

The JOURNAL of AGRICULTURE AND HORTICULTURE

Volume 34

December 1st 1930

Number 6



A
Merry
Christmas
to you all



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

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.

On request we send a sample copy.



Just the Thing for Christmas.

HALF the fun of Christmas is planning happiness for those dear to you. Here's a suggestion... give Coleman Gifts and make Christmas joy last the whole year through! They make their own gas from regular untreated motor fuel.

Coleman Lamps and Lanterns

... are real "family gifts" that keep on giving pleasure and service. Give better light... clear, natural brilliance. Light instantly. No generating. Make their own gas from regular untreated motor fuel.

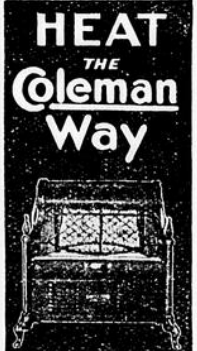


ROTO-TYPE BURNER
... a Coleman invention that assures continuous, trouble free service. Now on Instant Lite Lamps. This burner has an extra-large, long life Generator and a Rotary Tip Cleaner that assures free passage of vaporized gas. Lamps are finished in colorful Coloc; Kreme Lite Shades.

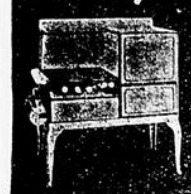
The Coleman Radiant Heater

A dandy home gift all the "folks" will enjoy. It is a cozy, portable fireplace. Carry it upstairs, downstairs, all around the house. Produces a spreading, active heat that flows out in a fan-like zone.

Has Instant Gas Starter that lights instantly. Thermostat Safety Control prevents flooding.



COOK THE Coleman Way



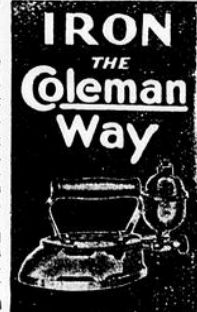
The Coleman Air-O-Gas Stove is the ideal gift for Mother because it saves her time and work. The Coleman is always ready to fry, bake or boil; roast, to st or broil. Equipped with Instant Gas Starter that lights right now.

Other features you'll like are... Even-Heat Burners, Built-in Pump No. Burn Grate, etc. Made for every purse and purpose.

The New Coleman Iron

Just the present the girls and mother will appreciate. Lights at once... No generating. Full ironing heat in 3 minutes. Double-pointed and wrinkle-proof. No cords, plugs or connections. Iron anywhere.

Ask your dealer for full information and prices on these and other Coleman Gifts. Meanwhile—



Mail This Coupon

THE COLEMAN LAMP & STOVE CO., Ltd.
Dept. 820 Toronto, Ontario

I want to know more about "Coleman Gifts" for
 Lighting Heating Cooking Ironing

Name.....
 Address..... (S620)



CANADIAN NATIONAL EXPRESS

Money Orders, Foreign Remittances Travellers Cheques
Are Payable at Par—Everywhere

Use this convenient, dependable way of sending money home to family or friends or for providing yourself with funds for overseas travel. Obtainable at any Canadian National Railways station or express office, or write

Canadian National Express
W. H. BRYCE, Manager, Money Order Dept.
355 McGill Street - MONTREAL

FREE

This beautiful neck piece, 24 inches long; guaranteed pearls, unbreakable, clasp set with a DIAMOND. This value of \$5.00 sent FREE to you, in a fine satin lined case.

DON'T SEND MONEY!

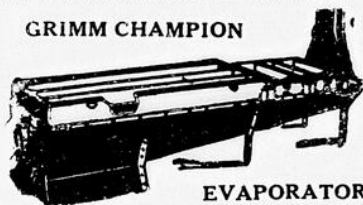
Get 20 packets of our good and fine needles "PRIZE MEDAL" sell them to relations and friends, send back \$5.00 and the jewel is yours.

Address
P. & C. NOUVEAUTES, ENRG.
Dept. J.
BEAUCEVILLE, Que.

Why a Maple Grove Shows Profit

Every Maple Grove can show a nice profit—it is all a question of handling it right. Tap every tree the right way, gather all the sap fresh and clean and then use a

GRIMM CHAMPION



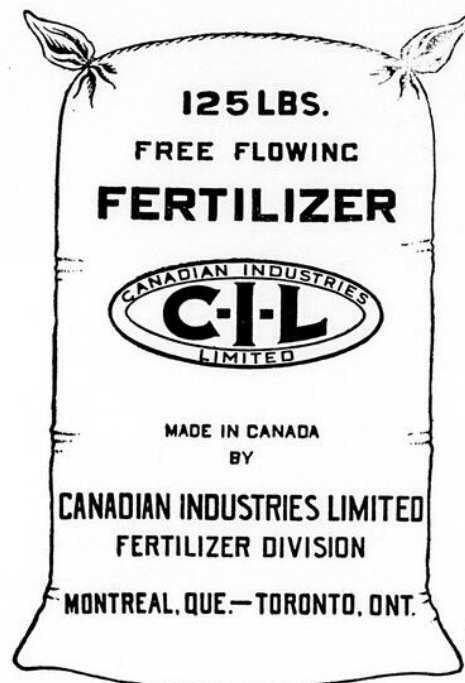
EVAPORATOR

to turn out fine quality syrup and sugar. The Grimm Champion always earns dividends for its user—it gets the most returns at the least proportionate cost; it does the work for you in a nice, clean, easy way and helps to put those extra dollars in your pocket that makes your work really worth while. Now is the time to make up your mind to have a Grimm Champion in your Maple Grove. Write to

GRIMM MANUFACTURING CO.
60 Wellington St., Montreal



Dry and free flowing Fertilizer



Cheaper... because it's Quebec made

...better, because thirty years' experience has developed fertilizers that spread evenly, cover more ground, cannot clog in the drill.

WHEN you need C-I-L superphosphate and mixed fertilizers, there's no waiting, no delay. No ordering ahead, and hoping your fertilizer will arrive in time. C-I-L fertilizers are right IN STOCK at your nearest dealer's or the Coopérative Fédérée de Québec... ready for you to haul away. Here are just the fertilizers and the kind of service you've always wanted. No lumps, no bother with a clogged drill and uneven

spreading. C-I-L superphosphate is *free flowing* under all conditions, because it contains less moisture than ordinary fertilizers.

Get larger yields... bigger profits

Every dollar invested in C-I-L Free Flowing Fertilizers means bigger, healthier spring crops, more profit per acre.

Drive in today and get your supply!



Dry and Free Flowing Fertilizers

CANADIAN INDUSTRIES LIMITED
FERTILIZER DIVISION
MONTREAL



You can cook a whole meal over one burner or heating space with these "Wear-Ever" Triplicate Saucepans. Also made in extra-thick, cast polished aluminum for Waterless Cooking. Get the genuine with the name on the bottom.

at good stores—
everywhere

ALUMINIUM (VI) LIMITED
TORONTO - MONTREAL

"Wear-Ever"

Aluminum Kitchen Utensils

A Reputation We Are Proud Of

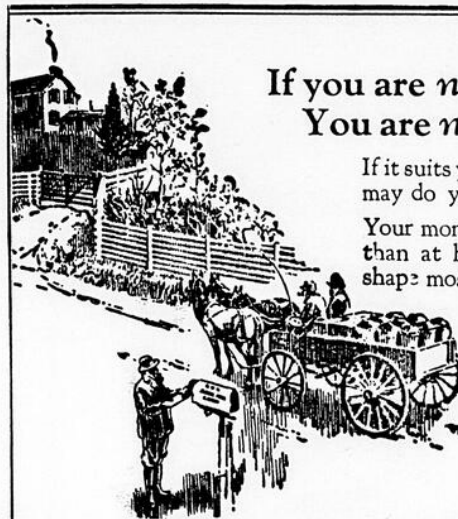
From coast to coast International medicinal and mineral products enjoy the confidence of, and are held in high esteem by thousands of livestock owners. This splendid reputation has been won by us after years of hard work, honest and fair dealings and striving to always give users the most reliable and satisfying products.

For 42 years we have been making medicinal and mineral preparations for livestock exclusively—this and this only has been our business; all our study, research work and experimentation done by capable Veterinarians, Chemists and experts in livestock management has been directed to one end—to produce preparations that would positively achieve the purpose for which they are intended.

