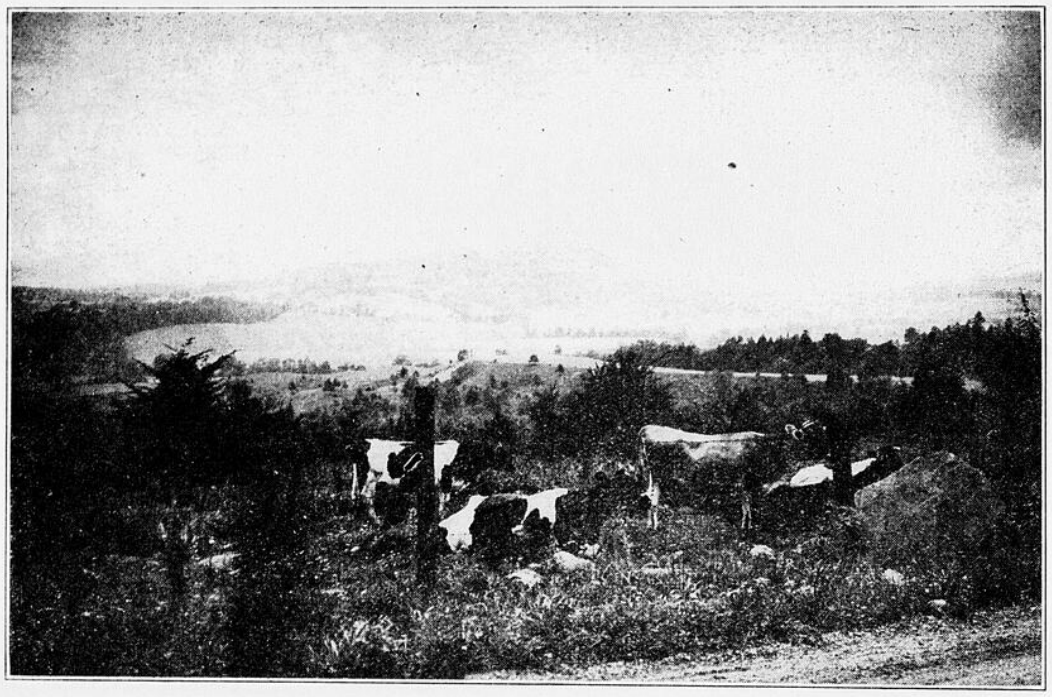
The work of these investigators would indicate that the adoption of a system of close grazing, combined with the use of suitable fertilizers to ensure density of herbage and vigour of growth, enable any handicap arising from inferior botanical composition (a pasture composed of inferior plant species) to be overcome. This finding is somewhat akin to the experience in sheep countries where the continuous grazing of sheep in sufficient numbers promotes the growth of the finer, tenderer and more nutritious grasses and the discouragement of the coarser grasses and weeds, as well as the constant production of short tender growth generally. By adequate stocking, and not under-stocking, the permanent grasses, such as the bluegrasses, improve under the treatment, and a close luscious sward results. Moreover, the noted lengthy pasture-manuring experiments of Cockle Park, Northumberland, England, also lend support to the above-mentioned finding. At Cockle Park by the application of adequate basic slag to poor worn-out hill pasture the whole nature of that pasture was altered. The slag promoted the growth of the finer grasses and to a remarkable extent the growth of white clover, the pasture resulting therefrom being materially changed in botanical composition and nutritive value.

The findings of Woodman *et al.* are such that closely grazed pasture has a narrow nutritive ratio and that when the diet of animals on such pasture requires supplementing, carbohydrate and not protein concentrates should be employed for this purpose. This procedure, they claim, is correct not only for fattening animals but also for dairy animals and young stock. They even go so far as to state that if the best results are to be obtained on closely grazed pasture, it appears necessary that all pasturing animals should receive, at all stages of the grazing season, some supplementary food, such as maize or other cereals, which are rich in carbohydrates. Referring doubtless to British conditions primarily, they forecast the utilization of large areas of grassland solely for the production of an ideal pasture concentrate for winter feeding, along with balancing with home-grown foods like roots and cereals. Such utilization of pasture in winter could not obtain, of course, under Canadian climatic conditions. But, though the Cambridge findings with respect to the possibilities of winter grazing to supply a concentrated diet do not apply in Canada, yet the matter of supplementation of a close grazed summer pasture of permanent grasses would seem to be worthy of consideration, even in this Dominion.

If supplements are available for use during the summer months, according to the Cambridge scientists, they make for economy in feeding and in the utilization of the productive resources of the pasture, if kept close grazed. Ordinarily, it is necessity that makes the average stock farmer resort to supplementation—when the dry hot days of the late summer and early fall affect the pastures and thereby reduce the milk flow of his herd. The commendable system of feeding at this time supplements—such as maize, millet, Soudan grass, Kale, etc—will aid materially in maintaining the milk flow, if any of these crops is available for such use. But, according to the Cambridge investigators supplementation of close grazed pastures any time during the pasturing period with crops rich in carbohydrates (starches and sugars) is economical feeding.

Investigations at Cambridge of the content of mineral constituents in close grazed pasture demonstrate that such pasture, when forming the sole constituent of the diet, supplies the requirements of dairy cows for lime and phosphate.

While close grazing, by adequate stocking, during the pasturing season is desirable for increased nutritive value of the pasture and for the encouragement of desirable plant species, yet the practice is undesirable in this country when continued into late fall, for the climate here demands adequate growth being left as a protection against winter-killing in pastures. If practised during the summer and during early and mid fall, the system has everything in its favour.



On a Laurentian farm.

Quebec Agricultural Marketing

QUEBEC Province through the initiative of its Minister of Agriculture, Hon. Mr. Caron, has taken a wise step in making provision of $50,000 a year to be placed at the disposal of the Department of Agriculture for the purpose of assisting, preparing, classifying and selling agricultural products, to conserve and improve present markets, and to develop new ones in the Dominion, the United Kingdom and abroad. It is evidence, at the psychological time required, of real determination to protect existing agricultural outlets and formulate new ones for the province's farm products.

The agricultural production of Quebec has a substantial annual value and is of a very varied nature. The total agricultural revenue of Quebec province in 1925 amounted to $282,739,000, being second only to that of Ontario, and came from field crops, farm animals, wool, dairy products, fruits, vegetables, poultry and eggs, fur farming, maple products, tobacco, clover and grass seed, and honey.

While the domestic market is a substantial one Quebec has to look abroad for the disposal of the larger part of its agricultural production. With the virtual closing of the United States market to these products, greater attention has come to be centred upon that of the United Kingdom. The way for the province's effort was paved by the British Empire Exhibition and later by the Government-inaugurated movement for the greater consumption of Empire food products, adopted enthusiastically. The Quebec office was established in London at a very opportune time and has been extremely energetic and gratifyingly successful. Merely one step taken by its Agent-General resulted in the interesting of the heads of big co-operatives operating 20,000 stores throughout the United Kingdom and the subsequent featuring in these of the food products of Quebec.

ACTIVE EMPIRE COMPETITION

In the Empire food marketing movement, however, Quebec, in common with the rest of Canada, has inevitably had to meet very agressive competition from other Dominions, particularly from Australia and New Zealand in respect to butter and cheese and fruits. These countries have apparently had larger funds at their disposal for campaign purposes and have been able to undertake more elaborate work for the promotion of sales. Quebec, at least, should be in a position to more adequately meet such competition in the future.

The movement which aims at the greater consumption of Empire food products in the United Kingdom is a great opportunity for all the provinces of Canada, but the active competition which is being put up by the other Dominions must be efficiently met. Canada in the past few years has had a gratifying measure of success. Despite the industrial disturbance in the United Kingdom in 1926, which disturbed the volume of trade in both directions, many food products from Canada continued to gain ground in that year.

Exports of agricultural and vegetable products rose by $3,000,000 over those of 1925 and were worth $75,000,000 more than 1924. This was largely accountable to grain and grain products which rose in value from $245,149,080 in 1924 to $314,222,660 in 1926. Meats which had an export value of $21,525,581 in 1924 had a value of $24,490,795 in 1926, after rising to $31,661,306 in 1925. Similarly sugar exports to the United Kingdom rose from $5,774,759 in 1924 to $8,962,555 in 1926, having reached $17,003,729 in 1925. Butter exports rose by a million and a half dollars the year before and slumped violently in 1926, and cheese exports showed an increase of half a million dollars over 1924 after having added over $10,000,000 in 1925. Exports of fruit and fish were similarly rising before the interruption last year. Exports of tobacco have more than doubled in two years, being worth $520,827 in 1924, $639,203 in 1925, and $1,873,639 in 1926.

ADVANTAGES IN TRANSPORTATION AND LOCATION

Quebec has advantages in the way of location and adequate transportation for the development of marketing with the United Kingdom. While making vigorous efforts at the present time with its dairy products by reason of the stiff competition offered, it has peculiar opportunities in other directions. A substantial marketing of maple products it could make virtually its own. Similarly it has opportunity over most other provinces and over the Dominion in the marketing of tobacco which now enters England under high preferential terms and for which a great demand is developing. There have been previous indications that the Quebec Government is moving to secure a firmer hold for its tobacco on the market of the United Kingdom.

At the same time the possibilities of other markets are to be investigated with the aid of the funds made available by the Quebec Government. One in point is that of the British West Indies where new business should develop as a result of the trade treaty recently concluded. Agents of the province are to be appointed in these islands to secure markets for Quebec butter, fish, potatoes and vegetables.

(from "Canadian Opportunities and Settlers' Guide.")

The Permanence of the Horse

WHEN the steam plough was first used, when the electric tramways commenced to run, when the bicycle, the automobile, the tractor and the truck were put into service, many saw a horseless age not far distant. Cartoonists depicted a nag as a curiosity to be found only in museums within a very few years; men of good intentions wrote articles in the papers, and the feeling became widely spread that it was only a question of time for the horse completely to disappear. And still the official records show that despite the large exportations during the Great War, there were more horses in Canada and in the United States, in 1925, than there over were in any year since the discovery of the New World.

That this should be so is, at first sight, remarkable, if one takes into consideration the fact that the horse has had practically no advertising agent to extol his merits whilst the very best talent has been employed to push the automotive industry. Small fortunes have been spent to show how horses could be replaced by automobiles, trucks and tractors, whilst little has been done to prove that different kinds of work performed by horses can never be accomplished by mechanical power.

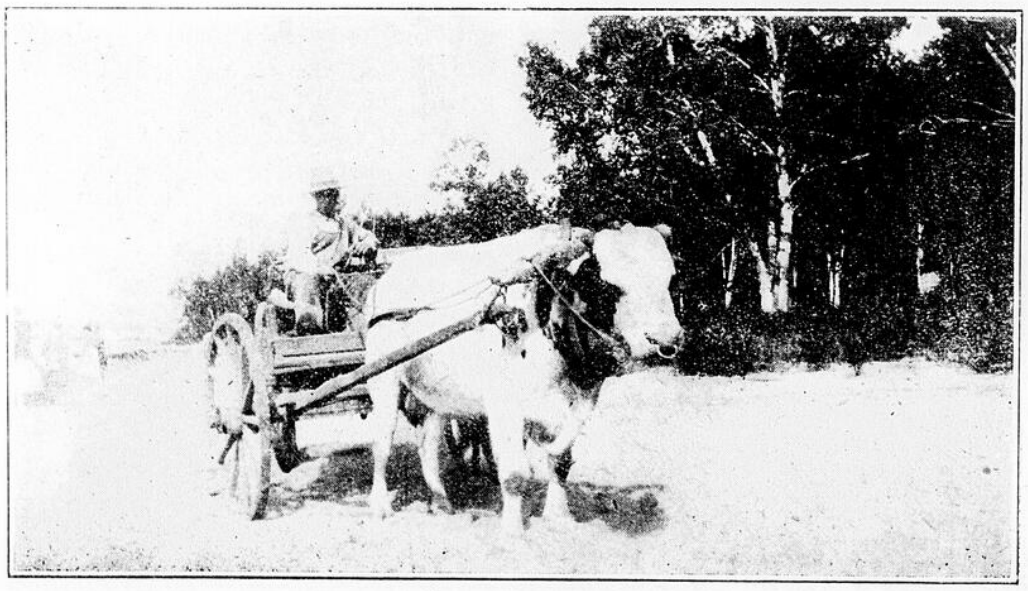
But the gradual increase in the number of horses is not so extraordinary after all, and, in fact, is only what might have been expected when one thinks about the very congested city districts where trucks will never be profitable on short hauls, the long winter months, in most northern sections, during which automobiles and tractors will necessarily be idle, and the hilly or even very rolling farms where too much power is lost in propelling the machine itself.

It must be admitted that some of the ordinary work of horses can be done as well and sometimes more cheaply with machines. But this is also true of the labour of men, yet, though during the last three or four decades machines of every description have been invented and placed in factories still the manual labourer is in great demand.

Besides these considerations the average farmer is not a mechanic any more than the average mechanic is a farmer. As long as his tractor is new, he gets along very well, but afterwards he commences to have trouble with it, and if the dealer or the service station mechanic is far away or busy, he may be stuck in the heaviest seasons of seeding, haying or harvesting. On the other hand, the care of horses has been known from generation to generation, and even if one animal is laid up, the whole work does not stop.

That the automotive industry is rendering a service to the country at the same time as it is piling up dividends is admitted: that it will in time crowd the horse away from farms is not believed by anybody who has given the question serious consideration.

(Gus. Langelier, Supt. Dom. Exp. Sta., Cap Rouge, in his new bulletin on the French-Canadian Horse).



On the shores of Lake Maskinongé.

FATTENING POULTRY

By C. D. Fogerty, Poultry Dept., Macdonald College.

DURING the last few years much work has been done by agricultural colleges and experiment stations on the culling of poultry. Their findings have been given to the poultrymen of the country, and each year more and more poultry is shipped to the markets after it has finished its season of productiveness. These birds are often not only culls as far as egg production is concerned but also in the matter of fleshing. If these poorly finished stuff is shipped to the market in the condition in which it is taken from the pens it does not bring the price that it would if it had been properly finished off. This year prices for poultry are so low that it pays to send only well finished stock to the market. The best finish is put on poultry by subjecting it to a period of fattening.

There are two methods of fattening in general use, namely pen fattening and crate fattening. Of these two, crate fattening is the more satisfactory since better and more economical gains are put on by this method. Pen fattening should be used for broilers only. The fattening period for broilers should not exceed two weeks, and ten days is often better. When chickens reach the broiler stage they are growing rapidly and do not readily withstand confinement. For this reason they lose flesh rather than gain in weight if they are confined to a small pen for any length of time.

For all other types of chickens and fowl crate fattening should be practised. With this method the birds are confined to crates specially built for the purpose and fed a fattening ration that will enable them to put on flesh quickly. The crates in which the birds are placed are slatted on the front, back, top and bottom. The slats on the front run up and down while all the others run the long way of the crate. This is to allow the birds to put their heads out at the front and eat from the troughs that are suspended there for the food. Each crate is six feet long, two feet six inches wide, and two feet ten inches high. Two partitions divide this crate into three equal sections. Four birds are put in each section, where they have room enough to stand and eat only and are thus prevented from taking any exercise. Because of this lack of exercise they use more of their food to build up flesh than they do under ordinary conditions. The top of the crate is divided and hinged in order to make a separate lid on each section. This allows the attendant to remove the birds from one section without those in the other sections escaping.

When putting birds in the fattening crates, only those with good strong constitutions should be used. While in the crates the birds are under a very unnatural environment and if they are weak they will go out of condition and lose flesh. Birds that have a strong frame and are in good health are the only ones that can put on profitable gains.