The success of our undertaking and the enviable reputation we have built up is well exemplified by the fact that in practically every township, municipality and parish throughout Canada the name "International" is looked upon as standing for reliability, service and integrity.

International preparations are made with the definite idea of producing results, and within reason they do. With us quality is not an accident, but the result of high intent and sincere effort. 2

INTERNATIONAL STOCK FOOD CO.
LIMITED
TORONTO : CANADA



If you are near a Post Box
You are near your Bank

If it suits you better to do so, you may do your banking by mail.

Your money is safer in the Bank than at home. Send it, in any shape most convenient for you, to a Branch of the Bank of Montreal.

Cash should be sent by registered mail.

Write to any Branch for our booklet "Banking by Mail". It may save you many a trip to town.

BANK OF MONTREAL
Established 1817

GENUINE

BARBADOS

Extra Fancy MOLASSES

"BEMA BRAND"

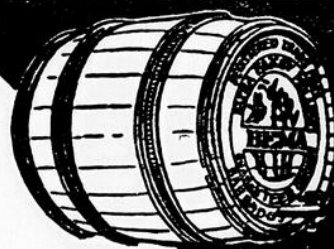
An All-Year-Round Food

Rich in Vitamines
Healthful and
Delicious

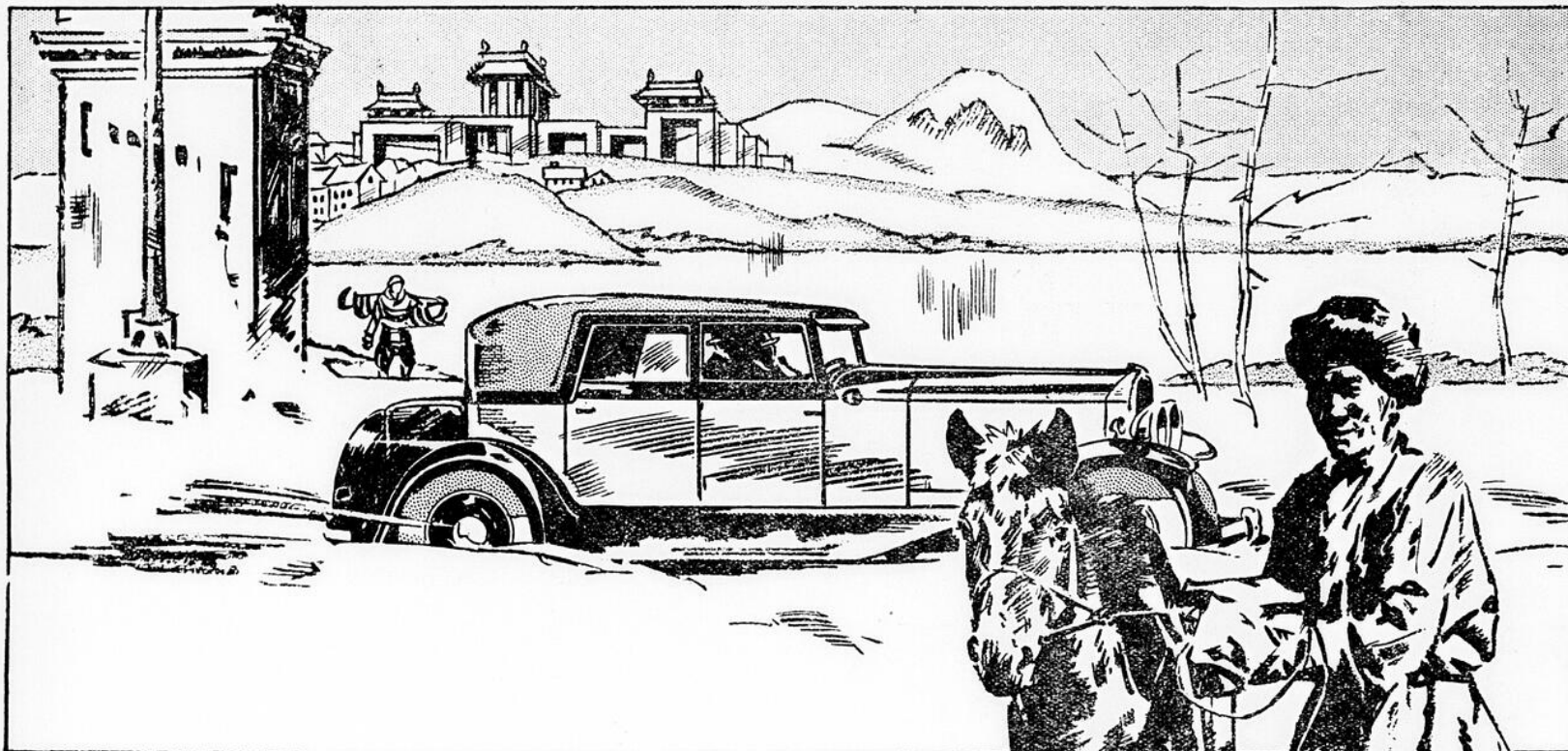
Good Grocers Sell it—in Bulk Only



¶ This Trade Mark, stencilled on the head of every cask, is your guarantee and your grocer's guarantee of the World's Finest Molasses!



PREFERRED IN COLD COUNTRIES THE WORLD OVER



Throughout the Frigid Wastes of Northern Manchuria

WINDING over frozen rivers and white-capped mountains, the modern Liao-tung highway enables Manchu motorists to travel between vast stretches of snow and ice. Like shrewd motorists the world over, the oil they depend upon for perfect engine lubrication is Mobiloil Arctic.

Mobiloil Arctic permits quick starting in coldest weather. It also provides rich lubrication for every moving part of your engine at high operating temperatures. This *double range* character has gained widespread preference for Mobiloil Arctic, not only in Canada but also in Finland, in Iceland, in Norway and in all other cold countries of the world.

There are thousands of good Mobiloil dealers throughout the Dominion. Go to the nearest one today and have him drain your crankcase and refill with Mobiloil Arctic—the World's Quality Winter Oil.

And for Your Gears **MOBIL OIL "CW"**

Mobiloil "CW" Gear lubricant lubricates perfectly in coldest weather and clings tenaciously to each gear tooth. It lightens the engine load and makes gear shifting easy. It does not channel nor separate out. And, because of its adhesive quality it gives added winter protection to your transmission and differential. Change to Mobiloil "CW"—today.



Mobiloil Arctic

The World's Quality Winter Oil

IMPERIAL OIL LIMITED
Marketers of Mobiloil in Canada

Manufactured by
VACUUM OIL COMPANY

ISSUED
MONTHLY
BY THE
DEPARTMENT OF
AGRICULTURE
OF THE
PROVINCE OF
QUEBEC.

All matters relating to
the reading columns must
be addressed to S. R. N.
Hodgins, Editor, Macdon-
ald College P.O., P. Q.

The JOURNAL of AGRICULTURE AND HORTICULTURE

FOR RATES
OF ADVERTISEMENTS
ADDRESS TO
THE CANADA
PUBLISHING CO.,
Limited,
33 St. James St., W.
Montreal.
ENGLISH 7,599
FRENCH 63,758
Circulation - 71,359

Volume 34

DECEMBER 1st 1930

Number 6

EDITORIAL COMMENT

THE HONOURABLE J. L. PERRON

IN the passing of the Honourable J. L. Perron, Minister of Agriculture for Quebec, whose death occurred on November 20th, Quebec loses one of her ablest politicians, one of her most successful financiers, one of her brightest legal lights and one of her most loyal citizens. While but fifty-seven years of age when cut off by death, the Honourable Mr. Perron had already made his impress on almost every important phase of the public life of this province. With the single possible exception of the Prime Minister, the Honourable Mr. Taschereau, it is difficult to call to mind any of his contemporaries who was better or more favourably known; and the thousands who attended his funeral, one of the most impressive ever witnessed in Montreal, by so doing attested to the popularity of the man.

Born and brought up on a farm, Mr. Perron was trained later for the bar, and it was in legal circles that the first won public recognition. Entering the Quebec Legislative Assembly in 1910, the same spirit of energy and the same astuteness of mind that had made of him an outstanding lawyer soon picked him out as a politician who would make his mark; and from that time on, his counsels have been eagerly sought by his colleagues on matters of import to the province.

It was in 1921, however, that the Honourable Mr. Perron first became well known to the man in the street, for it was in that year that he was made Minister of Roads, a post that he was destined to fill with the utmost distinction. The story of his inauguration and successful administration of Quebec's Good Roads Policy is too well known to need repeating; suffice it to say that when the Honourable Mr. Perron took over the Department there were but 4,500 miles of improved highways in the province, and that during his regime some 6,000 miles were added to this total. Not only have the improved highways added greatly to the attractions of Quebec as a tourist centre, but they have given as well access to markets to scores of farming centres that had previously been isolated.

His organizing genius, shown in his work in the Department of Roads and also in his activities in the fields of industry and finance, has for years been recognized as exceptional, and when, in April of 1929, the resignation of the Honourable J. E. Caron from the Ministry of Agriculture, because of ill-health, left vacant one of the most important cabinet positions in the province, and that at a time when a strong hand was needed to assist agriculture during a time of stress, it was but natural that the Honourable Mr. Perron should have been asked to assume the responsibilities of this office. This he did with his customary energy.

Himself the owner and operator of a number of farms in the province, he was already acquainted with many of the problems of the farmer; while his training in the fields of politics and business enabled him to bring to the task of reorganizing the policies of the Department of Agriculture an experience that was of undoubted value. Availing himself of all the resources of his extensive Department, both in the way of records and in the way of men who had been trained in dealing with the problems peculiar to Quebec farming con-

ditions, he drew up a programme calculated to exploit to the utmost the possibilities of the agriculture of the province.

Concerning this programme little need be said here. A full report on its many provisions has already appeared in our columns; in short, it was based on the common-sense idea that Quebec farmers should, in so far as circumstances of climate and soils might allow, first plan to take advantage of the profitable markets existing within the borders of the province before looking abroad for markets in which they would be forced to meet world-wide competition; and to accomplish this he drew up production programmes for the various sections of the province based upon the needs of the markets within their reach, and then followed this up with an intensive campaign for the spread of the co-operative scheme for the efficient disposal of these products.

Greater efficiency was the watchword—an efficiency that was to be based upon not only a more rational production and marketing programme, but also upon more efficient livestock and better varieties of grains, vegetables and fruits. Many of the policies worked out under this new programme have already been put into force with gratifying results; it is only to be regretted that the Honourable Mr. Perron was not allowed to live to see the full fruition of his far-sighted plans for the betterment of the agricultural conditions of the province to which he has always contributed of his best.

Quebec will long bear the impress of the Honourable Mr. Perron's activities. Everyone who has occasion to make use of the provincial highways (or even of the lesser local roads, for these also have changed greatly in character as a result of his policies as Minister of Roads) is already conscious of the great improvements in this field that owed their genesis to him; while his agricultural programme is destined to influence for many decades the production and marketing systems of the farmers of this province.

We should like to quote, in closing, a paragraph from an editorial that appeared in the Montreal Gazette on the day following

his death, an editorial reminding us of the energetic personality of the man:

"The record that Mr. Perron has left is a record of work. In all things he labored diligently and resolutely, and however big the task he attempted, he usually accomplished it. There was everything in him of the I will, and nothing of the I cannot, nor would he tolerate anything of a negative attitude on the part of those who were associated with him in his public duties and professional work. His resolute mind was never disturbed in adversity and only rarely did he allow himself to be ruffled by his adversaries. On those occasions he could make the current of political life stormy. With Mr. Perron, nothing was good enough which could be made better, and with one object gained, he invariably saw another before him to which he eagerly pushed on. The unconquerable perseverance that Mr. Perron constantly displayed in the public service will surely be an inspiration to future generations."



The JOURNAL of AGRICULTURE

AND HORTICULTURE

ISSUED MONTHLY BY

THE DEPARTMENT OF AGRICULTURE OF
THE PROVINCE OF QUEBEC

For rates of Advertisements, address

THE CANADA PUBLISHING CO., Limited,

33, St. James St., West - - Montreal

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.

On My Way

HERE lies about me now a dismantled earth quietly awaiting in readiness and resignation the long sleep soon to come upon it. Much there is in these late days that tells me this, days that more often than not are claimed by winter for its beginning but are this year left to prolong the autumn and give to people the pleasure of mellow sunshine that was not expected. Many long furrows turned in close neatness one against the other have gradually lessened the lee and stubble to thus become full fields of loamy brown, while the ploughman's urging voice and lagging team is no longer a noticeable figure toiling here and there upon the land. The main Post Road has quietened much; its hum and haste with summer days has died away, leaving the rather pleasant and relieving sense of meeting only the folk that we know are from somewhere near home. The fields are empty, and the trees are bare; the last brave bloom has yielded, and overhead, like waves of warriors that go forth on some set purpose bent, the happy, honking geese go by. Perhaps from aloft their far vision espies glimpses of that inviting land of which they have an instinctive knowledge. What privileged of earth's creatures are they that on sure strong wings of flight bear themselves away beyond the reach of cold and snow! I envy them. I who must prepare to endure.

Thus, through wavering days hemmed in all morn and night by lengthening darkness, the season's way has led down from the high road that lay warm 'neath the zealous sun where the need of caring too much for the body could be forgotten. But now this is again a big concern, for though in the business of the day it might not appear as such, it is in reality the first purpose of all endeavor.

The hour that takes me from my bed is scarcely morning now, and as I go forth on the first round of the day it is to feel the firmness of the frozen ground beneath my feet, to see the white of heavy frost upon the earth and note the watering trough glazed over with an icy window. I am conscious of my extremities in the nipping air. My nose and ears, fingers and toes call for protection, so mittens long unused, heavy socks and unworn cap come again into appreciative use, and winter has begun. This burden of winter clothing is wearisome—at least the procedure of putting it on and taking it off is—nor is it helped very much by the returning thought of how quick and simple

a matter it is on a summer morning when pants, shirt and boots suffice—three minutes from bed to barn instead of about fifteen in winter or twenty five if one waits to light the kitchen stove.

It was my pleasure on one of these brisk mornings to motor some sixty miles along the north shore. We were off to Bonnie Flannigan's place, that gentleman's farm noted somewhat for the number of porkers it keeps but more still for the full and ready hospitality that its old-fashioned farm house affords. This is the jumping-off spot where the plunge into the woods is made at this time of year by many eager, hopeful huntsmen, most of whom often enough emerge weary and drooping at nightfall, having only the story to tell of the tracks they had seen which were nothing more than false encouragement. It was the wakening hour across the countryside as we began our journey, and as we progressed the increasing day brought added signs of life. Fresh smoke trailed upward from low chimneys, something moved at a window, a door opened. Were it not for these, the passer-by might justly deem that here in these weather-stained dwellings no people made their home. I wondered to myself, as I made a mental study of what I was seeing, what were the qualities of which happiness consisted. Could happiness be found in any one of these strange, often shabby, uninviting houses, any one of which I felt sure I would not want to live in. But then I reflected that it was not the things that one possessed, nor the lack of few or many possessions, that created

for the individual his peace of mind and contentment of heart. Yet I am convinced that comforts for the body must be supplied before the spirit can be at its best. I think of those fishermen who went afishing by the sea of Tiberias, and after toiling all night they had caught nothing. When the Master appeared on the shore, though he was concerned about other things, he deferred H's questioning until he had filled their nets with fishes and they had dined.

For a very long time there have been those that would have done something to better the lot of scattered farm people, so I knew that the desire that arose in me to do likewise was not a new impulse. I did not consider them unhappy, for I know from experience that they are not, perhaps because they have very little to be unhappy about. If nothing more could be done than group them together in little communities, so that collectively they could avail themselves of certain favourable advantages that are not within the reach of the individual, their way of living would be greatly improved. Still there seems to be something about the nature of fields and woods and humble dwellings that keeps them beyond that industrial alignment that has enveloped every other business; that here in times to come as well as in times past ordinary souls not fevered with the fire of ambition may undisturbed set themselves down to live perhaps just beyond the verge of want, but here to be happy.

H. H.

New Livestock Policies for Canada

Hon. Robert Weir Enumerates Four Types of Aid to be Made Available in Early Future.

SPeAKING before a large gathering of agricultural workers from every section of Canada, at the opening banquet of the Royal Winter Fair in Toronto last month, the Hon. Robert Weir, Dominion Minister of Agriculture, outlined a number of policies that had been formulated during the recent meeting of the Provincial Ministers of Agriculture, for the assistance of Canadian farmers. Prefacing his remarks by the statement that genuine co-operation had been encountered on every hand during this conference, and that an agreement had been reached whereby "better" policies for the aid of agriculture would be administered through provincial channels, and more particularly through the district representatives, he stressed the importance of two things: a knowledge of market requirements in the light of new conditions, and the reduction, where possible, of the costs of producing farm commodities. The latter objective, he felt, might be attained by introducing better blood into our livestock so that our animals would make more meat and more milk from a given quantity of feed, by more scientific methods of feeding and a wider use of balanced rations which would include our home grown grains, and by attention to marketing.