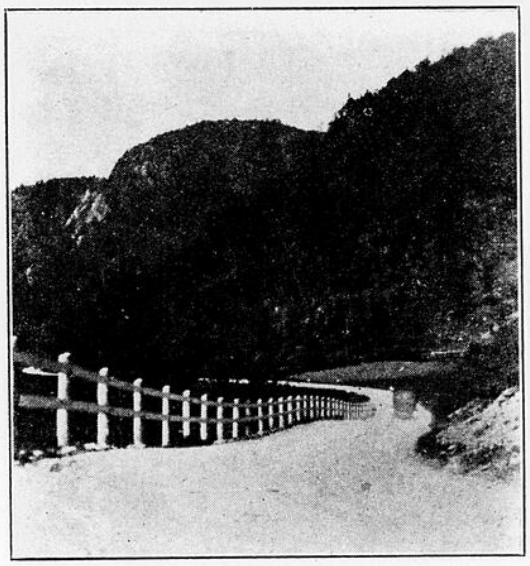
For the first twenty-four hours that the chickens are in the crates they should be fed very lightly. Many feeders starve their birds for the first day that they are confined, but this is not necessary if the feeding is carefully done. After the first day, feed lightly for another day in order to get the stock used to the new ration. After the birds have become accustomed to the confinement and the new type of feed, they should be fed heavily. It is usually safe to start the heavy feeding by the third day that the birds have been in the crates.

Two or three feeds can be given daily depending on the convenience of the operator. The feed is mixed with skimmilk or buttermilk until it reaches a consistency that will run freely from a pail. This mixture is placed in the troughs in front of the birds in such amounts as they will clean up in fifteen minutes. The secret of crate fattening poultry is to keep their appetite always keen for the next meal. Never leave feed standing before the birds after they show that they have had enough. Scrape the remaining feed back into the pail and save for the next meal. The mash may be fed sour or sweet, but sweet feed seems to give a little better results; if the mash is allowed to sour it should never be extremely so.

Various mixtures of ground grains make good fattening rations. One that has given satisfaction is sixty parts of cornmeal and forty parts of wheat middlings mixed with skimmilk. Another fattening mash is composed of equal parts of ground oats, barley meal and buckwheat meal mixed with milk. Still another fattening mash is composed of thirty-six parts cornmeal, thirty-six parts ground oats, eighteen parts wheat middlings and ten parts beef-scrap mixed with milk. All these measurements are parts by weight, and the milk used is always skimmilk or buttermilk.

On the general farm the best finish can usually be put on the birds in three weeks time, although with good stock and careful attention two weeks of fattening will sometimes be sufficient to bring the birds into good condition for market. Fattening is a finishing process, and improvement in the quality of flesh is as important as the actual gain in weight. Since it is a finishing process the birds should be removed from the crate when they reach the optimum condition. If held in the crates too long they will begin to lose weight. Birds that have been fed too long lose their interest in the feed and take on a generally unhealthy look, especially around the head.

After being crate fattened, stock will not ship alive without excessive shrinkage; this means that it should be shipped dressed. When dressing poultry for shipment it should always be dry plucked. The bird is suspended by the feet and the veins in the roof of the mouth at the base of the skull are cut in order to bleed it. As soon as the bird is bled the knife is forced through the roof of the mouth into the brain. This paralyzes the feather muscles and facilitates picking. When the bird is plucked the head and feet should be washed and the head wrapped in brown parchment paper. The dressed birds should be hung up to cool until all body heat has escaped. They may then be packed and shipped.



A picturesque bit of roadway in Bolton Pass, near Knowlton, Que. (Photo by the Editor)

Quality is always necessary before the top prices can be realized for any farm product. Fattening brings the bird into its best condition, and this pays, especially during a period of low prices. After the finish has been put on the carcass, neat dressing and packing help to show it to the best advantage. Quality and neatness are thus two essentials for profitable marketing.

Manure and Commercial Fertilizer in the Eastern Townships

IN this article we are attempting to show, through results obtained in experiments at the Dominion Experimental Station, Lennoxville, Que., that, while manure is still the most important of our soil builders, commercial fertilizers also have an important place in this phase of the farm work.

An experiment was conducted in the three years 1923-25, comparing the yields of crops on land manured at the rate of 15 tons per acre, with those from an area which received a dressing per acre of 320 pounds of commercial fertilizers, made up of: 8 parts of superphosphate and 3 parts of nitrate of soda. The two areas were in turn compared with a check plot, which received no manure and no fertilizer. The results show an increase per acre over the check in the case of the manured area of: oats 18 bushels, first year hay 1.11 tons, and second year hay 1.06 tons. The fertilized area showed an increase over the check of 17.9 bushels of oats, 1.06 tons of first year hay, and 1.53 tons of second year hay. The average value per acre of the increase of all three crops after deducting the cost of the manure or fertilizer was $5.76 on the manured area and $8.40 on the fertilized area.

Another experiment, which was begun in 1923, shows the effects of manure and commercial fertilizers on potatoes grown in a four-year rotation of: potatoes, oats, clover, timothy. Three plots received an application of commercial fertilizer, composed of: 2 parts nitrate of soda, 6 parts superphosphate, and 1 part of muriate of potash. One plot received 450 pounds per acre of this fertilizer (light application) another 900 pounds (medium application), and a third 1,800 pounds (heavy application). A fourth plot was treated with manure at the rate of 10 tons per acre, supplemented with 450 pounds of commercial fertilizer, mixed in the same proportions as above. A fifth plot received manure only, at the rate of 16 tons per acre, while a sixth plot served as a check and received neither manure or commercial fertilizer. The following table shows the average of four years' results, of this experiment:—

Treatment	Yield	Total return value	Cost of fertilizer	Value of crop after deducting cost of fertilizer
	bush.	$ cts.	$ cts.	$ cts.
Light application	164.9	168 31	7 28	161 03
Medium application	210.4	217 29	14 56	202 73
Heavy application	253.7	257 63	29 12	228 51
Manure and fertilizer	232.6	236 84	11 33	225 51
Manure only	206.3	204 31	6 40	197 91
No manure no fertilizer	121.3	127 57	.....	127 57

The results of these two experiments show quite clearly that applications of commercial fertilizers, with or without manure, will increase the crop yields, and are very useful as soil builders. However in view of the fact that all farms have a certain amount of manure on hand, the real value of commercial fertilizers is as a supplement to the manure, and it is as such that they may be used to best advantage.

P. O. RIPLEY,
Dominion Experimental Station,
Lennoxville, Que.

New Wheat Varieties Must Prove Merit

PRIOR to the Seeds Act passed by the Dominion Parliament in 1923 no control was exercised over the naming of varieties of seeds placed on the market. Wonderful and misleading names were used in foisting so-called new varieties on the unsuspecting public and fabulous prices were asked for the seed. The promising variety names were rarely borne out in the resulting crops, and many complaints were received from farmers and gardeners against this deception.

Section 6 of the Seeds Act prohibits the use of false or spurious names in offering or advertising agricultural or garden seeds, and requires that any new kind or variety name be licensed by the Minister of Agriculture. Applicants for a license to use a new variety name have to submit a history of the development of the variety with samples of the seeds or plants for propagating test, examination and report, by the Dominion Cerealist, Dominion Horticulturist or Dominion Agrostologist. If the variety proves to be distinctly different to an established variety, the Minister cannot refuse a license although in some cases the new varieties are known to be definitely inferior.

One of the new wheats recently licensed for sale has very poor baking qualities, and if this variety is multiplied and blended with our good varieties it may become a menace to agriculture by lowering the price and demand for Canadian wheat on the world markets. The Agricultural Committee of the House of Commons therefore recommends an amendment to Section 6 of the Seeds Act to provide that a license may not be issued for a new variety of wheat, unless it is found by field and baking tests to possess real merit.

Danish Butter Requirements

MUCH of Denmark's success in capturing and holding a large trade for their butter in the British market has been due to their requirements in making and packing butter for market. Butter to be exported from that country must be made from pasteurized cream containing no more than 16 per cent water and at least 80 per cent of milk fat. Aniline dyes only are to be used in colouring, and all the butter from week to week must maintain a certain uniform quality. The net weight must be stamped on the package, which must also show an indication of the date of manufacture.

MINERALS IN LIVE STOCK FEEDING

By Geo. B. Rothwell, Dominion Animal Husbandman, in "Seasonable Hints".

MUCH has been written concerning the subject. Many advertisements appear descriptive of the virtues of commercial mineral mixtures. In a general way, it is difficult to prescribe mineral supplements for live stock. Almost as well try to prescribe plant foods in the way of fertilizers without knowing the nature of the particular soil to be fed, and in particular the chemical analysis (as disclosing the deficiencies) of same.

The kind of stock, the age, the kind and quantities of food fed, the nature and analysis of the soil growing all or a part of this feed, whether or not abnormal characteristics (deficiency diseases) appear regularly in the animals so fed,—these are some of the factors concerning which knowledge is necessary before authentic information may be given. In this connection, deficiency in, say, the lime content of a soil is popularly supposed to result in a similar deficiency in the lime content of the plant, further reflected upon the condition of the animal consuming the plant. To a very limited extent this is true. The point is that while there is relatively little variation in the lime content of fodders, irrespective of the soil mineral content, and that the crop will lack in yield rather than constituent—the crop grown on a deficient soil tends toward the low range in the lacking soil constituent, and continuous feeding of such a fodder may ultimately reflect this deficiency on live stock consuming it.

Roughly speaking, the animal body contains the same ash materials as are found in plants, and, as a general rule, the elements essential to the life of plants are essential to the life of animals. Without going into a dissertation on the mineral composition of plants and animals, let it be stated that calcium, phosphorus, potassium, magnesium, sulphur and iron are possibly the most important elements as found in the plant and as required by the animal body. Of these, calcium and phosphorus are of prime importance, and mainly through lack of these, unsatisfactory conditions (as caused by mineral deficiency) are found in live stock.

Under ordinary conditions, as already stated, where the ration has fair variety and adequate quantities are fed, there is little danger of lack of mineral. The results of feeding ill-balanced rations, insufficiently supplied, cannot be overcome by feeding supplementary mineral mixtures. Correct feeding of the soil, the featuring of leguminous crops (clover and alfalfa), the following of good feeding practice and the regular supplying of common salt, all are important in this connection.

Nevertheless, the use of mineral supplements is, in many cases, good practice, particularly with dairy cattle, pigs, and pregnant or nursing females generally. With the latter a ration high in lime and phosphorus is required. Then, too, the nature of the feeds available may make necessary certain mineral additions to the ration. For example, some of the common feeds low in lime or calcium and calcium phosphate are straw and chaff, cereals and their by-products and roots. On the other hand, feeds high in lime are, hay from legumes, alfalfa in particular, certain grasses and many of the leguminous seeds. The small grains, wheat bran, malt sprouts, brewers' grains, linseed meal, etc,. are all high in phosphoric acid.

The following figures are significant, as disclosing *the calcium content* on a dry matter basis of certain roughages: *alfalfa, 2.5 per cent;* red clover, 1.58 per cent; timothy hay, .39 per cent; corn stover, .41 per cent; oat straw, .36 per cent; wheat straw, .22 per cent.

From the foregoing brief comments, it would appear that, within certain limits, the feeder may control the mineral constituent of his live stock rations through the feeds he grows and uses.

There follows a brief discussion of mineral constituents as applying to the rations of the different classes of stock.

Horses.—Show fewer conditions attributable to mineral deficiency than other kinds of farm stock.

1. Salt regularly.

2. Ground or pulverized charcoal may be very useful. Feeding a handful or two during the week in grain or mash supplies phosphates and a good digestant at the same time.

3. Lime may be needed in some districts, and may be administered as ground lime stone in feed or as lime water in the drinking water.

4. Potassium iodide crystal administered at the rate of one-eighth of an ounce (one small teaspoon, level), on the first and fifteenth of each month, dissolved in drinking water, would appear highly beneficial in the case of in-foal mares as a preventive to joint ill and weakness in foals. Start administering this in November with the spring bred mare.

Cattle.—Very frequently are insufficiently supplied with minerals, particularly high-producing dairy cows.

1. Feed a well balanced ration, making the feedding of leguminous roughages (alfalfa it possible) a feature.

2. *Supply salt regularly.* Iodized salt has special virtues. It may be purchased in block form or made up,—two to four ounces potassium iodide dissolved in water and sprinkled over one hundred pounds of dry salt. Mix thoroughly.

3. *Edible bone meal* (not fertilizer) or bone char, where it may be secured, forms on excellent source of bone phosphate. Feeding a pound to a pound and a half per hundred pounds meal is good practice and may effectively supplement the heavy demands of the high-producing cow.

Where cattle show an abnormal or depraved appetite for bones, wood, etc., the result of deficient rations, this condition may be gradually corrected by the use of a mixture of bone meal, ground charcoal and salt. Further, there is considerable evidence pointing toward the probability of assistance from supplementary bone meal feeding in the matter of abortion infection control. If so, this must come through the strengthening or toning of the system generally and the genital organs in particular.

4. *Pulverized charcoal* or chick size charcoal may be fed to advantage, one and one-half to two pounds per hundredweight of meal. Charcoal is high in phosphates and is a good absorbent and cleanser for the intestinal tract.

5. *Lime* is best fed to cattle through leguminous roughages. It may be fed in the form of ground limestone with salt or mixed in the meal.

Finally, no amount of mineral mixture, bone meal, phosphates or lime, will greatly change the condition of the underfed "straw stack" cows, so common. The major consideration in Canada is *better feeding,* particularly as applied to calves, growing stock and dry cows.

Sheep.—With one notable exception, sheep, as a rule, have not received or seemed to need the attention given other classes of stock in regard to mineral. Subsisting largely on pasture and hay or roughage crops and having access to the earth itself, their demands seem to be met with a plentiful and continued supply of salt, preferably rock salt.

Of late years, the practice of feeding *iodized salt* has become common, particularly in Western Canada, and in districts where goitre is prevalent. The administration of minute quantities of iodine to the pregnant ewe will control goitre. As pointed out, iodized salt may be purchased in block form or may be made up as already described. The optimum quantity of potassium iodide for use in this connection is not definitely established as yet. From two to four ounces per hundred pounds of salt would seem to give satisfactory results. Thorough mixing is necessary.

A fair proportion of leguminous roughages is just as valuable, as with other classes of stock.

Swine.—The growth of the pig is the most rapid of all farm animals. Frequently the sow produces two litters per year. Therefore, the demand for lime, bone phosphates, etc., is heavy, and not infrequently poorly supplied by the feeder. There is no doubt but that more attention to mineral supply would result in stronger litters, greater certainty in breeding operations, and better developed frames in market pigs.

1. Alfalfa or clover hay should be before the brood sow all winter.

2. The same roughages are good for winter fed market pigs.

3. Sods form one of the cheapest and best forms of mineral matter for winter use.

4. Tankage or meat meal, 3 to 5 per cent for the brood sow, and up to 10 per cent for the feeder hog where no milk is fed, supplies soluble mineral salts.

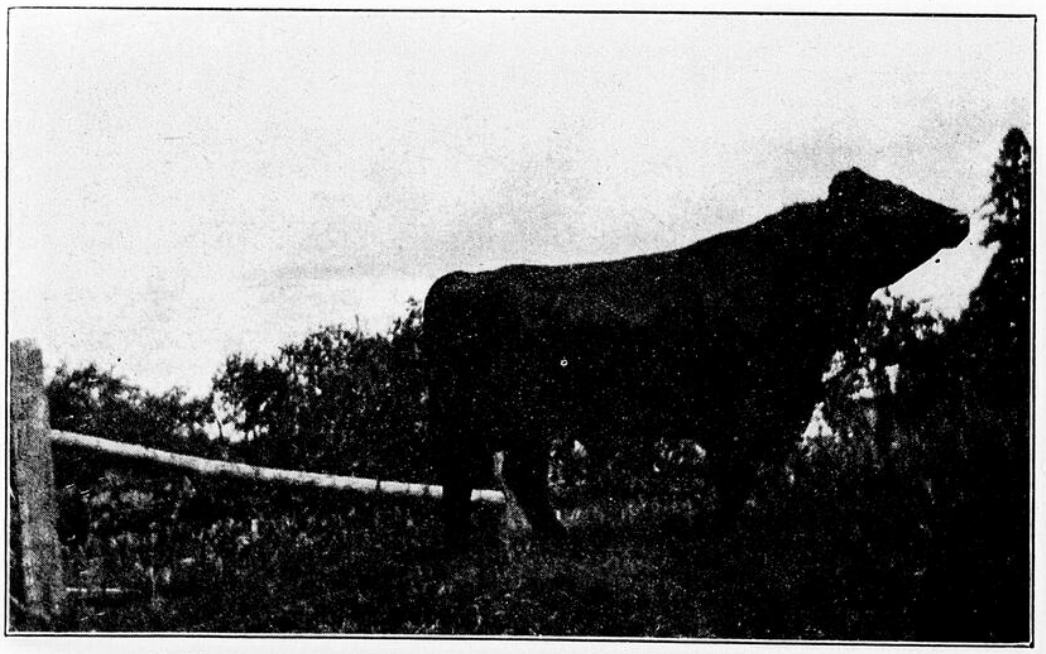
5. Bone meal, ground limestone and charcoal make valuable additions to the meal ration of the brood sow or growing pig in many cases. One pound of each per hundredweight of meal may be enough. Edible bone meal is especially good for the brood sow, as is a small quantity of tankage (3 lb. per cwt. of meal).

6. Where hairless litters are prevalent or feared, potassium iodide is a reliable preventive. Make a stock solution of one ounce of potassium iodide to one gallon of water and give one tablespoonful of the solution to the sow daily in her slop during the greater part of pregnancy. Aside from preventive powers toward hairless litters and kindred conditions, such practice seems to exert a generally beneficial effect on litters.

Finally, in the foregoing discussion it has been impossible to stress the importance of good feeding practice. In Canada, as a rule, poor results with live stock are not directly attributable to lack of mineral in the ration. There are, of course, definite exceptions to this rule. Using the right kind of feed and enough of it to fit the age, kind and condition of the animal is of primary importance.

Smut Infected Feed Not Wholesome

ALTHOUGH smut-spore-infected grain or feed is not so injurious to livestock as is sometimes believed, there is no doubt that feed contaminated with smut is unwholesome. Although the matter is not altogether cleared up, farmers are advised, in a Dominion Department of Agriculture bulletin on Smut Diseases of Cultivated Plants, not to run risks by giving animals such feed. In an extensive investigation with all the ordinary farm animals there were no instances of definite sickness brought about by the eating of smut contaminated food, but the frequent occurrences of minor disturbances showed that such food should not be generally used.



The Shorthorn bull "Grover", 68526, owned by John A. Percy, Leeds Village, Que.

Selecting and Preparing Exhibits of Flowers and Vegetables for the School Fairs

By A. H. Walker, Horticultural Department, Macdonald College.

THIS subject is usually discussed with the children each year at a meeting held after the exhibits have been judged, in order to satisfy the boy or girl why his or her huge immature pumpkin, large beets or vase of flowers did not win a prize.

As children are apt to forget from year to year, a reminder at this time when the fairs are commencing will be helpful. While judging depends in some measure on individual taste, there are certain standards which are recognized by all judges and the object of this article is to explain these.

GENERAL CONSIDERATIONS IN JUDGING VEGETABLES

Form—Refers to the normal shape of the variety. Study the type of the variety and select specimens conforming to it.

Uniformity — Refers to the similarity in size, form, color and general appearance of all the specimens.

Size—The largest specimens are not necessarily the best, as frequently this is a sign of coarseness in texture. Medium size specimens are usually of finer quality.

Color—The normal color of the variety.

Freedom from blemishes—All specimens should be free from injuries caused by insects, disease or other means.

Quality and texture—Quality is indicated largely by appearance and finish, the vegetables having been well grown. Texture refers to substance and freshness. Vegetables should be tender, firm and crisp and free from coarseness and stringiness.

Condition—All specimens should be in condition for table use.

Cleanliness—Vegetables should be exhibited in their natural condition as far as possible. Some vegetables, such as carrots, beets, etc., should be washed or rinsed to remove the adhering earth, but in doing so be careful not to loosen the skin or otherwise injure them, as this detracts from their appearance.

To supplement the above the following information on the selection and preparation of vegetables usually shown at school fairs will be helpful.

Beets—Medium size 3 to 3½ inches in diameter, smooth, round and free from side roots. Remove foliage to within 3 inches from the top of the beet.

Carrots—Medium size, straight, free from side roots and discoloration at the top. Remove tops as advised for beets.

Cabbage—Heads should be round or slightly flattened in shape, medium to large size and heavy. These should be shown with several of the outer dark green leaves attached.

Cucumbers — Specimens should be smooth, straight, of medium length with uniform thickness throughout, dark green in color and heavy. Note—In the class for ripe specimens, the above points are the same with the exception of color.

Onions—Should be of good size, well matured and have a small well-ripened neck. Tops should be removed to within 1½ inches of the bulb. They should not be pealed.

Sweet Corn—Fair size for the variety and be well developed, with straight even rows, well filled out at base and point. The kernels should be tender.

Parsnips—Roots should be medium length, with a broad crown gradually tapering to the tip. They should be straight, smooth and free from side roots and firm in texture. Remove tops as for carrots.

Potatoes — Tubers should have shallow eyes, smooth and firm with an unbroken skin. Medium size is preferable. Uniformity in size and trueness to type is very important.

Pumpkin — Large, heavy and mature, closely ribbed. Maturity is the chief factor.

Tomatoes—Medium in size, smooth, firm, free from cracks and evenly colored but not too ripe.

Collection of Vegetables—Where a limited number of varieties is specified, show those which take most care to produce, as the judge will favour these. *Example*—onions, celery, cucumber, and cauliflower would take precedence over cabbage, turnips, squash, potatoes.

GENERAL CONSIDERATIONS IN JUDGING CUT FLOWERS

Form—Refers to the natural shape of the variety when fully developed.

Size—The largest flowers are not necessarily the best. Abnormal size is often a sign of *coarseness*. If, however, a flower is up to the standard in other respects, size is the most important factor.

Color—The normal color of the variety at its best. Immaturity or staleness are weaknesses in this regard. Injury caused by insects, disease, etc., also affect color.

Stem—Length, strength and straightness of stem, well furnished with foliage, is of the greatest importance.

Substance—Refers to vigorous growth coupled with finish, indicating that it has been well grown.

Foliage—Intensity of color is important as is also substance. The foliage should be free from blemishes caused by insects, disease or other means.

Uniformity—Refers to the similarity in size, form and general appearance of specimens shown in the same class.

BOUQUET OF FLOWERS

Variety and color—Good taste in the choice of varieties, and their color is necessary yet difficult to define. Colors should harmonize and be effective.

Arrangement—The individual flowers or spikes should not be crowded, but so spaced as to produce an open airy effect. Foliage plants are also in the bouquet should be light and graceful.

As a final work of caution—study the prize list and show exactly what is called for.

The Home Grounds in September

Fall Planting Commences this Month.

By M. H. Howitt

FOLLOWING a period of almost sombreness, unless one's annuals have done very well in the garden, the borders will once more show a blaze of color as the fall flowers bloom. After the holidays the gardener will again take up his work with renewed zest provided he has taken proper measures to see that the place has been well kept in his absence, as to come back to a wilderness is rather too discouraging to expect results by fall.

As suggested in the heading, planting is the chief consideration. Late September and October are excellent months for the planting of perennials, even more satisfactory than the spring, as the plants can be more readily identified by the average individual. A few rules should be followed for a successful perennial border.

1. Choose a location on the boundaries (preferably the sides or back) of the lawn with a background of a fence, hedge or shrubbery. This displays the plants to the best advantage.
2. Enrich and prepare the soil to be planted thoroughly, as it is likely to remain for some time before renovation becomes necessary. Make the border at least five feet wide to adequately arrange and display the groups of plants. Very narrow borders are inadequate.
3. Arrange the plants in groups or clumps, with a very limited sprinkling of single plants for variety. Aim to so spread the varieties that there will be continuous bloom throughout the entire length of the border. This is difficult to do, especially in the small border, and requires careful planning.

Note: Height is also an important consideration and we have three classes of plants to work with, tall, medium and low. The tall naturally go at the back and the lowest in front. The large range of plants known as medium can be used all through the middle ground, and by placing them well towards the front or back occasionally one can produce an artistic natural effect and avoid anything at all stiff and stalked.

4. When doing the actual planting, use only the younger parts and small pieces of clumps, or newly grown, strong plants. Dig an adequate hole and afterwards firm the soil thoroughly. Be careful not to cover the crowns of the plants. Use only superior strains or the new named varieties of the different perennials.
5. Supplement the regular perennial planting with bulbs for spring blooming and with annuals. The latter will fill in and bloom at a time during the summer when there is little color otherwise in the border.
6. Use the stronger growing perennials judiciously and see that they do not encroach on the others and upset the scheme of things. To this end, constant thinning and a certain amount of planting and rearranging will be necessary. A thorough renovation of the soil and plants will be required every few years.

The season is also one of harvest, and all perishable subjects should be taken in under cover before there is danger of severe damage by frosts.

Store tub plants as the hydrangea in a cold, light place where they can be held dormant in the spring until all danger of frost has passed. If it is not possible to hold them dormant, endeavor to select a place where the sprouting foliage will receive sufficient light to prevent too much paling of the foliage.

Gladioli, Dahlias, Cannas, etc., must be lifted and stored as soon as the tops have been killed by the frost.

Remove all but about six inches of the tops of gladioli, dig them carefully and lay them out in a cool dry place to ripen. When this has taken place, the old corms will separate easily from the new and may be removed and discarded. The remainder of the stem should then be cut off and the corms should be stored in a cool airy place away from frost. Flats or open boxes are excellent and the corms should not be piled more than three or four inches deep. Store the small cormlets also and plant them by themselves. In about three years time they will produce flowers.

Dahlias should be stored in dry sand after the tops have been removed away from frost.

Now is the time to prepare for preliminary light frosts which may ruin the garden and then be succeeded by a period of June weather. Plan to protect the tender plants with cheese cloth, newspapers or even branches.

Take cuttings of coleus and the geraniums well before frost cuts them down.

The strenuous occupation of removing the fallen leaves will soon commence, and the effort should not be wasted in burning them. Rather, compost them and they will prove very useful as humus about the grounds.

Apple Packing

(Continued from page 33)

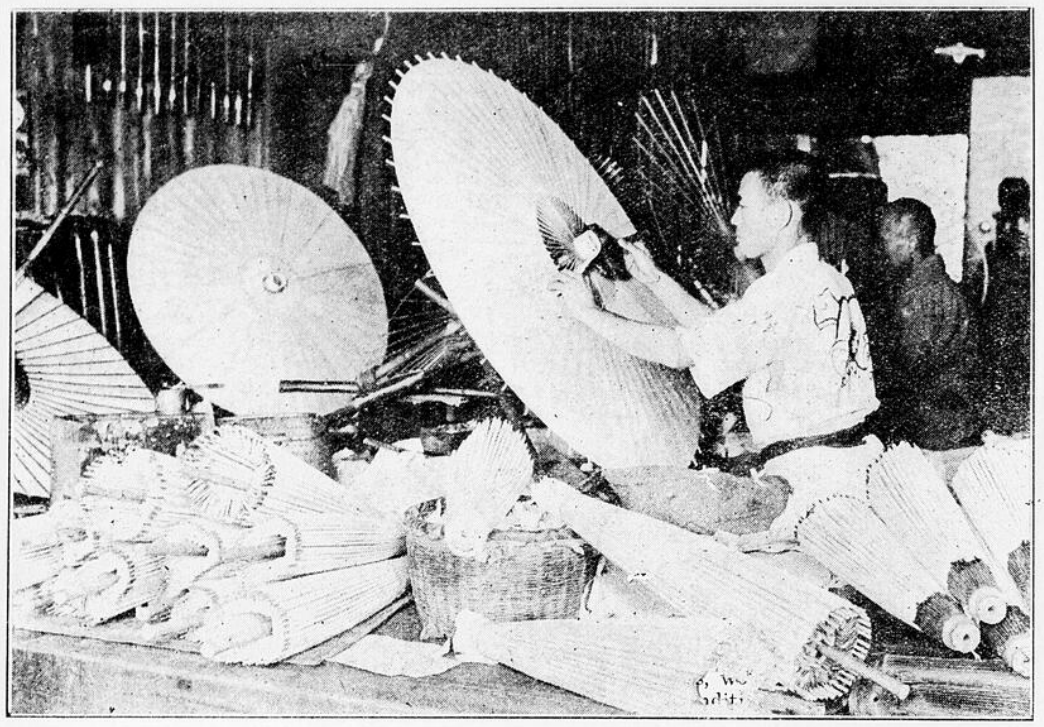
PACKING

Much has been written on packing; here it is only necessary to emphasize certain well known principles. If the apples have been well graded for size and quality, the packer's troubles are largely removed. Tightness and solidity are important if the package is to be transported, carted or held in storage. In the barrel, this is obtained by firm racking on a solid foundation and by pressing when putting in the head. Over-pressing or racking is just as bad as insufficient effort in this respect. Soft-textured apples must be more carefully handled than the harder ones. Careful and frequent racking while the apples are being placed in the barrel will lessen the amount of pressing necessary.

In box packing, practically all the apples are wrapped. The paper helps to hold the apples in place, but it is important when putting the apples in the box that each layer be tight. This tightness is obtained by pulling the apples down from the end of the box and putting another row in to tighten it before the next layer is commenced. The paper takes up space, and, as the apples "nest" in the box, it is very important that it be firmly packed and have a good bulge if it is to stand up and not go slack, as so often occurs.

A PACKING HOUSE

A packing house, with modern conveniences for handling the crop with dispatch, is necessary if one desires to obtain the most for his crop. Packing in a shed or corner of the barn, under cramped or crowded conditions, or in the orchard, is not conducive to good work. It is not necessary to have an expensive house, but a roomy, well-lighted and well-ventilated place is very necessary for first-class work. Whether the packing is done entirely by hand, or largely by machinery, convenient arrangement of the packing space is desirable so that the fruit will come in at one end and go out at the other, or one side, with a minimum of handling and confusion. Ample storage for the crop as harvested, in a place where the temperature may be maintained below 40° F., is desired, and this place should be readily accessible from the packing house. Co-operative packing of apples is carried on in many places, and recently the fruit growers of Abbotsford organized and erected a centralized packing house with a modern Cutler grader, in which ten or a dozen growers are packing and marketing their crop co-operatively. There is room for many more such co-operative organizations in Quebec and other parts of eastern Canada. In this way a more uniform pack may be put out, the grower is not subject to such temptation to over-face, and the costs of modern packing equipment and conveniences are distributed and lessened to the individual grower.



Preparing for the Myubai (rainy season.)

JOTTINGS FROM JAPAN

By D. S. Dunford

IV

The Nyubai — Rice Planting—
A Japanese Wrestling Match.

The Nyubai.