With these things in mind, four policies have been decided upon by the Federal Government:

1. Considering the difficulty experienced by the average farmer in procuring a first class sire to improve the efficiency of his herd and the fact that there is a wastage in the present system of disposing of these sires, where found, as soon as their usefulness in any one herd is past, the Federal Government will undertake to supply free of cost to any group of energetic and deserving farmers a sire of good blood, to be used for two years and then exchanged with another group so that his period of usefulness may be prolonged.

2. Because of the present variation between the prices of pork and of coarse grains, the Minister looks for a big increase in pork production; and, while he does not wish to be understood as advising this, he feels that his department should take steps to direct it. He will therefore supply bred sows of the correct bacon type, at cost, to farmers, so that these may have the type of stock that will make the most efficient use of the vast quantities of barley and other grains now available, and will assist, as well, with the cost of transporting these sows to their new owners.

3. Horse breeding will likewise be aided—with the idea of improving our farm horses in line with tractor competition. That is, an effort will be made to breed horses that walk faster, are stronger, and so on. And to help with this, the Federal Government will import two outstanding sires of each of a number of breeds and place these in the hands of the breed associations.

4. Since one of the greatest wastages in livestock circles is to be found in the toll taken of poultry by parasites and diseases, and more particularly the Pullorum disease (Bacillary white diarrhoea), Mr. Weir promised the establishment within the near future of fully-equipped laboratories where, for a moderate sum, any farmer may have his flock blood-tested. Hand in hand with this will go stringent regulations with regard to the importation of chicks, in the hope that Canada may ultimately reduce to a minimum the losses from this source.

Having enunciated these policies, the Minister dealt more briefly with one or two other questions of interest to agriculture. He pointed out, for instance, that it was his purpose to investigate the conduct and results of agricultural fairs. The full educational value was not being realized, in his opinion, and this should be remedied.

To the knotty problem of domestic freight rates, the Minister promised earnest consideration. The condition which made it cheaper to transport grain from Winnipeg to Denmark or the Orient than to the Maritimes or Vancouver, demanded investigation. The loaning of money to farmers by institutions, he thought, was too limited to periods of prosperity and seriously curtailed during depression, which contributed a great deal to squeezing out the farmers' credit.

In conclusion, the Minister asked for sincere co-operation of the entire farming community of Canada, especially in the submission of constructive ideas. In return he promised "he would place himself in a simple, Canadian farm home," to judge the national policies that are being enunciated and thereby ensure their soundness and their worth.

The Bacon Cycle

"THE production of hogs in Canada at the present time is at the low point in the production cycle," state the Live Stock Branch of the Dominion Department of Agriculture. Current supplies, and supplies in prospect are not more than sufficient to meet a very active home demand. It is noted, however, that there has been very little falling off in hog production, but rather that supplies have failed to keep pace with a growing domestic consumption. There are signs at the present time that the coming year may show a substantial increase in bacon production while at the same time the re-adjustment of prices may result in the resumption of bacon exports.

Quebec Captures Many Honors at Royal

Lion's Share of Dairy Cattle Championships at Canada's Largest Livestock Show Comes to this Province.

(By The Editor)

THE ROYAL WINTER FAIR, in its nine years of life, has become not only the greatest livestock show of Canada, but one of the greatest in the world. To attempt to give even a partial picture of the wonderful exhibition staged at the Royal Coliseum, Toronto, last month would be a task requiring much more space than is available in this issue of *The Journal*. The exhibits of fruits, vegetables, grains, flowers, poultry and fur-bearing animals—quite apart from the farm livestock which, of course, is the main feature of the "Royal"—would each merit an article for itself.

As Mr. S. J. Chagnon, Chief of the Live Stock Branch for Quebec, said, in toasting the "Royal" at the Royal Winter Fair banquet, "The 'Royal' has come to be one of our greatest educational institutions. To the visitor, it offers an unparalleled opportunity to visualize the agricultural wealth of Canada; to the showman, it provides an incentive to improve his stock by showing him what is possible of attainment—and that advantage is taken of this is evident from the improvement shown in the exhibits from year to year. Further, the 'Royal', serving as it does as a meeting place for hundreds of our foremost agricultural workers, is one of the best unifying influences that we have in this country."

Officially opened this year by Sir Robert Borden, the show provided something of interest for everyone. To the many visitors from Quebec the various competitive features were of especial interest in that this province took a gratifying share of the awards. In the boys' and girls' stock judging contest, the Quebec team was second. In the judging contest open to students at agricultural colleges, a team from Macdonald College, while standing third in the aggregate (28 points below the first in a total of 5,000 points), had "high man" in dairy cattle judging in the person of N. H. Beach, who won not only the gold medal but also the Stonehouse Trophy for his work in dairy cattle, and likewise "high man" in swine judging in the person of J. C. Stothart, another gold medal winner.

Of even greater general interest, however, was the splendid showing made by Quebec livestock. In the classes for French Canadian horses and French Canadian cattle this province took practically all the awards, while in Jerseys the herd of C. G. Edwards, of Hillhurst, won a number of prizes for the province. But it was in the showing made by Quebec in the Ayrshire and Holstein classes, where the competition was continent-wide, that the most outstanding wins were achieved. Three out of four of the Ayrshire championships came to Quebec, and two out of four of the Holstein championships. Even to enumerate the many minor triumphs of Quebec breeders in those classes where competition was so strong as to make a win nationally important, would require too much space: a perusal of the list of awards, class by class, which will be found appended to this report, will tell the story in greater detail.

In Ayrshires, premier honors were won for Quebec by: Waldo W. Skinner, Senneville, whose herd was awarded first place, indicating the worth of the individual animals making it up, while his Bois de la Roche Radiance was junior champion bull; Gilbert MacMillan, Huntingdon, whose Harelyholm Butterfly 3rd was senior and grand champion female; and C. J. Miller, Lachute, whose Springlea Mar'a was junior champion female.

In Holsteins, two Quebec herds kept the province well to the fore: Raymondale Farm, Vau-

dreuil, led a very large number of individual classes and had junior champion female in Netherland Queen Pluto; while Mount Victoria Farms, Hudson Heights, had senior and grand champion female in Triune Papoose Piebe.

The awards in the various classes in which Quebec was mainly interested follow:

AYRSHIRES

(Judge: John Cochrane, Bernardville, N. J.)

Bull, Junior Calf (11) 1, 7. R. R. Ness & Sons, Howick, Que., on Burns de Nethertog and Burnside Dale Excelsior; 2. W. H. Coverdale, Portsmouth, on Le Moines Point Dairy Boy; 3, 4. Glen Campbell Farms, Dundas, on Glen Campbell Dark Diamond and Glen Campbell Perfect Piece; 5. Gilbert MacMillan, Huntingdon, Que., on Springburn Airman; 6, 9. McIntyre Bros., Sussex, N. B., on Springbrook Peter and Springbrook Statesman; 8. Alberta Dept. of Agriculture on Rosalies Prince John 8th.

Bull, Senior Calf (17) 1, 6. Waldo W. Skinner, Senneville, Que., on Bois de la Roche Radiance and Bois de la Roche Radiant; 2. Andrew Bennie, Howick, Que., on Netherhall Satisfaction; 3. Cumming Bros., Lancaster, on Glengarry Julius Oliver; 4. Gilbert MacMillan on Grennan Ambassador; 5. Credholme Farm, Streetsville, on Credholme Little Pal; 7. W. H. Coverdale on Le Moines Point Menolons; 8, 9. R. R. Ness & Sons on Dalbible Admiral Beatty and Burnside High Degree; 10. Harry McGee, Islington, on Harnelbel Carl King; 11. Glen Campbell Farms on Ardgowan Grand Turk Imp.

Bull, Junior Yearling (6) 1. John W. Logan & Son, Howick, Que., on Hobsland Elegance; 2. R. R. Ness & Sons on Burnside Lucky Boy; 3, 4, 5. Glen Campbell Farms on Glen Campbell Dynamic, Auchenbrain Chuddy (Imp) and Thornhill Gay Day (Imp).