THE Nyubai, or rainy season, is past and gone, only unfortunately this year it was dry. This was very serious, not only from the agricultural viewpoint, but from that of health also. The rice crops suffer most, as they require a great deal of moisture, (but more of that anon) and there has been quite an epidemic of intestinal trouble, owing, it is said, to the dry weather.

In normal years this season starts about June 5th and lasts until July 12th. The rain comes down pretty steadily all the time, with a few fine days interspersed. It is intensely hot and the rainfall brings no relief in that quarter. One literally swelters in the steaming heat and it is frightfully uncomfortable. Everyone and everything simply exude moisture.

The Nyubai is full of pitfalls for the unwary. If the greatest care be not exercised, clothes and shoes are absolutely ruined, for the moist heat causes mildew to appear on everything. Every few days—at least once a week—all clothing has to be removed from cupboards and drawers, shaken out and hung up in the air, and shoes have to be carefully wiped over. I was warned to be prudent in this respect, but as the weather was fairly dry I didn't profit by the advice and my heedlessness nearly cost me a silk dress, which I just caught in time.

While on the subject of rain, a few words on Japanese umbrellas will not come amiss. Two things are most noticeable about them—they are made of paper, and most of them are enormous. Grown-up umbrellas are anything from 3½ to 4½ ft. in diameter; some are even larger. The Japanese certainly don't believe in getting their shoulders wet and, of course, the baby has to be protected also. When two people with these huge umbrellas try to pass in the street, the way is pretty well blocked. I expect you are wondering of what use paper "brollies" are, but they are treated or varnished over with some solution which makes them perfectly waterproof. Small sized umbrellas are made for the children, who look very cute running along the muddy roads like animated mushrooms. Like everything else in Japan, the umbrellas are very colorful.

I had quite an amusing time buying a rain coat. As I am short and plump (to be put it politely) it was difficult to get a ready-made one to fit me and, as they wanted to charge so much to make one, I was almost in despair. However, I decided to go to a big deparmental store in Theatre Street, Yokohama, to try my luck. This store reminded me of Eaton's on a small scale. Before I went down I carefully learned the Japanese for raincoat (gomu no kimono). So I boldly marched into the shop and said: "Gomu no kimono, dozo?" (Dozo means please.) The clerk—a very bright faced boy—replied: "Oh, yes, raincoat, second floor please." I felt thoroughly squashed and meekly made my way over to the elevator. After some discussion with the head of a department, who told me he regularly went to Vancouver to buy for the firm, I suggested I might get one in the men's section, so he came with me and was very helpful, although extremely distressed at the idea of my having a garment with the buttons fastening the wrong way! However, the climax was reached, after I had bought one, when he said *it would do for my husband as well ! !* I didn't tell him I was an old maid, but I wondered what height he thought my husband was, being only 4 ft. 9 ins. high myself.

Rice Planting.

The Japanese are an amazingly industrious race of people, but nowhere is their patient, untiring labour so manifest as in the rice fields, or "*paddies*" as they are called. You may, or may not, know that rice has to be grown in water, or at least very muddy ground, and to see the men and women toiling knee deep in the filthy slime, during all the hours of daylight, is a sight not easily forgotten. I remember, years ago, hearing a man lecture on China. He told a story about a little girl working in the rice fields in the early spring and losing both her feet because they were neglected after being severely frost bitten. At the time I was rather incredulous and, if I had not know the lecturer to be a man of absolute integrity, I should have thought he was "springing one on us." However, after watching the people at work here in March and the beginning of April in icy cold water, I wonder that more people don't lose their limbs this way.

The paddies are any size from 6 by 2½ ft. to 30 or 40 ft. square. The mud is worked up into little ridges, which are almost entirely under water. These little fields, in the plains, are 12 to 18 inches below the surface of other patches, so that all the available moisture is caught and retained. In the hilly districts the paddies are arranged in a series of terraces. Up almost at the top of a cleft in a hill will be a small rice patch—quite flat of course—then 18 inches below it will be another, and so on until naturally level ground is reached. Little dykes, about 8 inches high are built round each paddy, with an outlet in the centre about 4 inches deep. This is their system of irrigation—when the top patch is full of water, the overflow goes through the aperture and irrigates the next one and thus all are eventually watered. You can thus realize what a serious effect the dry Nyubai has had on the crops this year. In some very hilly districts there have been awful rows among the farmers, for those in the low lying districts have been accusing their brethren up aloft of retaining the water in the higher paddies, so that the lower ones have dried up. Quite nasty disturbances have resulted.

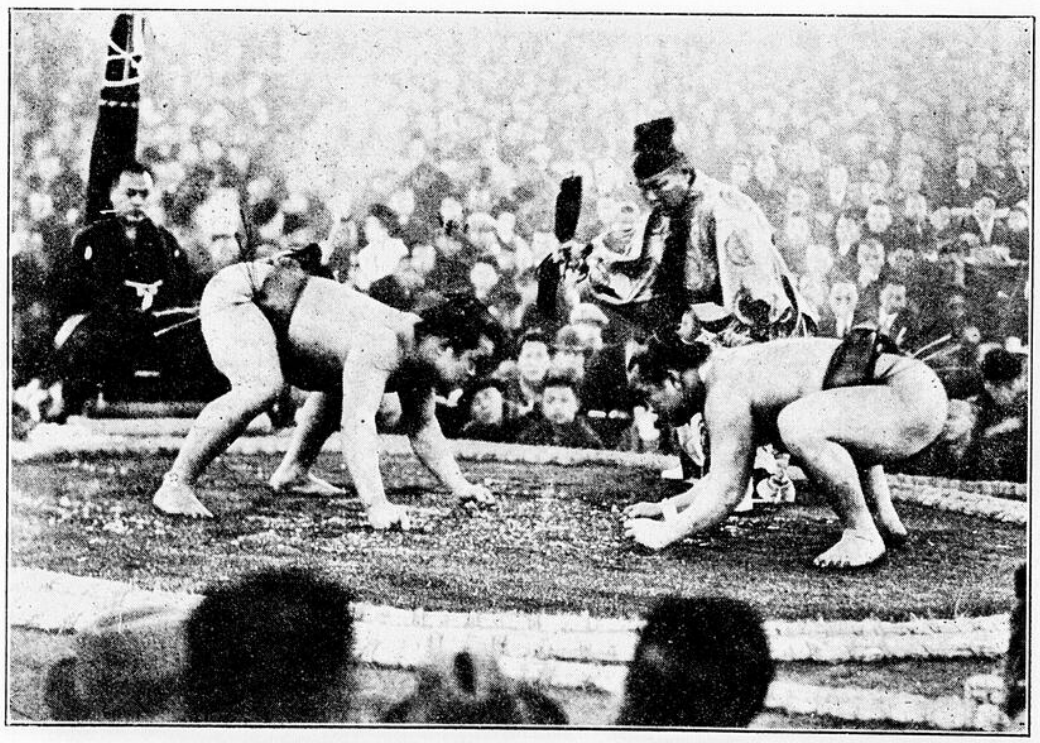
The actual seeding and planting of the rice is very interesting. The fields are not sown as we understand it, but little plots about 18 ins. x 5 or 6 ft. are seeded—of course in the slimy mud—and when the plants are five or six inches high, they are gathered up in neat bundles and transplanted in the larger patches which have been turned over and prepared for them. The transplanting is very skilfully and carefully carried out and it is a pleasant thing to see these tidy, bright green rows when going along the country roads at this time of the year (July).

I used to rather despise rice pudding, but now that I know what agriculturists, in this country have to put up with in the production of one grain of this food, I think you will agree with me that rice should be considered one of the most precious commodities on our housekeeping lists.

A Japanese Wrestling Match.

The other day I was fortunate enough to unexpectedly witness a real Japanese wrestling match. I say *fortunate*, because it is one of the sights of Japan, but I cannot say that athletics of this kind appeal to me. There are, however, so many peculiar and interesting things in connection with this form of amusement in Japan, that I shall tell you all I can about it.

The wrestlers themselves are quite unique. They are tall—for Japanese—and very fat. I am told that all the abnormally large boys are "earmarked" (as it were) for wrestlers and trained for the profession at a very early age. They wear their hair quite long, which they gather up and tie in a knot on the top of their heads. When they become too



A Japanese Wrestling Match. All ready for the fray.

old or unfit for their special work, they sacrifice their hair as a sign, I suppose, that their strength has departed from them. A good deal of this makes a very interesting comparison with the story of Samson. What do you think ?

It is the custom for a priest to bless the proceedings before the match starts. The combatants rinse their mouths out with water, in token that they will keep to the rules of the *bushido*. By way of explanation "Bushido" really means the laws of ancient chivalry of the country, or, as we should call it, "playing the game." There is, of course, an umpire at each match and if he considers that the players—or contestants I should say—are not quite following the bushido, they have to wash out their mouths again and make a fresh start.

The match I saw took place in the open air at a pleasure park at Tsurumi — a few miles from Yokohama. The ring itself was in the centre of an open space at the top of a hill, and the audience, both men and women, sat around it on matting and followed the proceedings with rapt attention. My friend and I had seen these awful looking men, (for they seemed awful to us) clad in belts and loin cloths, strolling along the walks, and we wondered what aborigines were visiting the country. The explanation wasn't long in coming, for we suddenly came across a match in full progress. First of all a youth in a blue kimono came out and announced the names of the wrestlers, who appeared, took dippers full of water and washed out their mouths, squirting the water with a great flop on to the ground, then they crouched down, slapped their thighs, got up and stretched their legs, then crouched down again, ready to pounce on their opponents. It looked for all the world like wild beasts fighting. After watching each other in the manner of a cat with a mouse, they sprang and grappled, swaying backwards and forwards until one was thrown.

The umpire was a very picturesque figure. He was refreshingly slim and was clad in a figured blue suit, which seemed to me more Arabian style than Japanese, for he looked like a personification of Aladdin. He carried a fan, the different movements of which to a large extent guided the fighters. For instance, when one man had been thrown, if the fan pointed downwards, it was a signal that all was in order and the round was over. I couldn't help comparing this with the "thumbs down" of the old gladiatorial days of ancient Rome.

The show seemed to me rather horrible and I cannot say I enjoyed it, but at the same time I was absolutely fascinated and just *had* to look at them. Now I am beginning to understand why men flock in thousands to see the wrestling and boxing matches at home.

(To be continued)

Woman's World

A NEW TEXTILE FIBER

By Ida E. Staud, Household Scien ce Department, Macdonald College.

THE chemist is never satisfied until he has discovered something new. Lately he has challenged the silk worm, and, although the silk worm has the advantage of several thousand years, man is rapidly catching up to him. For many centuries silk has held first place in the textile world because of its beautiful appearance. Scarcity of the fiber and the expense of manufacture have been incentives to search for a substitute.

The process of making Rayon was first discovered by a Frenchman, Count de Chardonnet. He found that by grinding wood to a pulp and making a solution of this pulp he could, by means of mechanical spinnerets, spin out a silky thread which possessed some of the characteristics of real silk.

Since then other processes have been discovered and now there are four different ways of manufacturing Rayon. They all start with the same basic substance, namely cellulose, which is made up of timber or cotton lint.

The first step in the manufacture of Rayon is to dissolve the cellulose by means of acids or alkalies. The resulting solution resembles molasses, being thick and rather dark in color. By means of pressure this solution is forced through tiny tubes in the ends of which are minute holes. The liquid is forced out of these holes in tiny streams which are coagulated into fibers by immersion in a coagulating solution. Several fibers are then twisted together to form a thread, which is wound on spools and is then ready to be made into fabrics.

Early varieties of Rayon were very inflammable, but recent work has made the Rayon no more inflammable than cotton, and some varieties are entirely fire-proof.

Until recently there was no common name for this product; it was variously named "artificial silk" or "imitation silk". About two years ago at a meeting of the heads of the industry it was decided to adopt the term "Rayon" as a name for products of this sort. It seemed best that these products have a name to differentiate them from the other textile fibers in order to prevent deceit. Some makers, namely those using the acetate process of dissolving the cellulose, refused to accept this term and still use their own trade names as Celanese and Lustron.

The fact that Rayon was at first intended as a substitute for real silk made it difficult for the fiber to gain the esteen it warranted. Rayon is not an imitation silk; it is a new fiber. It was called "artificial silk" to deceive a public who were unwilling to accept it on its own merits. Rayon is a fiber which by reason of its own characteristics has a very definite field of its own for certain uses, and by reason of these same qualities it has been able to help in the production of other articles made from real silk, cotton and wool. In this way it not only broadens its own use but the use of the natural fibers as well.

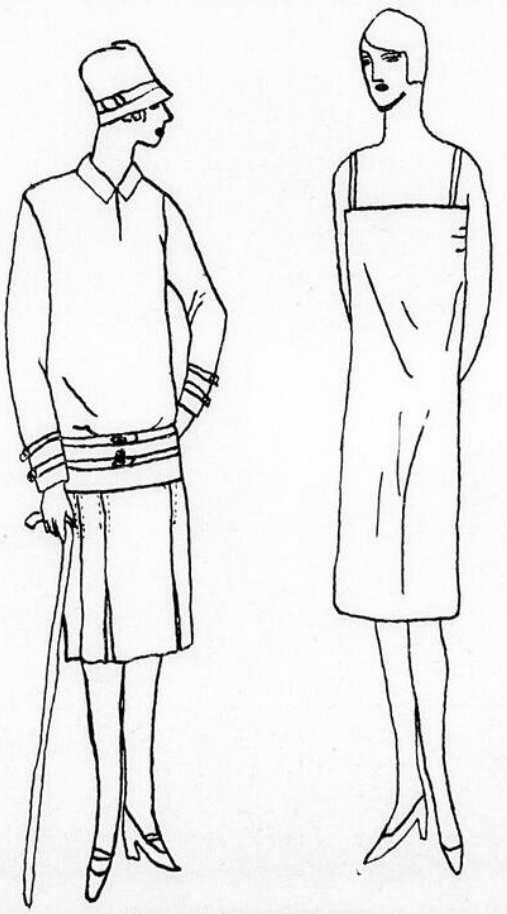
Rayon is much like cotton in composition. It resembles silk in appearance because of its high luster, which is its chief characteristic. It is not so strong as silk; neither does it possess the elasticity of real silk. It takes dyes readily and never gets fuzzy in appearance because the fibers are continuous in length.

The chemical processes and mechanical operations used in the manufacture of Rayon have been developed to produce threads ranging in quality from heavy grades, known as horsehair, to fine pliable threads which rival natural silk in softness and luster. Possibilities of variations are infinite and have only just begun to be investigated.

The chief commercial drawback of Rayon is its action in water. When put in water the Rayon fiber swells as much as fifty percent and a great deal of its strength is lost. Alkalies have a more permanently weakening effect than water. Rayon regains its luster and strength when dry if care is used in laundering. The Rayon fiber is smooth; dirt does not sink into it but remains on the surface, therefore harsh methods in laundering are not necessary. Lukewarm water with a mild soap in solution to make a good suds should be used. Cleanse the garment by dipping and squeezing it in the suds. Do not rub Rayon, as rubbing injures the fibers. Rinse well, squeeze dry, do not twist or wring the article, as these processes are apt to tear or permanently injure the fibers which are already weakened by water. Hang to invoke the least strain; do not use pins.

Recently a Celanese company was started in Canada where the abundance of wood makes it possible to have large scale production.

The Celanese product does not weaken as much in washing because the fiber does not absorb as much moisture as the other Rayon products. The Viscose product weakens more in laundering, but for the very reason that it absorbs moisture more readily it is desirable for undergarments because it absorbs moisture from the skin quickly. Celanese feels more like real silk than the other varieties; its luster is not quite so brilliant and more nearly approaches the luster of real silk.



Dress and slip made of rayon.

Rayon can be used alone or is excellent in combination with the other fibers. It is used extensively in underwear and is much more attractive and comfortable for this purpose than cotton. It has almost entirely superceeded silk for dress trimmings. About one half of the Rayon output goes into knitted goods, especially hosiery; it is often used here combined with real silk, wool or cotton. It is used for linings, sport goods, umbrellas, ribbons, gloves, and dress materials.

The whole question of the phenomenal growth of the Rayon industry narrows down to price. The high luster of Rayon and its lower price have enabled it to fill a heretofore unoccupied place between mercerized cotton and real silk. It has been found adaptable to the many uses of silk at one third the cost. The low price of Rayon brings it within the reach of the moderate income. Its price should be stable because its source of supply is certain.

When Rayon is mixed with other fibers its presence should be stated. It is not a fiber to be disguised, because it has already attained a position of its own gained on a basis of its own merits.

The Chimes

I climbed the winding stairway
That led to the belfry tower,
As the sinking sun in the westward
Heralded twilight's hour.

For I thought that surely the music
Would be sweeter and clearer far
Than when through the din of the city
It seemed to float from afar.

But, Lo ! When I neared the belfry
Not a sound of music was there,
Only a brazen clangor
Disturbed the quiet air.

The ringer stood at the keyboard
Far down beneath the chimes,
And he patiently struck the noisy keys
As he had uncounted times.

But he never heard the music,
Though every day it swept
Out over the sea and the city
And in lingering echoes crept.

He knew not how many sorrows
Were cheered by its evening strain,
Nor how men paused to listen
When they heard the sweet refrain.

He only knew his duty
And he did it with patient care,
Though he never heard the music
That flooded the quiet air.

So we, from our own watch towers,
May be sending a sweet refrain,
And gladdening the lives of the lonely
Though we hear not a single strain.

Our work may seem but a discord,
Though we do it the best we can,
Yet others will hear the music,
If we follow out God's plan.

From Quarterly News Letter
for the
North Dakota Homemakers' Clubs.



Hot days are seaside days.

Lunch Boxes

LUNCH boxes are usually carried by workers. Work, either mental or physical, performed by school child or adult, requires energy. This energy means force, power and strength of the human body which can only be obtained through food. The food must contain the elements that will build muscle, and supply the heat and the required energy.

Also, it is very important that the lunch should be attractive to the eye, as there seems to be some psychological relation between pleasure at meals and good digestion. The white table linen, shining silver and dainty china of meals served at home will be lacking when the lunch is eaten, therefore food should be especially enticing to make up for these deficiencies. Of course, the prime importance of having a sufficient quantity of food will not be overlooked by any homemaker.

Have you ever opened a lunch box to find the pie clinging to the doughnut, and the soft icing transferred from the cake to the fruit? This sometimes happens. To prevent it, care should be taken in selecting the food, and in so packing that it will be in perfect condition when served. If waxed paper is not available for wrapping the different portions of food, plain white paper can be used, but newspapers are not satisfactory from either a sanitary or an artistic point of view. It is quite essential that the linen or paper napkin, and the necessary knife or fork, be not forgotten.

The receptacle itself should not flavor the food, and should be dust proof and immaculately clean.

The sandwich is a favourite in lunch boxes. It will be pleasing to find it made from brown, graham, rye, barley, raisin or date bread, as well as from white. It may seem a bit of a task to prepare different fillings, but it really does not require much thought if a list is kept where it can be consulted when needed. Meat from which all fat and gristle has been removed, eggs, minced ham and eggs, chopped nuts and cheese, olives and grated cheese, sliced cucumbers, raisins and nuts, jelly, and marmalade make delicious fillings that are high in nutritive value. Lettuce can be used, only it wilts quickly, and loses its crispness and attractiveness. Salad dressing, cream, meat stock or gravy may be used to mix with many of the ingredients. The interested housekeeper will find many different methods of combining the materials; sometimes such a simple device as cutting the sandwich in a new shape will be welcome.

The dessert is just as necessary as the substantial part of the lunch, and provides an opportunity to work in a pleasing surprise. Fresh fruit is always acceptable; dried fruits, as figs, raisins, and dates have excellent food value. Stewed or canned fruits, custards and certain puddings can be carried all right if placed in a jelly glass fitted with a tight cover. Cookies, plain cakes, and good candy are wholesome desserts. The individual lunch box supplies the occasion to cater to personal fondness for certain foods; it also provides the place where the housekeeper will find it profitable to do some early planning.

M. H.

Pasteurizing Milk at Home

IMPORTANCE and Purpose of Pasteurization. — Pasteurization of milk consists in subjecting it to a moderate amount of heat and then immediately cooling it, the object being to render it safe as a food, especially when used for infant feeding. The process is an exceedingly simple one, and if properly carried out should kill disease-producing germs without imparting a cooked flavour or otherwise rendering the milk unpalatable.

Even under the best of conditions fresh milk will be infected with bacteria to a degree depending on the amount of care exercised in stable and dairy. Although the great majority of these are not actually disease-producing, yet their presence always tends to spoil the keeping quality of the milk, and if present in large numbers, either through direct contamination or by subsequent development, may contribute to digestive troubles when the milk is consumed. It is, however, chiefly as a safe-guard against disease-producing bacteria that pasteurization is employed, not only as regards tuberculosis, but also in the case of such infectious diseases as typhoid fever, scarlet fever, diphtheria, septic sore throat, and infantile diarrhoea. All of these may be spread through milk, in some cases the cows being the source through some obscure tubercular or udder-trouble, while in other cases the milk may be infected by persons employed in milking or handling the milk, who, though showing no signs of the disease themselves, may be the unsuspected and unsuspecting "carriers".

There is evidence of a better general recognition of the purpose and advantages of pasteurization in the more wide-spread adoption of this process throughout the country, and while pasteurized milk, even from tuberculin-tested herds, is strongly advised for all consumers, it is now regarded as essential for infants for whom milk represents the chief or sole article of diet. The function of pasteurization is not to make bad milk good,—an impossible undertaking,—but rather to make good, fresh milk safe.

Directions for Pasteurizing.—Pasteurization may readily be done at home, when a supply of pasteurized milk is not otherwise readily obtainable, the only special apparatus required being a reliable thermometer.

A double-boiler is useful for pasteurizing milk, the milk being placed in the inner one, and the water used for warming in the outer one. Milk may also be pasteurized in bottles or cans in which case a false bottom should be put in the pan or heating vessel to keep the milk-container from direct contact with the heat source. Water is put in the outer vessel until its level is about the same as the milk in the bottle or can.

The process consists in heating the milk up to 145° F. and keeping it at that temperature for 20 to 30 minutes. The water is heated, the milk warming up rather more slowly. The thermometer should be kept right in the milk, and the temperature examined from time to time. When it has reached 145° the heat should be regulated to maintain this temperature. It is well to stir the milk occasionally. After heating for 20 to 30 minutes the milk should be cooled as quickly as possible and kept cool until used.

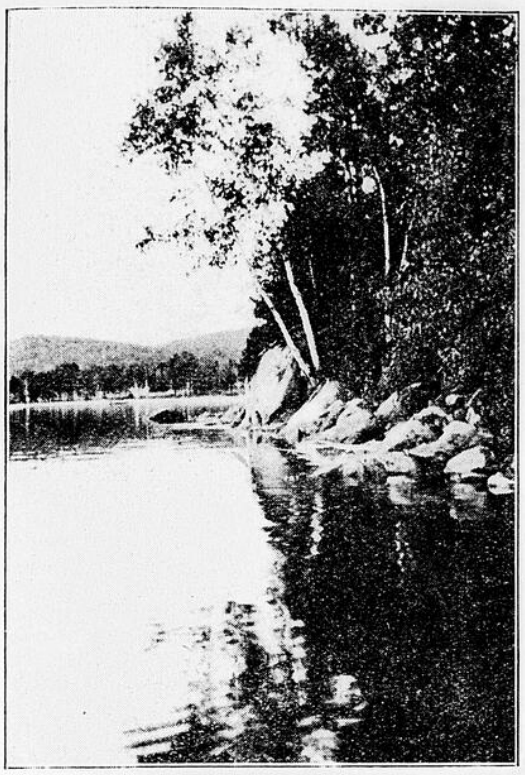
The vessel in which milk is pasteurized should be scalded out before using, likewise any vessels into which the pasteurized milk is poured for storage. Pasteurized milk is not germ-free and consequently tends to spoil on storage. For that reason milk should not be kept more than a day or two when stored at 50° or lower. For infant feeding it is recommended that no milk more than 24 hours in storage be used. Finally it should be emphasized that the best pasteurized milk is made from the cleanest, freshest milk.

A. G. LOCHHEAD,
Dominion Agricultural Bacteriologist

The consciousness of clean linen is in and of itself a source of moral strength only second to that of a clean conscience. A well-ironed collar, or a fresh glove, had carried many a man through the emergency in which a wrinkle or a rip would have defeated him. *E. S. Phelps.*



Beautiful Quebec—a Laurentian lake, holiday playground for Montrealers.



One of Quebec's many beautiful Laurentian Lakes.

Quebec Women's Institutes Will Have Display at C. N. E.

AT the annual Canadian National Exhibition which will be held in Toronto from August 27th to Sept. 10th, arrangements have been made for an exhibit from the Quebec Women's Institutes, to be shown in the Quebec booth, west wing of the Women's Building. This will be in the nature of handicraft, such as rugs, cushions, quilts, bed spreads, needlepoint, etc., and will be displayed to supply the desire of the Exhibition visitor who wishes to see handwork well done and of practical value.

The monthly reports of the Women's Institutes throughout Quebec Province show a full programme of out-of-door functions: picnic garden-parties, etc., and at the same time the members have not neglected the study of weightier subjects. Argenteuil County reports co-operation between the Upper Lachute Institute and the Farmer's Club in the holding of a joint picnic, and Morin Heights had an address on "Quebec Laws regarding Women and Children". Jerusalem and Bethany as well as Lakefield, held successful ice-cream socials and picnics.

Compton County Institutes are leaving indelible traces of their activities throughout the County. At Brookbury, the last of the amount owing on the community hall, built by the Institute, was paid during the past month. The hall now stands free of debt, well furnished, including a piano, forming a benefit to the whole community as a place for social gatherings. Canterbury is sending exhibits to the C. N. E., and raising money for needy children. The study of Quebec law was recently taken up, led by an address given by the notary of Scotstown. Sawyerville sent a generous contribution to the Red Cross campaign fund, partly from the treasury and the remainder through a personal canvass.

Dundee Institute, in Huntingdon County, is devoting special effort to a membership campaign, and to strengthen the appeal of the Institute to women in the neighbourhood.

In Megantic County, Crawfordville Institute made plans for a school fair and picnic, and Lemesurier is giving help and co-operation in the carrying on of the schools. An enjoyable picnic was a social feature of the month's work.

Financial help for the Red Cross, fruit and flowers for sick people, and social evenings for the members, were among the activities of Stanbridge East in Mississiquoi County, during the past month. Arrangements for the local School Fair and a discussion on the necessity of more instruction in patriotism in public schools occupied the meeting of the Dunham branch Institute.

Institutes in Ottawa County have covered in their field of work during the month both intellectual and practical subjects. Alcove had a paper on Child Welfare, and at the same meeting arranged for the erection of a new flag pole on the local school building. Alcove East had an address on "Canadian Patriotism", and donated a number of prizes to the school. Aylmer East dealt with details of successful home-making, and members visited the schools in the district. An address on "Agriculture, the King of Industries" was a feature of Breckenridge activities at their monthly meeting. Eardley Institute specialized on school work, in giving prizes in several schools, and uniting them in a joint picnic. Cantley Girls' Institute held a social afternoon for its members. Wales Home for Old People being situated in Richmond County, the Institutes there are naturally interested, and Cleveland branch will hold a meeting at the Home in the near future. A jam "shower" followed by a programme and afternoon tea will doubtless delight those residing at the Home. Prizes in the schools, and a co-operative picnic and social were among the activities of this branch. Denison's Mills had a programme covering home interests, Quebec laws in relation to women, and the more practical work of making provision for a family which had suffered loss by fire.

In Shefford County, Granby Hill Institute varied its programme of practical help for needy neighbours with a paper on "Our Dominion". Shefford Mt. reported much helpful work among the sick, and South Roxton contributed to the upkeep of the community hall. Warden Waterloo branch is preparing a number of articles to be sold at Waterloo Fair.

Lennoxville and Ascot Institute in Sherbrooke County co-operated with the Experimental Farm authorities in their annual Farmers' picnic, the financial returns to be devoted to the needs of the Lennoxville Short Course. Through the Lennoxville branch, four hundred flowering bulbs were brought into the town and planted, and Ascot will take up the beautifying of the Ascot Consolidated school grounds as a part of their fall programe.

M. ELIZABETH McCURDY,

Convener, Publicity Quebec Women's Institutes.

August 15th, 1927.

Canadianization — the Task of Canadians

THE term "Made in Canada", which has been much used as a slogan in recent years wherewith to appeal to, and direct the patriotic instinct of Canadians, has a very special significance at this season of the year. From coast to coast are spread in lavish profusion the results of a few weeks of growing season in themselves of intrinsic value mounting into many millions. From these, when garnered and manufactured, will come the bone and sinew, the energy and heat-producing qualities which are not only needed by the Canadian, but are among his distinctive qualifications.

To the thoughtful mind, this generous return for toil must induce feelings of gratitude, at the same time that the beauty with which the country screens her annual effort of reproduction fills him with admiration and love. These two qualities, gratitude and love, are the basic principles of patriotism, and should react in a desire to make adequate returns.

In the task of Canadianization, the duty of patronizing Canadian-made goods stands very high. Nowhere is nature's wise provision for human needs, arising from climatic conditions, and from the nature of men's work, more evident than they are in Canada. To ignore these supplies, ready at the doors of Canadian people, and demand the products of other lands, merely for the sake of variety, is to strike a blow at the very foundation of Canadian industries.

A Canadian art and literature worthy of the country can only be fostered as the demand is voiced by the Canadian people. And surely such a literature, flavoured with the tang of the north and with the scent of pine and spruce, illustrated with the unsurpassed scenery of lake and mountain and forest, is more likely to create a love of country, and a pride in her possibilities than descriptions of crowded foreign cities, and of a life which is at its best, lurid and unreal.

To grapple with the problem of making into Canadian citizens the hundreds who annually seek homes in this country, is a phase of the task which must be met and faced. Sixty years of Confederation have shown the benefits of nation-wide unity, but this can be worked out in detail successfully only as the objectives of one flag, one country, one language, one people, are kept continually in sight.

The patriotism that expends itself in cheers and filibustering on national holidays will not take the place of the steady, quiet, resistless effort to stand by Canada alike in her hours of need and of rejoicing, an attitude which alone can make her take and hold her place among the nations of the world.

M. ELIZABETH McCURDY,

Publicity Convener of Quebec W. I.

Success

This is success, so to have lived your years
That all who've known you shall have found you true.
Have seen in some way what is best in you.
And found in you some comfort for their tears.
A smile which passed but often reappears.
Or heard a word which cheered them through and through.
And think of you as one who tried to do
Some friendly service in a time of fears.
Great souls in humble bodies often dwell.
The noble spirits walk in common ways.
In thoughtfulness for others they excel.
A gentle friendship marks their round of days.
Longest remembered at the journey's end
Is he who reaped his glory as a friend.

—Edgar A. Guest in Tit Bits.



Sign painting in the Orient. Note thewriting is from right to left.