Bull, Senior Yearling (4) 1. Glen Campbell Farms on Auchenbrain Golden Morn (Imp); 2. Frank Manson, Como, Que., on Laigh Turbeg Lodestone; 3. Harry McGee on Harnelbel Reliance; 4. Credholme Farm on Credholme High Grade.

Bull, 2 years and under 3 (6) 1. W. H. Coverdale on Springbrook Ring Master; 2. Glen Campbell Farms on Glen Campbell Perfect Peter; 3. School of Agriculture, Claresholme, Alta., on South Craig Prince John Imp.; 4. A. R. Cabana, St. Cuthbert, Que., on Glen Campbell Memory Lad; 5. McIntyre Bros. on Hobsland Souvenir Imp.

Bull, 3 years and under 4 (3) 1. Glen Campbell Farms, Dundas, Ont. on Howies Elegance Imp.; 2. Azellus Lavallee, Berthierville, Que. on Moss-gold Entorse Imp.; 3. McIntyre Bros., Sussex, N. B. on Hobsland Merry Monarch Imp.

Bull, 4 years and over (6) 1. Credholme Farm, Streetsville, Ont. on Syke Stamp Imp.; 2. J. H. Black, Lachute, Que. on Dunlop Reflection Imp.; 3. R. R. Ness & Sons, Howick, Que. on Howies Top Grade; 4. Harry McGee, Islington, Ont. on Overton Calamity; 5. Waldo W. Skinner, Senneville, Que. on Lessnessock Replica; 6. George Johnson, Coldbrook, N. B. on Alta Crest Blackstone.

SENIOR CHAMPION BULL—Credholme Farm, Streetsville, Ont. on Syke Stamp Imp.

RESERVE: J. H. Black, Lachute, Que. on Dunlop Reflection Imp.

JUNIOR CHAMPION BULL—Waldo W. Skinner, Senneville, Que. on Bois de la Roche Radiance; RESERVE—Glen Campbell Farms, Dundas, Ont. on Auchenbrain Golden Morn Imp.

GRAND CHAMPION BULL—Credholme Farms, Streetsville, Ont. on Syke Stamp Imp. RESERVE: J. H. Black, Lachute, Que. on Dunlop Reflection Imp.

Cow, 5 years or over, in milk (13) 1. 9. Gilbert MacMillan, Huntingdon, Que., on Harleyholm Butterfly 3rd and Fairview Gilberta; 2 and 7. Harry McGee, Islington, on Plunton Chatty 27th and Lady Clover of Spruce Row; 3, 5, 6. Glen Campbell Farms, Dundas, on Springburn Lady Beauty 2nd, Drum Senorita Imp. and Kirkcudbright Mabel 3rd; 4, 12. Credholme Farm, Streetsville, on Nether Craig Sunray and Norma; 8. Waldo W. Skinner, Senneville, Que., on Kirkcudbright Marjory 5th; 10. R. R. Ness & Sons, Howick, Que., on Nether Craig Brownie; 11. George Johnson, Coldbrook, N. B., on Cairneroft Delphine.

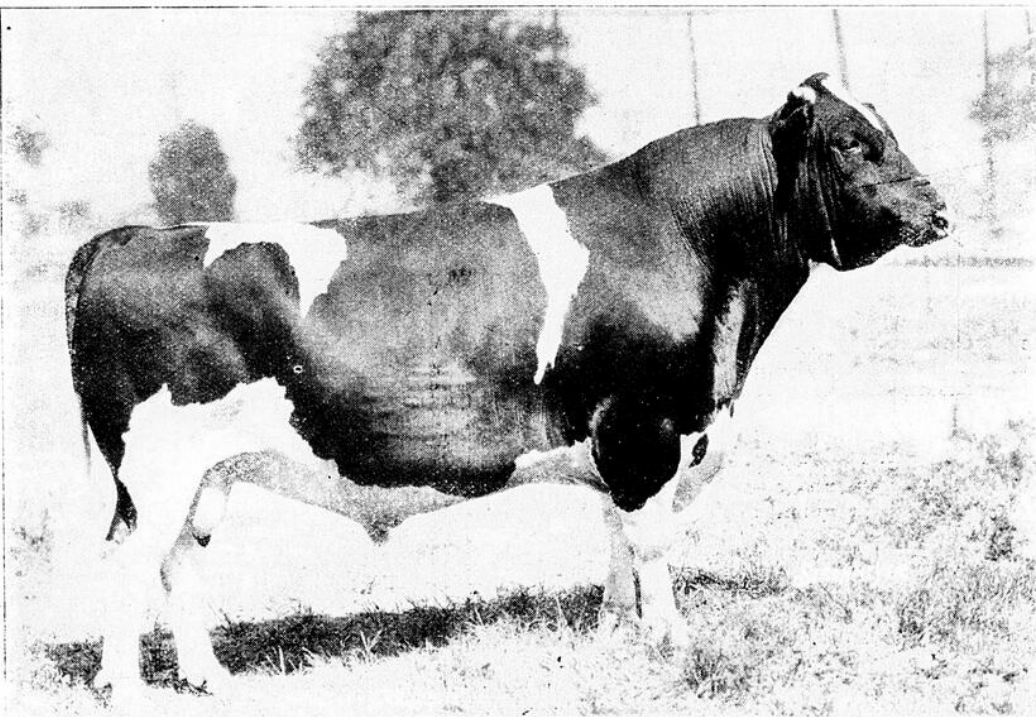
Cow, 4 years and under 5, in milk (11) 1. Edgar C. Budge, Montreal, Que., on Thorncroft Star Snowdrop 2nd 2. H. A. Swart, Simcoe, on Fairview Mignonette; 3. Harry McGee, Islington, on Ickham Belle 2nd; 4. Credholme Farm, Streetsville, on Barr June Imp.; 5. J. H. Black, Lachute, Que., on Harleyholm Swell 2nd; 6. John H. Baker, East Aurora, U.S.A., on Syke Phyllis 3rd Imp; 7. McIntyre Bros., Sussex, N. B., on Springbrook Lady Duly 2nd; 8. J. Stuart Laurie, Agincourt, on Gleddon Hill Snow 2nd.

Cow, 3 yrs. and under 4 in milk (10) 1. John H. Baker, East Aurora, N. Y., on Strathglass Lustre Lady; 2. J. E. Black, on South Craig Princess Royal; 3 and 4. H. A. Swart on Auchenbrain Buntly 58th and Alta Crest Sun Fairy; 5. W. H. Coverdale, Portsmouth, on Netherhall Lucy; 6. Credholme Farm on Netherhall Bess 5th; 7. Gilbert MacMillan on Cornell Whitelegs; 8. Harry McGee on Killoch White Alice; 3rd Imp. 9. McIntyre Bros. on Hobsland Lucy 6th Imp.

Heifer, 2 years and under 3, in milk (20) 1. R. R. Ness & Sons, on Burnside Perfect Lady, 2.

John W. Logan & Son, Howick, Que., on Hobsland Fanny 13th; 3. Glen Campbell Farms on Glen Campbell Snowmaid; 4. Waldo W. Skinner on Glen Bertha; 5. Glen Campbell Farms, Dundas, Ont., on Laigh Tarbeg Florence (Imp.); 6. J. Stuart Laurie, Agincourt, Ont., on Ivanhoe Lovely Dew; 7. H. A. Swart, on Cortachy Martha 2nd; 8. J. H. Black, Lachute, Que., on Threaves Dot (Imp); 9. Edgar C. Budge, Montreal, Que., on Thorncroft Star Beulah 2nd; 10. John H. Baker, on Strathglass Lady Lustre; 11. W. H. Coverdale, Portsmouth, Ont., on Netherhall Kit.

Cow, 6 yrs. or over having an official record begun at 4 yrs. or over (14) 1, 3 and 10, Gilbert MacMillan, Huntingdon, Que., on Harleyholm Butterfly 3rd, Ravensdale Stella, and Fairview Gilberta; 2,



Abberkerk Sylvius Lad, Grand Champion Holstein Bull at "The Royal", owned by P. J. McCarthy, Sussex, N. B.