The Household Preservation of Eggs

By Frank T. Shutt, M.A., D.Sc., Dominion Chemist

THE preservation of eggs for household use is a matter which has received much attention from the Division of Chemistry; indeed, experiments in egg preservation begun as early as 1898 have been continued, almost without break, until the present time. In the course of this work a very large number of preparations—fluid and solids—sold as egg preservatives, have been under trial—with results good, bad and indifferent. The outcome of this investigational work is that two preservatives, (1) Lime-water and (2) "Waterglass," have been proven eminently satisfactory and distinctly superior to the large number of the preparations tested. Both are effective preservatives in yielding sound and wholesome eggs but limewater has given, in the majority of experiments, somewhat better results and moreover is cheaper and pleasanter to use than waterglass. Repeated trials, over many years, permit us to confidently recommend lime-water as a reliable preservative for the putting down of eggs for winter use in domestic cookery. And here it may be remarked that no preservative has been found which would entirely arrest the development of that "stale" flavour so characteristic of preserved or packed eggs—a certain deterioration in quality will inevitably take place and for table use such eggs are unmistakably and distinctly inferior to fresh eggs. Nothing has been discovered that will serve to retain without a suspicion of taint the fine flavour of the strictly new-laid egg.

LIME-WATER

Preparation: Lime-water is prepared by slaking freshly burnt quick lime, thinning with water to the consistency of cream and further diluting, with *constant stirring,* to the desired volume. The resultant lime-water may be used at once—without settling—or allowed to stand for an hour or so and the clear upper liquid poured off from the deposit of undissolved (excess) lime. By following these directions and using quick-lime at the rate of 1 pound to 5 gallons of water, a "saturated" lime-water will be prepared suitable and satisfactory for the preservation of eggs.

Use: The eggs previously placed in a crock, water-tight barrel or other suitable receptacle, are covered with the lime-water. Store in a cool place.

Some authorities have advocated the addition of salt to the lime-water. Our experiments have not shown any benefit from this practice; indeed, salt by inducing an interchange of fluids within and without the egg, frequently imparts a limey flavour to the preserved egg. Our advice, therefore, is not to add any salt to the lime-water.

As exposure to the air tends to precipitate the lime (as carbonate) from the lime-water and thus to weaken the preservative, the vessel containing the eggs should be kept covered. The air may be excluded by a covering of sweet oil, or by sacking upon which a paste of lime is spread. If after a time there is any noticeable precipitation of the lime, the lime-water should be drawn or siphoned off and replaced with a further quantity of newly prepared solution.

WATER-GLASS

This well-known preservative, chemically known as silicate of soda, is readily obtainable at druggists and grocers, being sold in both liquid and solid form. It has been extensively experimented with, using solutions varying in strength from 2 to 10 per cent, i.e. 2 pounds to 10 pounds per 100 gallons of water; in our investigation a 5 per cent solution has given better results than stronger solutions. It is readily soluble and no special directions for preparing the preservative solution are necessary.

The results from "water-glass" have on the whole been very fairly satisfactory but as already stated we consider lime-water the superior preservative — the eggs, on breaking, showing less discoloration of the "whites" with more globular yolks.

ESSENTIALS NECESSARY TO GOOD RESULTS

1. That perfectly fresh eggs only should be used.
2. That the eggs throughout the whole period of preservation should be completely immersed. Do not take them out of the solution until required for use.
3. That the eggs should be stored in a cool place. A temperature of 40° to 45° F. undoubtedly materially assists towards retaising good flavour, or, put otherwise, in arresting that "stale" flavour so characteristic of packed eggs.

THE GLYCERINE PROCESS FOR THE TREATMENT OF EGGS

This is apparently a misnomer, as glycerine, so far as the writer can learn, is not used in the process, which consists of momentarily (say, about 5 seconds) dipping the eggs (which have been "pickled" in lime-water) in dilute muriatic acid, between 1 per cent and 2 per cent. his acid dissolves any incrustation of the shell and gives the eggs a fresh appearance, i.e. as if they had been treated with glycerine. Immediately on withdrawing the eggs from the acid they are well washed with water, as with a hose, to prevent further action of the acid, and dried. This immersion in acid lessens the tendency to shell-cracking when the pickled egg is boiled. Eggs should not be subjected to this treatment till about to be used, since the keeping quality of the egg is materially affected by the process. While the treatment is favoured by the trade for the improvement which it effects in the appearance of stored eggs, it is not one that is either necessary or desirable for eggs preserved by the householder.

Home Life in Sweden

THE future Queen of Belgium will be as clever in household affairs as is Queen Mary herself. For she, as all the world knows, is a Swedish girl, niece of King Gustav. Like all Swedish girls, she has learned housekeeping, not in amateur fashion, but as thoroughly as she has studied modern languages and modern science. A year ago the favourite photograph of Princess Astrid, sold is the booksellers' shops in Stockholm, showed her with high working apron and practical sleeveguards, at work in a home training school.

The poor girl in Stockholm learns home craft in her elementary school. She is taught there how to cook and bake, how to wash clothes and iron them, and how to keep the home clean.

She is taught not theoretically, but practically. Meals are provided for those children whose parents cannot feed them adequately, and these meals are cooked, under proper supervision by the girls of the school themselves. The girls are encouraged to bring soiled linen from home to wash in the school laundry, where they receive a regular laundry course.

The young gentle woman is taught home craft in a home chool when she has nearly completed her general education. Here she goes through a very thorough training in housecraft, from marketing to cooking. The Swedish people recognize that the art of keeping a home needs steady training and preparation like any other calling.

It is not surprising, then, that the Swedish homes thelselves, particularly in the great cities, are of a kind that rouses the envy of the stranger. The English housewife who goes into a Swedish home for the first time is diled with wonder and admiration. The place is sensibly arranged, and finely filled be it large or small.

Let us take a small home first. I lived for a time in a "doublet", a two-roomed apartment, in Stockholm, one of the newer type, for which I paid, including rates, taxes and heating £120 a year. This is the favourite-size home of young married couples, without children or with one child. There was an automatic electric lift to every floor, the walls and floors were so thick that I was not disturbed by the noises of my neighbours. There was a perfect system of central heating which could be exactly regulated by turning a numbered dial in each room. In the depths of winter I never felt the cold indoors, and I was never overhot. The floors were of hardwood. There was capacious cupboard room, all the hot that we wanted in bath and basin, and a little "cooking corner," a tiny, well-lit room, with marble slab, deep earthenware sink, a pair of electric cookers, and cupboard, and shelf accommodation. Here one could cook easily a simple meal, following the usual fashion of many Swedish folk of going out to the restaurants for dinner. A trained woman servant came for two or three hours each morning to do the work, and kept everything spotlessly clean. When I realized all the complexities of the small home in England, I wonder that some enterprising builder does not put up a block of flats in London on the Swedish line.

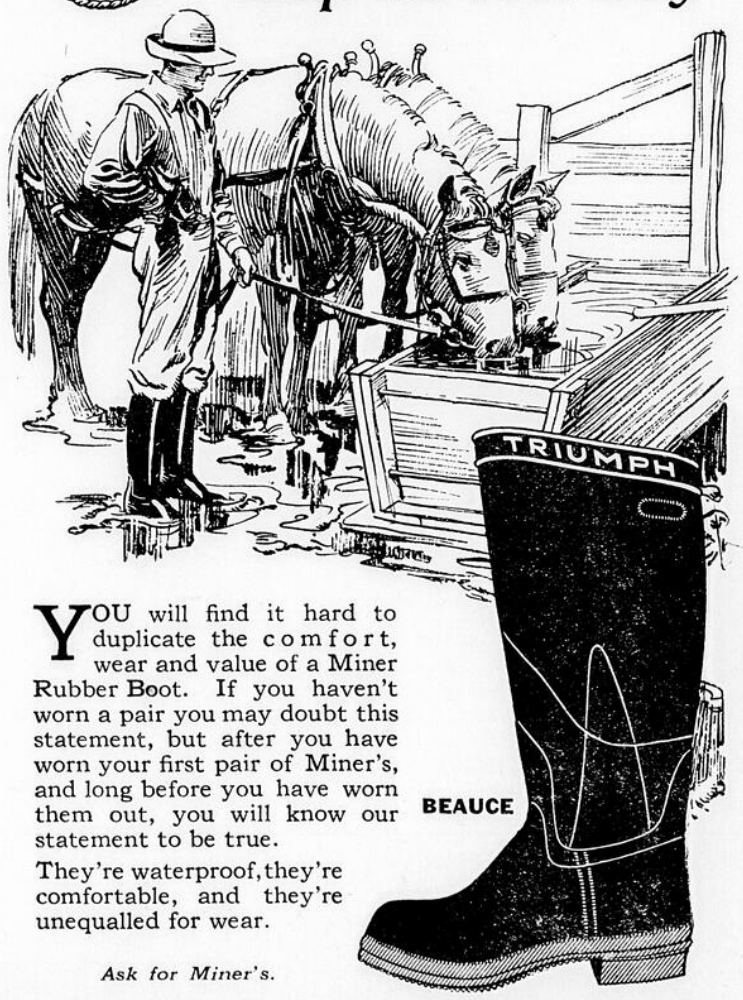
When my family joined me, we had a larger apartment. The kitchen, built like a working model in an ideal Home Exhibition won my wife's admiration at a glance. We quickly found the value of the Swedish servant. She is a skilled worker, and expects to be treated as such. We all soon became very fond of our middle aged Swedish maid, in spite of her occasional bursts of bad temper, and her calm assumption that she must manage us and look after us. She knew her job. She knew how to buy, and how to get value for money. We were ceremoniously polite to one another. At first, knowing no better, I called her, in English fashion, by her christian name. I soon found that it was expected that I should address her as Fru—(Mrs.—). She, on her side, had her special form of speech. When I came in, say from the Opera, her question would be indirect and in the third person; "Did the Mister Chief Editor enjoy the Opera this evening ?"

You can scarcely wonder that, with traised housewives and trained servants, Sweden is essentially a land of comfort. I am not sure that perhaps life may be too comfortable there. When I first came to Stockholm, my Swedish friends smiled good naturedly at my activities. "Ah," they said, "in time you will learn not to hurry and not to do too much work, but to enjoy life".

(To be continued)

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Keep the Feet Dry



YOU will find it hard to duplicate the comfort, wear and value of a Miner Rubber Boot. If you haven't worn a pair you may doubt this statement, but after you have worn your first pair of Miner's, and long before you have worn them out, you will know our statement to be true.

They're waterproof, they're comfortable, and they're unequalled for wear.

Ask for Miner's.

THE MINER RUBBER COMPANY LIMITED

39

Standardized Egg Grading and its Relative Effect on increased Consumption of Eggs

By W. A. Brown

IN 1920 Canada produced one hundred and forty-four million dozen eggs; and in 1924, two hundred and thirty-eight million dozen, an increase of nearly a hundred million dozen in four years. In that time there was only a small increase in population and had it not been for a decided increase in consumption due to improved quality, Canadian markets would have been swamped by the surplus. True, there might have been an increase in exports, but at a price on the world's markets that would have left little profit for the producer.

On the other hand, the last three years have been the best ever experienced by poultry producers in Canada, Prices have been high, the industry has gone ahead by leaps and bounds and in the back-to-the-land discussions among the urban population, the poultry industry is the phase of agriculture most favorably considered. A great deal is written about the poultry industry in the United States. In the United States, however, egg consumption has increased only two dozen per capita in the five years 1920-24 inclusive, while in Canada in the same period egg consumption has increased ten dozen per capita.

This very satisfactory condition of the poultry business has been brought about very largely as the result of egg grading. Egg grading in Canada has been in effect since the spring of 1918. It was first applied to export and interprovincial shipments, later to import shipments, and in the summer of 1923 to all eggs offered for sale in a domestic way. From the facts at hand, it is reasonable to believe, if the quality of Canada's eggs had not improved consumption here would have increased no faster than in the United States, and prices would have been possibly one-half of what they are today.

In the application of grading, attention was directed naturally to those points where the bulk of the product was most easily accessible and handled in the greatest quantities. This has meant that grading in a domestic way was applied first in those larger urban centres where the bulk of the product passes through regular wholesale and retail channels. The increased consumption in Canada noted above has been brought about largely in this way. In the further extension of the policy, and appreciating the results that have already been obtained, attention is now being directed to the larger industrial areas where the majority of eggs for home consumption do not pass through regular wholesale channels.

While it is true that public markets are held in the larger urban centres and while they have from the outset been brought under the purview of the regulations in those centres, the public market in a point like Toronto does not bear the same relation to the total volume of produce handled as do the public markets of such cities as Guelph and Kitchener. No particular objection was raised by producers when the regulations were applied on the Toronto market, possibly for the reason that many of those selling eggs on that market were hucksters and pedlars. In the smaller industrial centres producers constitute the larger part of the market's clientele and it would appear that the real utility of egg grading or the reasons why eggs should be graded on the public market are not fully appreciated by them.

From a careful study of the matter, it is evident that producers themselves, working in all sincerity, have often failed to realize the numerous causes that bring about deterioration in eggs, and that as a result eggs have often been sold which were of such a poor quality as to adversely affect consumption. Every time a consumer gets a bad egg or an egg of poor quality the consumption of eggs in that producer's household is materially lessened. Instances could be cited where customers have been lost and the sale of eggs hurt on an entire market without the producer realizing that the thing had been done. Too many producers are inclined to argue that because their eggs are fresh gathered they must be fresh and of good quality. Too many fail to appreciate that fresh gathered and fresh laid are not necessarily synonymous; that stolen nests may contain fresh eggs and partly incubated eggs all in the same gathering. Bad eggs marketed by producers on public markets have done more proportionate harm to consumptive demand than bad eggs marketed through regular trade channels, for the reason that even before the advent of the egg regulations most eggs passing through the wholesale trade were candled and the bad eggs removed.

The following, taken from inspectors' reports of examinations on a representative public market, show that bad eggs and eggs of inferior quality are a serious consideration. Action was taken in the instances mentioned in conjunction with the local Markets Commissioner, confiscation of the product being made by his direction:—

Aug. 5.—Mr. A, farmer, 4 doz, grad-

Scientifically Packed

"SALADA" TEA

T58

As free from dust as tea can be.

WILSON'S FLY PADS

Will kill many times more flies for the money than any other fly killer. Each pad will kill flies all day, every day, for three weeks. At all Grocers, Druggists and General Stores — 10c and 25c per package.



THE LOWEST PRICED SIX WITH 4-WHEEL BRAKES

The Liveliest Car of its Price

Speed— a mile a minute

Pickup—10 to 23% faster than nearest competitors

Beauty that has won instant popularity

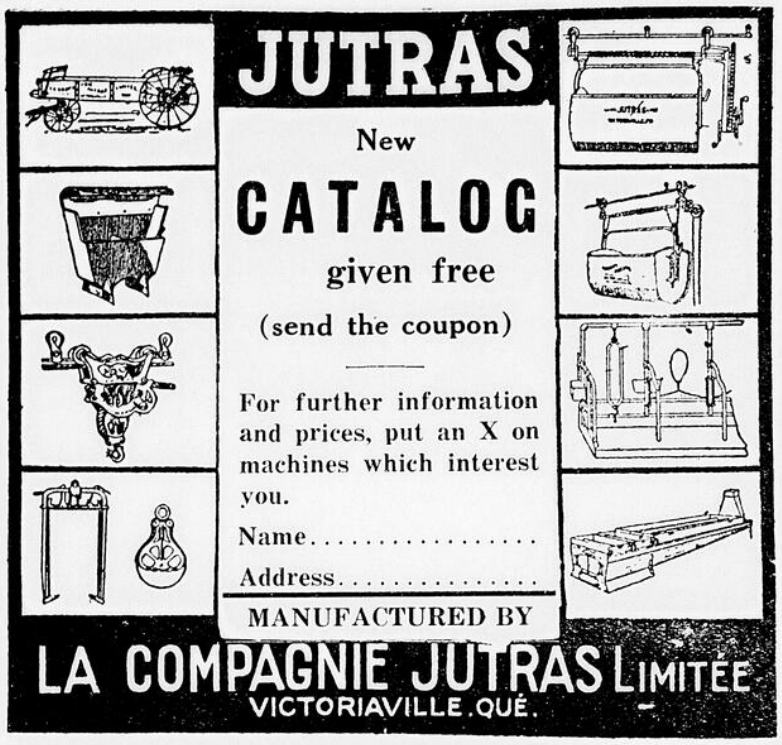
Additional Features

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Luxurious upholstery...
Narrow front pillars....
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Snubbers.