(Continued on page V)

To make a ration similar in feeding value to Q.F.B. 24% Dairy Mixture Use 4 parts Dairy Protein Supplement plus 5 parts of farm grown grains.
 To make a ration similar in feeding value to Q.F.B. 22% Dairy Mixture Use 3 parts Dairy Protein Supplement plus 5 parts farm grown grains.
 To make a ration similar in feeding value to Q.F.B. 18% Dairy Mixture Use 2 parts Dairy Protein Supplement plus 7 parts farm grown grains.

Q. F. B. CALF MEAL

This mixture is intended for use for young calves under six months of age.

The mixture and its calculated analysis :

300 lbs. oat groats	} dig. crude protein	21. %
100 " wheat bran		
250 " wheat middlings	} total dig. nutrients	75. %
100 " linseed oilmeal		
50 " blood meal	} min. crude protein	25. %
120 " skim milk powder		
50 " fish meal		
10 " salt		
10 " bone flour	} min. crude fat	5. %
10 " calcium carbonate		
	} max. crude fibre	4. %

Substitutions which may be made in this mixture without seriously affecting its feeding value :

For 300 lbs. oat groats : 300 lbs. hominy feed, ground corn or ground oats from which the hulls have been sifted out or a combination of any two or more of them.
 For 100 lbs. bran : 100 lbs. alfalfa meal or combination of alfalfa meal and bran.

Q. F. B. PROTEIN SUPPLEMENT FOR HOGS

This mixture is suggested as a substitute for all other protein feeds in the hog ration, such as tankage, fish meal, or dairy by-products. It also carries the minerals required for a properly balanced ration. It is not to be fed alone.

The mixture and its calculated analysis :

400 lbs. tankage (60% protein)	} dig. crude protein	40.0%
200 " fish meal		
200 " linseed oilmeal	} total dig. nutrients	56.0%
100 " feed bone meal		
76 " gr. limestone	} min. crude protein	43. %
20 " fine salt		
4 " ferric oxide		
	} min. crude fat	6. %
	} max. crude fibre	5. %

Feeding suggestions :

The above protein supplementary mixture was developed at Macdonald College, where it has been used since 1929 as a substitute for dairy by-products or other protein feeds.

It is recommended for use as follows :

FOR WEANLING PIGS : Protein Supplementary Mixture 300 lbs., wheat middlings 350 lbs., ground corn 350 lbs. Ground oats from which the hulls have been sifted may replace the corn in the above mixture if so desired. This mixture is fed for approximately one month after weaning.

GROWING PIGS; NURSING SOWS; BREEDING STOCK DURING BREEDING SEASON : Protein Supplementary Mixture 200 lbs., basal feeds 800 lbs., which may consist of combinations of corn, barley, oats, shorts or similar feeds.

FATTENING MARKET PIGS : Protein Supplementary Mixture 100 lbs. basal feeds 900 lbs., which may consist of combinations of any of the cereal grains or other by-products suitable for this class of stock.

PRECAUTIONS : Newly weaned pigs should be put on this feed very slowly. The plan of putting the nursing sow on the Weanling Pig Mixture for about a week previous to weaning has been found to be one of the most satisfactory ways of accustoming the young pigs to their new feed gradually. The amount of feed which they steal from the sow's trough is not much at first, and by the time weaning is done, they are pretty well accustomed to the new ration.

Q. F. B. BASIC FEED MIXTURE

This mixture is simply a combination of three of the common cereal grains, making a product suitable for use in the rations of any class of stock other than weanling pigs and young calves.

It will replace in full or in part the supply of home grown grains and because of the variety which it provides, will usually be preferred to any of the cereal grains singly.

The mixture and its calculated analysis :

100 lbs. ground barley	} dig. crude protein	9.5%
100 " ground oats		
100 " ground wheat		
	} total dig. nutrient	76. %
	} min. crude protein	14. %
	} min. crude fat	3. %
	} max. crude fibre	10. %

Feeding suggestions :

This mixture is not intended to be fed as it comes. It is not alone a balanced ration. It is a substitute for such feeds as corn, hominy, barley, wheat, oats or screenings. It requires the addition of some high protein feeds to make a proper ration.

The following table suggests the use of this mixture :

FOR DAIRY CATTLE RATIIONS :

4 parts Basic Feed plus 1 part oilmeal for cows fed clover hay;
 3 parts Basic Feed plus 1 part oilmeal for cows fed mixed hay.

FOR HOG RATIIONS :

4 parts Basic Feed plus 1 part Q. F. B. Hog Supplemental Feed for pigs 3 to 5 months old.
 9 parts Basic Feed plus 1 part Q. F. B. Hog Supplemental Feed for fattening hogs.

FOR BEEF STEERS OR SHEEP :

6 parts Basic Feed plus 1 part oilmeal for fattening cattle or lambs.

CUTTING PRODUCTION COSTS

IV. Revising the Farm Programme

By Dr. J. E. Lattimer, Prof. of Agricultural Economics, Macdonald College.

THE recent decline in prices of farm products has been very irregular. Changes in prices, either in an upward or downward direction, are generally lacking in uniformity. This fact is rather a difficult one to explain by those who contend that the world in general and agriculture in particular now suffers from general overproduction.

General overproduction is a condition which history has not so far revealed. We may approach such a condition at the present time more nearly than at any previous period. Yet there are a few commodities which, judging by their price in the market at the present time, furnish no evidence of overproduction. If and when we reach a condition of general overproduction, then it should not be difficult to ease up somewhat in our striving and shorten hours of labour generally to relieve the situation. Fortunately or unfortunately, however, there appears yet to be a sufficient number of wants still ungratified to furnish sufficient stimulus for increased effort.

The apparent position, as reflected in present prices, is that we have a surplus of some goods in proportion to the amount of other things on hand. It is unbalanced production, rather than general overproduction, which is the difficulty. If this be granted, then the present is a period when some

revision of the farm programme should be made. In the first article in the series on cutting costs of production, it was pointed out that revision of the farm programme may be more necessary under conditions such as at present prevail than during more normal times. This is the point we propose now to deal with.

PRESENT PRACTICES

In order to discuss the possibility of revising a programme of production, it is essential to examine closely present conditions. While we may be fairly familiar with the present practice in a general way, a closer study requires more detailed information.

The information set forth in the monthly bulletin of agricultural statistics furnishes the information necessary for a more detailed study. We find the following table setting forth the acres, yield and value of crops for the past five years very interesting:

	QUEBEC*			
	Field Crops	Five Year Average	1924-1928	
	Acres	Yield	Price	Value per acre
Hay	4,162,000	1.51 tons	10.22 per ton	\$15.43
Oats	1,815,600	27.1 bu.	0.67 per bu.	18.16
Potatoes	160,000	87.1 cwt.	1.50 per cwt.	130.65
Buckwheat	157,600	23.2 bu.	1.03 per bu.	23.90
Barley	125,000	23.6 "	1.04 " "	24.54
Mixed grain	115,200	26.6 "	0.91 " "	24.31
Fodder corn	87,600	8.52 tons	4.94 per ton	42.09
Wheat	63,800	16.9 bu.	1.72 " bu.	29.07
Peas	37,800	15.4 "	2.61 " "	40.19
Roots	33,920	145.9 cwt.	0.72 " cwt.	105.05
Corn for husking	30,160	25.6 "	1.44 " "	36.88
Alfalfa	22,340	2.5 tons	8.10 " ton	20.25
Beans	14,580	16.5 bu.	2.93 " bu.	48.35
Rye	12,540	16.4 "	1.49 " "	24.44
Flax	2,480	9.6 "	2.51 " "	24.10

*Monthly Bulletin Agricultural Statistics, Jan., 1930.
 These figures indicate that this province devotes the great bulk of its area to crops yielding a low return per acre. This may be necessary to a certain degree on account of adaptability of soil and climate. Yet the fact that this condition exists shows the opportunity for changing if and when it can be demonstrated that such a change would be profitable.

Again there may be just as much net profit from a yield per acre of twenty dollars as from a yield of one hundred and twenty. This is unlikely, but it is conceivable. We are not entirely in the dark on this point, as we shall later see.

In the meantime, it is important to note the trend in acreage during the past few years.

	Acreage Field Crops	
	Quebec, 1924-1929*	
	1924	1929
	ac.	ac.
Hay	4,031,000	4,306,727
Oats	1,838,000	1,826,042
Potatoes	159,000	162,411
Buckwheat	154,000	159,707
Barley	124,000	154,016
Mixed grain	112,000	134,500
Fodder corn	92,000	87,879
Wheat	69,000	58,266
Peas	40,000	34,806
Roots	33,600	40,437
Corn for husking	31,400	32,045
Alfalfa	21,500	24,078
Beans	15,000	16,731

**FARMERS' CLUBS
 IMPORTANT NOTICE**

The officials of farmers' clubs are requested to bear in mind the fact that the date fixed by the law for the election of directors is the third Tuesday of January. The notice for the calling of the annual meeting should mention that date: "Third Tuesday of January."

**OSCAR LESSARD,
 Secretary, Council of Agriculture.**

**AGRICULTURAL SOCIETIES
 IMPORTANT NOTICE**

The officials of agricultural societies are requested to bear in mind the fact that the date fixed by the law for the election of directors is the third Monday of January.

The notice for the calling of the annual meeting should mention that date: "Third Monday of January."

**OSCAR LESSARD,
 Secretary, Council of Agriculture.**

Rye	13,000	10,954
Flax	2,800	2,996

*Monthly bulletin agricultural statistics, Jan. 1930.

A glance at these figures shows that the only substantial increase in acreage recorded during the five year period was in that devoted to hay.

By combining the acreage of hay, oats, mixed grains, fodder corn, roots and alfalfa, we see that the bulk of the area is devoted to the production of feed for live stock, leaving only small areas devoted to cash crops. There is one exception to this rule, namely, potatoes, a crop only exceeded in total area by hay and oats.

Not only is the province specializing to a great degree in live stock and live stock products, but the evidence suggests that this specialization is increasing.

COST OF PRODUCING FARM CROPS IN EASTERN CANADA

There may be as much net profit from a crop yielding a low total return per acre as from one yielding a greater return per acre. This is unlikely, but possible. The records of cost of production of farm crops in eastern Canada, as recorded by the seven experimental farms during the years 1922 to 1926, should be considered in connection with this question. Records have been as follows—

	Yield per acre	Cost per acre	Cost per unit (1)
Oats	55.8 bu.	\$29.06	\$0.43 per bu.
Hay	2.46 tons	19.95	8.10 per ton
Potatoes	264 bu.	78.35	0.30 per bu.
Corn silage	13.53 tons	46.89	3.46 per ton

(1) Dominion Experimental Farms Bulletin 115.

During this period there was apparently a profit per acre secured from growing all farm crops from hay to potatoes. Costs of production were low, largely on account of the high yield per acre secured.

In general, a reliable method of cutting costs of production is to secure high yields per acre. This applies to hay as well as potatoes, as these figures demonstrate.

Naturally, if the crop grown be of a low-yielding return per acre, more acres will be required to secure the income required. Another method to secure the same result may be to revise the farm programme by adding a crop which yields more per acre or introduce a profitable sideline.

RESULTS

From the figures we have examined, we see that returns from the farming business in the province of Quebec are made up largely from live stock and live stock products and potatoes. A glance at returns during the year 1928, the most recent year for which figures are available, will illustrate to how great a degree this prevails.

GROSS AGRICULTURAL PRODUCTION (1) (Quebec 1928)

Field crops	\$130,363,000
Dairy products	78,000,000
Farm animals	37,319,000
Poultry & eggs	16,180,000
Fruit & vegetables	7,577,000
Maple products	3,604,000
Wool	1,367,000
Tobacco	978,000
Fur farming	775,000
Honey	688,000
Clover & grass seed	199,000

(1) Canada Year Book 1930, p. 206.

The field crops of the province are, with the exception of potatoes, fed to live stock, along with considerable purchased concentrates imported from other sections. For this reason we shall not need to compare the values of field crops with other sections. But with the chief sources of farm revenue the case is different. And in this matter we may with some degree of accuracy compare the returns from some of our farm products with the proportion that this province farms of the total population. In 1928, Quebec province comprised 27.4% of the population of the Dominion. The following table, then, is of some interest.

QUEBEC 1928

Proportion of population of Dominion	27.4%
Proportion of dairy products by value	31.0%
Potatoes	33.0%
Maple products	65.0%
Farm animals	18.9%
Fruits and vegetables	16.0%
Fur farming	15.5%
Poultry products	15.2%

From this table we see that the province has a greater proportion of some farm products than the proportion of the total population. The share is greater in dairy products, potatoes and maple products, the latter of which comprises almost a monopoly.

Following the table downward, another condition prevails. In farm animals, fruits and vegetables, fur farming, and poultry products, the proportion of revenue with that credited to the whole dominion is much less than the proportion of the population comprised. In poultry products, for instance, we have 15.2% of the revenue of the country, as compared to 27.4% of the population.

This means that for fruit and vegetables, farm animals, and poultry products the province is not supplying its home needs, but relying on importations from other provinces.

MARKETS

The question of markets, judging by current literature, is one that frequently vexes the sellers of farm products. From the information available, however, we see that, comparatively at least, local farmers occupy a more favourable position than those of many other sections. This is particularly the case in those products upon which dependence is based so largely on outside sources of supply.

The Montreal market is the best market in the country, particularly for fruits, vegetables and poultry products. The current issue of the Gazette points out that the new warehouse and market for fruits and vegetables is based on potentialities of a city requiring 50 carloads of fresh fruits and vegetables per day. Obviously much of this is imported from warmer climates at present and must be imported in the future. Still, as the figures reveal, Quebec farmers are not now filling their share of the "Canadian-produced" demand.

It may be reasonably argued as an explanation of this that local conditions of soil and climate

The Hon. Adelard Godbout

As we go to press, announcement is made of the appointment of Professor Adelard Godbout, M.L.A. for L'Islet County, to the portfolio of agriculture in the Quebec Cabinet vacated by the death of the Hon. J. L. Perron.

The Hon. Mr. Godbout is the youngest member of the Taschereau Cabinet, being but 38 years of age, but already he has given proof of his fitness to occupy this, the most important portfolio in the Quebec Government, both through the work that he has done for the advancement of agriculture in Quebec and through his parliamentary record, which, while short, has brought him quickly to the fore.

As Professor of Animal Husbandry at the Agricultural College of St. Anne de la Pocatiere, the Hon. Mr. Godbout has for some years been intimately associated with many movements designed to improve the lot of the Quebec farmer; and with Quebec pledged to an agricultural programme calling for the introduction of more scientific methods of production and more businesslike methods of marketing, the farming population of this province will feel that their interests are in good hands while they are in those of this scientifically trained farmer.

In the little over a year that Mr. Godbout has occupied a seat in Quebec's Legislature Assembly, he has been constantly active in the House. Since the last session was devoted largely to a consideration of the various factors involved in the new agricultural programme outlined by the Hon. J. L. Perron, it was but natural that constant reference should be made to such an expert agriculturist as that found in the member from L'Islet. And in the strong stand taken by the Hon. Mr. Godbout in favour of many important agricultural reforms during the last session, we have an indication of the type of leadership that we may look for from our new Minister of Agriculture.

account for this. Perhaps this is the case to a certain degree. We have already admitted the trend towards greater dairy specialization. That this specialization may and will be more marked in supplanting grain growing may be expected, both on account of the topography of the country and present low grain prices.

The topography of the country itself, however, renders some sections suitable for growing apples and vegetables, including the potato, on account of some areas being able to produce a superior quality of these products.

PRICES

The readjustment of farm prices during 1930 has not been very hard on the Quebec farmer. Depending to a large extent on purchased concentrates, the lower price of feeds may even have been on balance a distinct benefit.

For instance, under present conditions we find that a dozen eggs are worth as much as a bushel of wheat. And wheat is particularly good raw material to turn into eggs. Likewise the dairy farmer and livestock producer of Quebec may now secure feeds for a price sufficiently lower than the cost prevailing one year since to leave just as much profit even with the lower prices of the finished product now prevailing.

That one dozen eggs is worth as much today as a bushel of wheat is a circumstance that should afford ample food for reflection. In itself it is pretty fair evidence that the world is not suffering from overproduction in all lines. This unusual condition cannot be explained by the scarcity of gold nor by the lack of purchasing power, nor will it be changed by any action of those who are now discussing the amount and distribution of gold. It may be changed, however, by a revision of our production programme.

SUMMARY

Revision of the farm programme may be warranted and necessary during a time of fluctuating prices of farm products. The prices of grains have declined much more than those of live stock and live stock products. Prices of special lines such as poultry and fruits and vegetables have so far almost escaped the decline.

Quebec province is on an import basis for these special lines and has the best market in the Dominion for these products.