New Low Prices

Ask your nearest Willys-Overland Dealer about the NEW LOW PRICES on Whippet Sixes—$975 to $1,185; Whippet Fours $795 to $960. F.O.B. Factory. Sales Tax Extra. No Excise Tax. Willys-Overland Sales Co., Limited, Toronto, Ontario. Branches: Toronto, Montreal, Winnipeg.

Whippet Six



ing 3 doz. seconds; 1 doz. spot rots.

Aug. 9.—Mr. B, farmer, 15 doz. grading 14½ doz. seconds; 6 rots, Confiscated on authority Market Commissioner.

Oct. 1.—Mr. C, merchant and pedler, 28-6 doz. grading 22 doz. seconds; 5 doz. better than seconds; 1-5 doz. rots. Fined $10.00 and costs, eggs confiscated.

Oct. 28.—Mr. D, farmer, Out of 4½ doz. 2 2/12 doz. rots were destroyed, balance confiscated.

Oct. 30.—Mr. E, farmer, 5-5 doz. grading 5 doz. seconds and 5 rots.

Nov. 8.—Mr. F, farmer, Bought cheap storage eggs with which he mixed a few fresh—offered them all as fresh. 22 doz. seconds; 6 Rots. Confiscated authority Market Commissioner.

Nov. 13.—Following lots offered as fresh Extras showed:— 3-11 Extras, 1-7 Firsts, 2 seconds, 3 Bad.

4-3 Extras, 2-1 Firsts, 8-1 Seconds, 6 Bad.

1-0 Extras, 15-0 Firsts, 3-0 Seconds, 6 Bad.

In the fall of the year "Seconds" are quite largely stale, held eggs. In the spring and summer, eggs are graded as "Sesonds' largely because of high yolk color and weak whites. Few people realize the effect of feed on egg quality. The ideal egg comes from hens fed clean feed, kept in clean houses, on clean litter, and given clean water to drink. An egg produced under such conditions shows a light colored yolk, a strong clear albumen, and a pleasing uniform flavour. Eggs from hens obliged to pick up their living in the barnyard, on the manure pile, and drink barnyard water are weak in white and extremely high-coloured in yolk. Many producers will hardly credit this. It explains, however, why so many new laid eggs fall into lower grades and why, unconsciously perhaps, the demand for the higher grades increases so fast once the eggs offered for sale on the public market are properly graded.

Producers must realize these facts before they can justly demand the highest price for their product. The effect which feed can have on quality proves the absolute need of grading.

In many of the smaller towns and cities the bulk of the eggs used locally are purchased on the market from producers either direct by consumers or by retailers who, in turn, sell to consumers. Candling and grading is the only means by which miscellaneous quality coming from so many different sources can be properly assorted as to quality. A satisfied consumer is a business' greatest asset. That increased consumption has been brought about in the larger urban centres as a result of a graded, standardized product is beyond question. The same opportunity may be capitalized and turned to the advantage of the poultry industry. It rests largely with the producers.

The problem of the moment is to get the producer to appreciate the real significance of the egg regulations. True, they are a law but a friendly law, one that places dollars in his pocket all the time. Instead, therefore, of hesitating about the placing of a grade on his product, the producer might welcome the opportunity to do so, not because it is required by law, but because it is good business to put a grade on everything he sells. What better service can a producer do his best friend than by helping to link up in that friend's mind the fact that the top grade which he produces is the highest grade in the Canadian Standards? The producer would do well to build up in the mind of that friend or customer an appreciation of the significance of that grade name in relation to quality and encourage him to become an active propagandist for the sale of graded product among his neighbours everywhere.

At Every Season
Of The Year

the enterprising farmer needs the co-operation of a progressive bank. The best way to be sure that your seasonal financial requirements will be taken care of is to keep in close touch with your bank all through the year.

Build up your balance and your acquaintance These may stand you in good stead in times of emergency or opportunity.

BANK OF MONTREAL
Established 1817
Total Assets in excess of $780,000,000

Delco-Light will do all these things
for only a few cents a day

HERE are the most important things Delco-Light electricity will do on your farm. Read them carefully. Consider what each will mean to you in convenience gained or labor saved. Remember above all that Delco-Light will do all these things at a cost of only a few cents a day.

Delco-Light is a General Motors Product, made by the world's largest builders of farm electric equipment. Over 275,000 farms use Delco-Light. Simple and dependable in construction, its first cost and operating costs are surprisingly low. Made in styles and sizes for every need. May be purchased on the General Motors plan of deferred payments. Send card now.

DELCO-LIGHT COMPANY
Subsidiary of General Motors Corporation
Sales and Installation Branches in Every Province

438 Ste. Catherine St., West, Montreal.

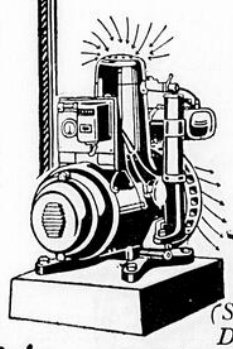
Delco-Light provides *safe* light for the
House *Barns*
Garage *Dairy*
Outbuildings
Wherever it is required about the farm

It provides power to operate the
Separator
Churn *Grinder*
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It Increases Farm Values

Saves Time Labor, Money

Makes the Family and Hired Help More Contented



Air-cooled motor.
(See arrows at top and side)
Direct drive—saves power.
Approved by Fire Underwriters.

Dependable
DELCO-LIGHT
FARM ELECTRICITY

MAKES HENS LAY
MAKES POULTRY PAY
CHICKADEE
YEAST FOOD
for POULTRY
Rich In Vitamins
INCREASES EGG PRODUCTION
Keeps poultry healthy and active
Ask your Poultry Supply Dealer
E.W. GILLETT CO. LTD.
TORONTO, CANADA.

Rabbit Skins

THE use of rabbit fur for commercial purposes is becoming increasingly prevalent and will doubtless continue to do so. Rabbit skins are being used more and more extensively to replace higher priced furs both in Canada and the United States. In a bulletin on Rabbits, distributed by the Publications Branch, Department of Agriculture, Ottawa, the striking fact is pointed out that the world's annual production of rabbit skins at the present time is near the 200,000,000 mark. Canada imports hundreds of thousands of these skins every year. Of course, except for use as trimmings, or for childrens' cheap furs, rabbit furs are only substitutes for, or imitations of, the higher grade and better wearing furs, consequently, the price paid for individual rabbit skins will probably never be very high. However, the price paid for prime rabbit skins, from animals killed during the winter, is such that plus the amount realized for the meat, there is a good margin of profit over the cost of feeding. There is at present a good market for rabbit skins in the Montreal Fur Sales.

These facts show that there is a field for rabbit breeding in Canada. Our climate is particularly adapted to this industry and given proper car and management and the selection of suitable breeds, as described in the bulletin, rabbits, as a side line, either on the farm or in the back yard, should prove to be an appreciable source of revenue.

How Bees Live During The Winter

SINCE bees cannot migrate to a warmer climate to escape the rigour of the Canadian winters as do many of our birds, and cannot hibernate during the winter as do the solitary insects and even some of the social insects, they must follow the only other course possible, which is to lay in a supply of heat-producing food with which to generate heat when the temperature falls below that in which they can live.

During the summer, the bees, responding to the hoarding instinct, lay in their supply of winter fuel, honey, which usually amounts to several times that actually required. This fact is worthy of the attention of all beekeepers, for the tendency is to extract too close; to leave the bees too little to winter on. In the fall, when the last brood has emerged, the bees form themselves into a compact ball-shaped mass, the cluster, and within the cluster occupy nearly all the cells recently filled by the brood and the spaces between combs.

At first, the cluster is usually located near the entrance of the hive, and from there it gradually moves upwards and backwards as the winter advances, keeping all the while in touch with the stores of honey.

When the temperature is moderate the cluster is loose and the bees generate no heat, but when it gets to 57 degrees F., the cluster becomes compact; then, as the mercury drops, the bees consume stores and generate heat.

Though heat is generated, this alone would be insufficient to keep the vital functions of the bees in operation had not they the ability to conserve warmth by the compacting or tightening of the cluster.

The heat is produced by the muscular activity of the bees at the centre of the cluster which generate it by moving the legs, abdomens, and wings in fanning. As the temperature falls the number of these active bees producing the heat increases. Furthermore the bees forming the outside of the cluster are constantly being replaced by others from within and this continuous movement also produces heat which increases as the temperature drops owing to the changing of location within the cluster increasing in rapidity.

In generating the necessary heat to warm the cluster, the bees consume honey, the undigested portion of which remains in their intestins until an opportunity for flight presents itself, for bees normally eject waste matter only while on the wing.

During the cold winters in Canada, as the bees are frequently confined to the hive for several months, it is very necessary that the winter stores be of good quality. Should there be any doubt regarding this, they should be exchanged by the beekeeper for better stores or at least supplemented by sugar syrup. The hive out-of-doors should be carefully packed and well sheltered by a wind-break that the bees may pass the winter in comfort and come out strong in the spring.

A. H. W. BIRCH, *Apiarist.*

Poultry Record of Performance

THE report of the Canadian Record of Performance of pure-bred poultry issued by the Live Stock Branch of the Department of Agriculture at Ottawa shows that since the inception of the record in 1919 four hundred and forty-five breeders have tested their flocks under the policy, that as the work progresses more breeders come in and fewer drop out, and that of 94,419 birds banded and tested 26,551 quaified for R. O. P. certificates (150 eggs) and 7,698 for advanced certificates (225 eggs). During the year with which the report deals 227 breeders entered a total of 26,380 birds compared with 177 breed-

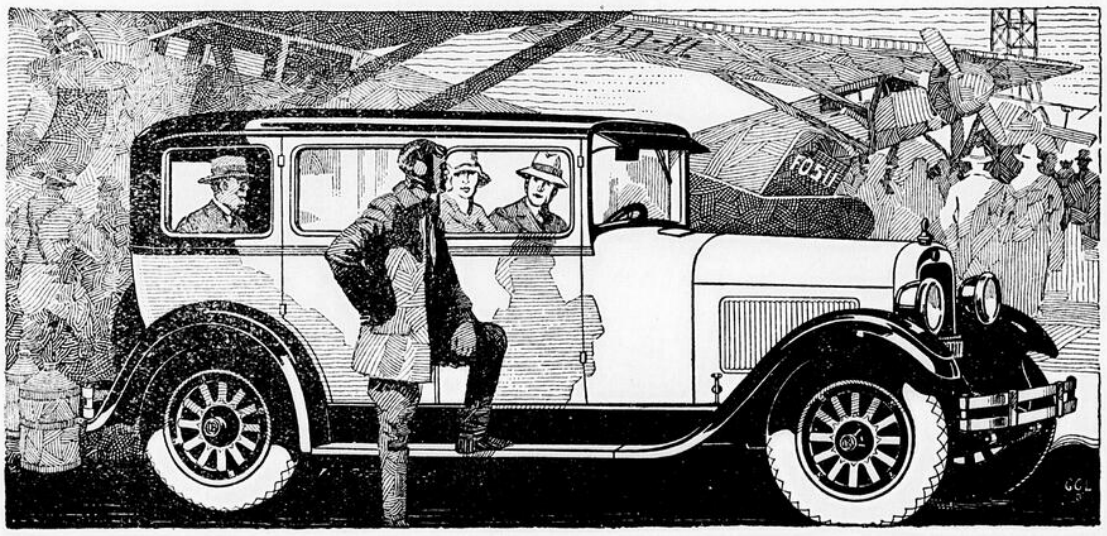
MILE-A-MINUTE PERFORMANCE
WITH GENUINE LUXURY

HIGH speed is effortless for this new Dodge Four. High speed hour after hour—with ample reserves for the occasional spurt. Thrilling acceleration. Dogged power.

Bodies remarkably spacious without excess weight or bulk. Seats as comfortable as your favorite chair. Room to stretch your legs. Plenty of head clearance.

From cadet visor to stop-and-tail light—a *smart* car. Smart in line—smart in finish—smart in fittings. The most costly and luxurious upholstery on any car under a thousand dollars.

Inspect and drive this brilliant Four. You'll discover many features heretofore unheard of in a car so low in price.



DODGE BROTHERS
NEW FOURS
MADE IN CANADA

ers and 20,002 birds in the preceding year.

The report points out that this tested and certified stock, distributed in every one of the nine provinces of the Dominion, is a national asset possessed by no other country, and that the success achieved has been materially assisted by the operations of the various provincial R. O. P. breeders' associations. Poultrymen the world over, the report continues, realize more and more each year that there is a class of stock bred in Canada under government supervision and guarantee that they want and that is not available elsewhere. The introduction of R. O. P. blood into the flocks of the ordinary farm is of immense benefit not only to the farm itself but to the entire country.

In the first year of the Record of Performance only 19 per cent of the birds under test qualified for certification, but in four years a seemingly stable level had been reached of 40 per cent. A study of the report in which the record of every breeder entered is given, and of each province and each breed separately, cannot fail to prove of value and interest to every raiser of poultry.

Canadian Jersey Notes

WHAT constitutes the biggest Jersey Sale ever made by Quebec breeders was made to B. H. Bull & Son of Brampton, Ont., last month. The transaction involved the largest amount of cash as well as the largest number of animals ever sold from Quebec breeders at one time. In the shipment to Brampton Jerseys are 17 head from Andrew Ruiter at Cowansville, Que., 43 head from Richmond Jerseys Inc. at Richmond, Que., and 2 from Kenneth Dawes at Knowlton, Que., 62 head in all and two thirds of these are incalf heifers. There are eight by the bull Brampton Xenia Oxford while most of the others are incalf to sons of this bull. The cattle were selected by Mr. D. O. Bull and will be shipped to Brampton at once.

Jersey breeders will be interested to know that Andrew Ruiter of the firm known as Chas. Ruiter & Son has purchased the interest of his brother Mr. Percy Ruiter and that in future this herd will be owned and managed by Mr. Andrew Ruiter. The sale involves over 50 head of registered Jerseys and the farm with its equipment. Mr. Percy Ruiter will buy a small place and devote his time to poultry raising, with which business he is familiar.

F. A. C. Darling at Almonte, Ont., recently purchased from M. Landon at Simcoe, Ont., the well known bull Nea's Masterman. This bull was imported from Jersey Island for Mr. Landon and is a son of the bull Masterman of Oaklands that was sold from Canada for $25,000. In this bull Mr. Darling is getting a combination of blood lines that have proven a success in Jersey cattle breeding and at the same time is getting a herd sire of proven worth to follow on the daughters of his former sire that was a son of Oxford Sultan of Oaklands.

Mr. Oliver Evans, manager of the David Spencer farms at port Haney B. C. recently selected a car load of open and incalf heifers in Ontario for shipment to B. C. The heifers were selected from the herds of R. W. Willis at Gormely and Selby Evans of the same place; B. H. Bull & Son at Brampton, Ont., E. W. Nesbitt at Woodstock, J. W. Innis at Woodstock, and Douglas Thompson at Woodstock; Ray Lawson at London, F. H. Silcox at Iona, and Geo. Silcox, Shedden. In the lot was a senior calf from the F. H. Silcox herd that is considered one of the best calves developed in Ontario for years. She is by the bull Imp. Ferns Oxford. Others in the shipment were from imported indam sons of Sybil's Bright Prince, Fern's Oxford Noble 3rd, Signald of Oakland etc. One Junior yearling by a son of the grand champion cow Brampton Silver Beach, two yearlings by a full brother to Rower's Starlight that was recently sold for $4000, an imported indam heifer by Randalph, another yearling imported indam by Xenia Sultan 2nd and from a $3000 daughter of Jersey Volunteer. One two year old also imported indam was by the well known bull Bowlina's Oxford Sultan.

With this shipment went a yearling and a two year old bull on their way to New Zealand. Both have had a good deal of service in Canada and were imported from Jersey Island. One of these bulls was one of the best two year olds seen this year. His dam is still owned in Canada while another son of hers will soon be on his way here from Jersey Island.

Mr. Evans selected a bull calf recently imported indam from Jersey Island. This calf will be the next herd sire on the Spencer Farms at Port Haney. He is from a great daughter of Agnes King and by the great Island sire Nobly Born, owned on Jersey Island by John A. Perree. The day Mr. Evans selected this calf his dam show-

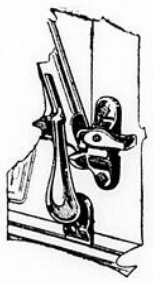


Announcing—
McClary's New "Eighty" Range—*the result of 80 years' experience*

HERE is the perfected product of 80 years manufacturing leadership—a new coal and wood range which completely solves the problem of efficient heating and fast, economical cooking.

McClary's "Eighty" is quick to fire-up in the mornings. The scientifically proportioned firebox is deep enough to keep the fire overnight, yet sufficiently shallow to permit quick firing for a hurry-up breakfast and immediate hot water. Plenty of heat the minute you want it, without inconvenience.

Many other unusual features make McClary's "Eighty" the leader of all coal and wood ranges. The Enameled-clad flues resist rust and ensure long life. Ventiblast linings permit burning of soft coal as efficiently as hard coal and wood. The Lift-up pan top, the white nickeled "Daylight" oven—all combine to make McClary's "Eighty" the greatest value in coal and wood ranges in Canada.



Heatrite Catch

Enables you to adjust the door so you can circulate heat from the oven into the kitchen, and at the same time hold door at an angle free from accidental contact in passing to and fro.

Mail this Coupon

To The McCLARY MFG. CO., LONDON, CAN.
Please send full details of McClary's "Eighty" Range and name of nearest McClary's dealer.

Name.....

Address.....

McClary's "Eighty"

McClary's 80 YEARS Experience 1847~1927

701

You can lead a horse to water, but—

Using the telephone to find the best market *before* you take a load to town, seems like good sense.

Otherwise, instead of selling, you may be at the buyer's mercy and obliged to accept what he will give.

"Use the Bell to Sell"

THE BELL TELEPHONE COMPANY OF CANADA — LONG DISTANCE TELEPHONE

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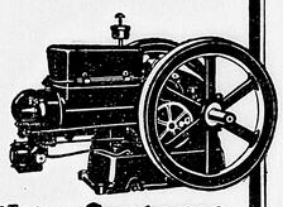
ed one of the greatest udders ever seen on a dairy cow. A half sister of this calf from the same dam was also nearly fresh and showed a similar type of udder, so there is every reason to believe that this young calf will one day be a great herd sire.

W. ELMO ASHTON.

Decontrol of New Zealand Butter and Cheese

(Imperial Food Journal)

THE cabled announcement from New Zealand that the Dairy Producers' Board has decided to terminate the pooling of creamery butter as from April 30th, and that of whey butter and cheese on July 31st, appears to us to be the logical sequel to the prior abandonment of price control. One decision without the other would have placed New Zealand in a very anomalous position. Now that the great Dairy Dominion has had the wisdom to see, and the courage to rectify its mistake, the way is clear to another era of prosperity. The future work of the Board will lie in the direction of arranging insurance and bills of lading, and it will, on request, handle drafts and invoices. No one can grumble at such helpful procedure. The high quality of New Zealand dairy products is too great to leave any doubt that, with obstacles removed, they will regain their proud place in the markets of the world.



Water Systems *for every service*

Electric or engine driven. Capacities from 210 gallons an hour up. We also supply windmills, pump jacks and pumps.

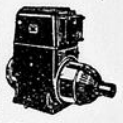


"Z" Engines *are Quality built*

In every detail the "Z" is simple, sturdy, powerful. It has high tension magneto ignition; suction fuel feed; positive lubrication; renewable die-cast bearings. Has fewer parts subject to wear and those parts are carefully made, are drop forged and heat treated. All this means longer life, more power and freedom from trouble. Crankshaft and cam-shaft are drop forgings.

Over 400,000 farmers use the "Z" Engine

Write our nearest office for booklets on the lines in which you are interested.



A new home Electric power plant

Completely enclosed, self-contained. Gives steady light direct from generator or from battery.

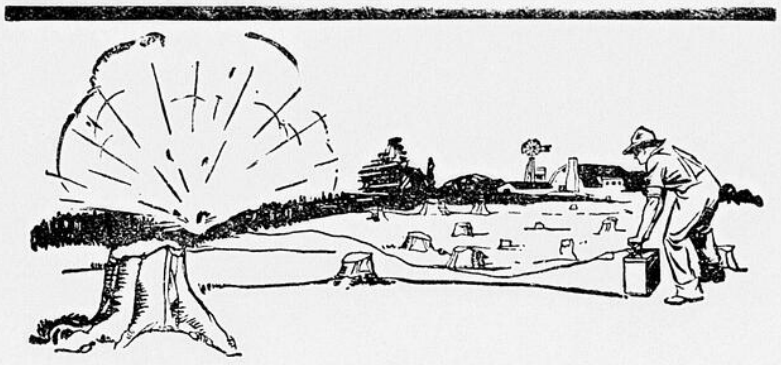
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616

The Canadian Fairbanks-Morse Co., Limited

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The Makers of Fairbanks scales and valves



Get rid of idle land

STUMPS and boulders often stand on the most fertile land you own. They damage valuable implements. They cost the farmer a lot of money every year and they keep him from making more.

C.X.L. LOW-FREEZING STUMPING POWDER is the easy low-cost means of putting waste land under crops. It cuts out hard and costly labor. It blows up stumps and boulders and digs ditches to drain swamps and wet spots in fields . . . all at very small expense. It does in one season what ordinarily would take years to do.

Our handbook, *The Modern Method of Land Clearing*, tells how each clearing job is done. Tables show the amount of powder required for all sizes of stumps and boulders. It helps the farmer plan to use explosives in the best and most economical way. Ask us for a copy. It's FREE.

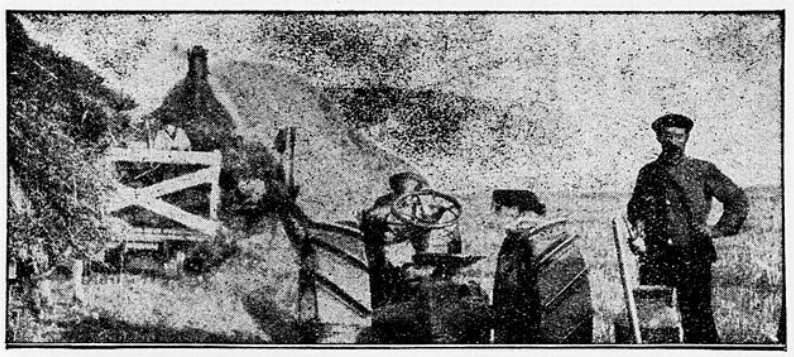
CANADIAN EXPLOSIVES LIMITED — TRADE CXL MARK

A pencil and a post card are all you need to get "The Modern Method of Land Clearing." Send us your name and address and we will forward this valuable book by return mail. **Dept. A**

3

CANADIAN EXPLOSIVES, LTD.

CANADA CEMENT BUILDING, MONTREAL, P.Q.



"JUST AS GOOD AS EVER"

"I have used a Goodyear Klingtite Belt for six years. It is just as good as ever as far as I can see. I used it for threshing and silo filling. As for pulley grip, I never saw its equal. I used it on a bare pulley for two years and I can't see any difference between it and a lagged pulley."—Chas. Van Sickle, Norwich, Ont.

One of the things a farmer must consider when he buys a belt is how long it is going to last. If you will give due thought to this in buying a belt for any farm power service, you will get a Goodyear Klingtite Belt. They are made of the strongest materials and built by expert workmen. They deliver the maximum of trouble-free, powerful service over a long, economical life. They are slipless, non-shrinking, weather-proof; require no dressing; need no breaking-in.

Goodyear Belts are made in endless type for engine drives and in cut lengths for lighter drives. They are sold by Goodyear Farm Service Stations.

Goodyear means Good Wear

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BELTS



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Superior to Bran and Cheaper

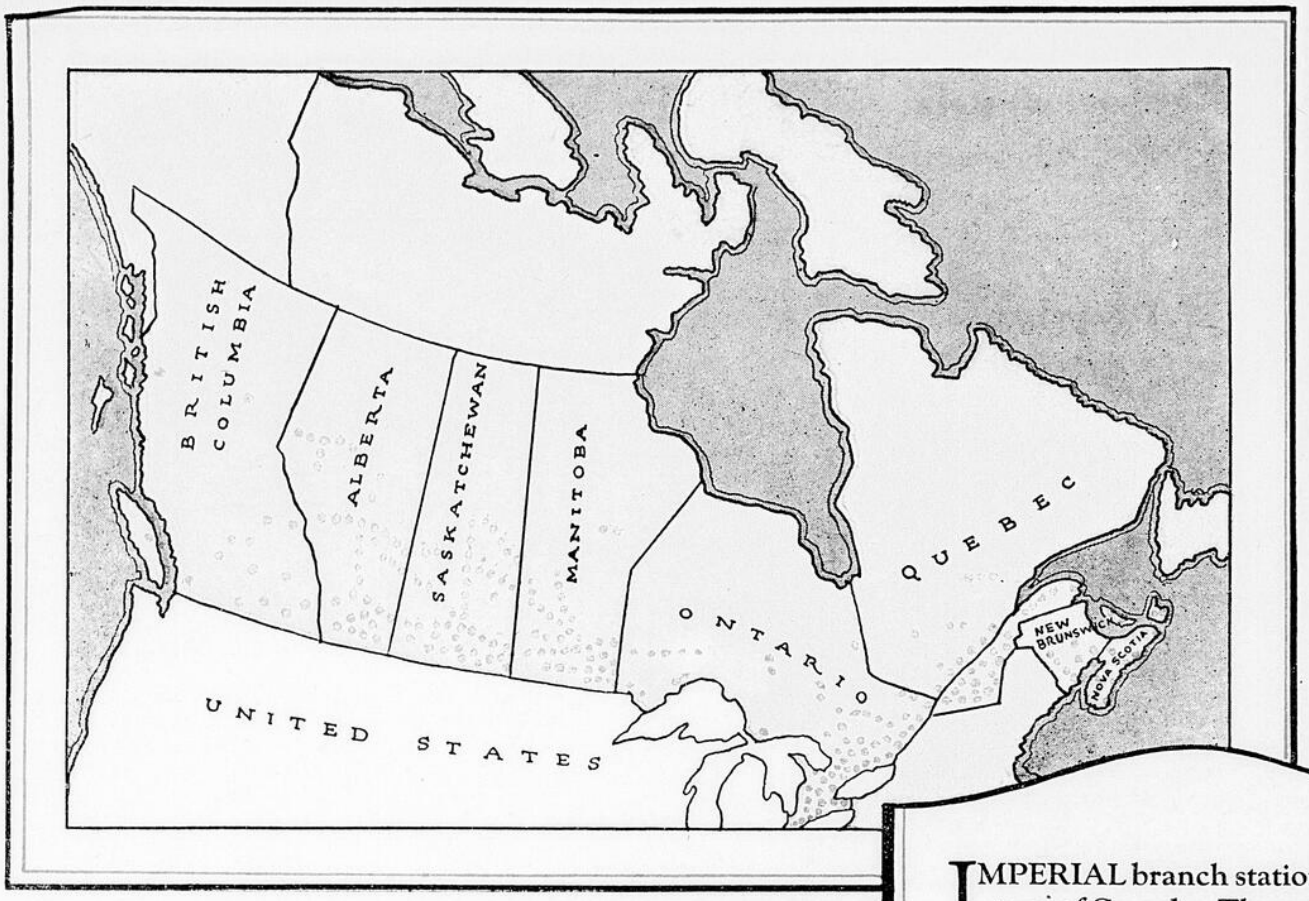
BREWERS' DRIED GRAINS are included in nearly all feeding mixtures fed to large producing herds, where testing is carried on.

DAWES brewers' dried grains have a well-known reputation throughout United States, Germany, Holland and other countries for being low in moisture and of the highest standard. Each year the consumption in Canada is being steadily increased.

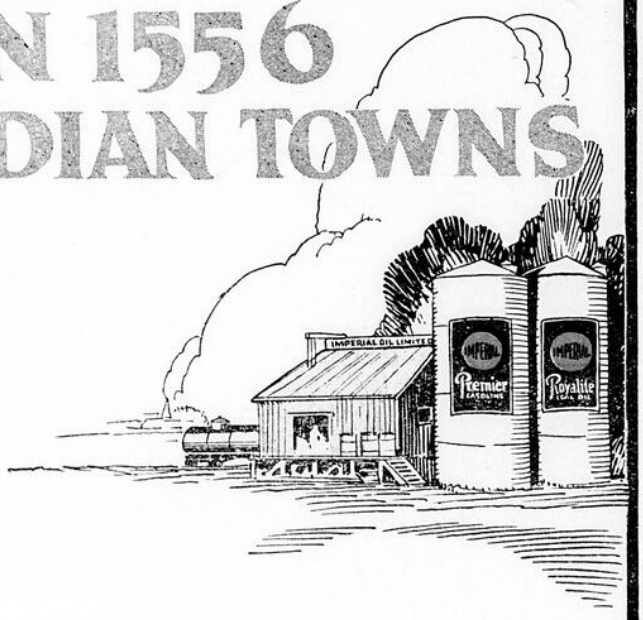
Enquire from your feed dealer, or write direct for price list and particulars.

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1556 STATIONS IN 1556 CANADIAN TOWNS



IMPERIAL branch stations dot the map of Canada. They are almost as numerous as local grain elevators. Fifteen hundred and fifty-six stations located in as many different towns. The bare figures furnish the proof of the immense demand for Imperial products that exists among the farmers of the Dominion.

This demand represents the careful judgment of hundreds of thousands of customers. They buy "Imperial" exclusively and regularly because they know that no better oil products can be made.

The Imperial branch station located near you was put there to serve you. It will pay you to use it. There you can be sure of getting oil products that are always the same—always good.

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Imperial Polarine Cup Grease
Imperial Capitol Cylinder Oil
Imperial Prairie Harvester Oil
Imperial Granite Harvester Oil
Imperial Castor Machine Oils
Imperial Thresher Hard Oil
Imperial Mica Axle Grease
Imperial Cream Separator Oil
Imperial Eureka Harness Oil