Present prices of special products offer inducements where soil and other factors are suitable. Any revision of the farm programme contemplated should find the facts revealing this condition of special interest.

Comparatively Little

IN these days when fertilizer is rapidly growing in importance as a plant food in Canada one is inclined to think of Canadian consumption of fertilizer as fairly considerable. Canada is fortunate in that the quality of fertilizers marketed is assured under the provisions of the Fertilizer Act, administered by the Dominion Department of Agriculture. However, a comparison of fertilizer consumption on a world-wide basis places Canada twenty-sixth in volume in a list of forty-two fertilizer-using countries with a net annual consumption of 31,300 net tons. Germany using 1,324,000 net tons is the heaviest single consumer, while the United States, with 1,488,000 net tons comes second. Great Britain uses 274,000 net tons, while Cuba, at the bottom of the list, uses only 3,500 net tons.

Mountain Ash

All the hills are dark,
Sombre clouds afloat;
Sunlight, not a spark,
Birdsong, not a note;
Only, through the blight,
Facing winter's night,
Flaunts the mountain-ash
Scarlet berries high.

Like a flame of love,
Like a lilt of song,
Lifted sheer above
Cares that press and throng,
Through the darkling day,—
Scarlet set in grey—
Splendid mountain-ash
Gleams along the way.

—Elizabeth Roberts Macdonald.

The Life Layer of the World

The Chemist's View of the Earth, of its Soil Make-up and of the Important Problems of Soil Fertility.

PART II — SOILS AND SOIL STRUCTURE

By Dr. R. R. McKibbin, Asst. Prof. of Chemistry, Macdonald College.

THESE are four main groups of soil constituents. Upon the dominance of one or more of these groups of constituents depends the character of a soil. The nature of the climate in which the soil occurs will very largely determine which of the groups of constituents will be dominant and the condition in which these constituents will be present. The groups are:—

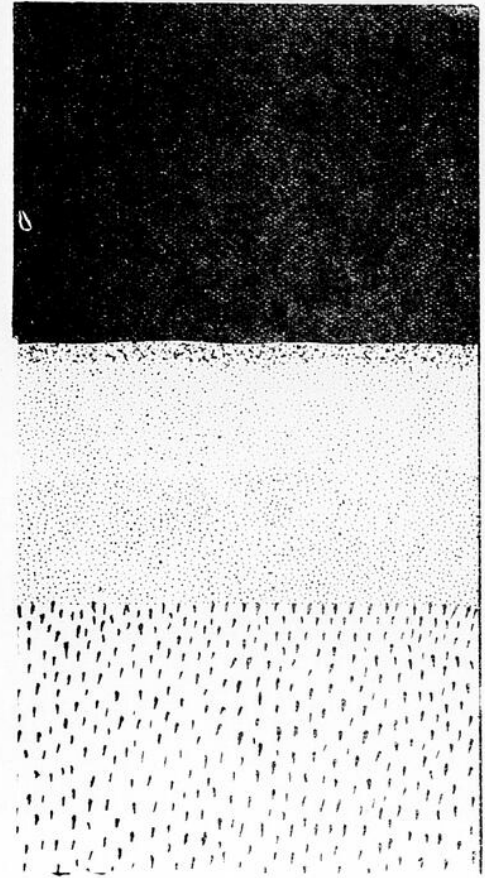
1. Iron and aluminum
2. Silica
3. The strong bases; calcium, magnesium, potassium and sodium.
4. Organic carbon compounds.

Let us in imagination start at the poles of the earth and work towards the equator. Beneath the polar ice sheets we do not expect to find true soils. Life in the Arctic and Antarctic polar regions is confined to the sea and to adjacent ice clad shores. Advancing a little further from the poles towards the equator, we reach the land of the tundras, where in summer some inches of the surface soil may thaw out and where lichens, mosses and a few flowering plant species exist. Some of the southernmost islands between South America or Tasmania and the south pole, and vast stretches of Northern Siberia and of Northern Canada are typical tundra regions. One hesitates to apply the name of soil to the outer layer of the crust of the earth in these regions, but at any rate it supports life and will answer to the general definition given for soils.

The next main "belt of soils" below the tundras is termed by the Russians "Podzol". These soils are sometimes called "gray earths" or "forest soils". They are relatively high in silica, low in the strong bases, low in iron and aluminum and until the final stages of leaching (or podzolization) they are quite high in semi-decomposed organic matter, which is well described by the Germans as "roh humus" (raw humus). These podzols occur

in cool, humid climates and are generally open textured, sandy or gravelly soils, deficient in strong bases. They present a tri-coloured appearance.

Under Quebec conditions, the top layer (roh humus layer) is mostly semi-decomposed carbonaceous material very black in color and of varying depth. Below the black layer appears a bleached and leached "ashes color" layer, also of varying depth. Organic acids from the "roh humus" layer are effective solvents of soil minerals. Below this is a layer of rusty red color, in which some of the iron and aluminum leached from above have accumulated. Concretions of iron and aluminum oxides with organic matter are often present in this layer. Below the reddish layer will be found sand and gravel, usually to a depth of many feet. On the North American continent,



Graph of Typical Heavily Podzolized Soil Profile as found in Quebec Province, Virgin Soil.

"A Horizon"—layer 4" to 18" deep. Exceedingly high in organic matter and black coloured. Organic matter is non-fibrous and there is usually much mineral matter present. Top layer loose and friable.

"B Horizon"—layer from a few inches to several feet in depth. Usually bluish to whitish grey colour. Layer is mainly very fine sand with considerable clay. Extremely hard-packed and almost impervious to water. Normally small pebbles and stones in this layer.

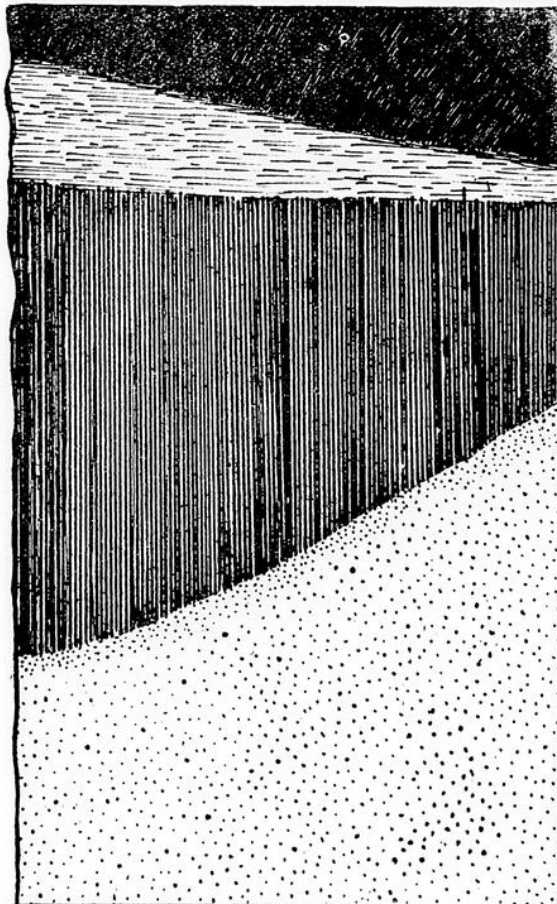
"C Horizon"—Sometimes another clayey layer of yellowish-brown colour, but usually very fine sand. This layer is not as hard packed as the "B Horizon" and is permeable to water.

that they are mixed up with each other. In the last paragraph, the presence of relatively great amounts of silica and of organic matter in the soils of moist, cold climates was emphasized. Under water-logged conditions such as those met with in swamps and bogs, organic matter accumulates almost to the exclusion of the other main groups of soil-forming constituents. Throughout eastern, central and northern Canada and in the northern United States there are many millions of acres of peat bogs, in which organic matter is distinctly dominant.

Semi-arid and arid climates have a great effect on soil conditions, whether their soils occur in hot or in cold regions. Under conditions of little rainfall, the strong bases tend to accumulate. Evaporation of water from the soil exceeds rainfall, so there is little leaching. Under some arid conditions both alkali metals and alkaline earths tend to accumulate. The Russians name those arid climate soils containing alkali carbonates "Solonetz", and others which contain neutral salts "Solonchak".

Certain semi-arid conditions, exemplified in the great spring wheat growing districts of the Western United States and Canada, are such that organic matter can accumulate in the soils to a considerable extent. In warmer climate semi-arid regions, and where there is more even distribution of rainfall throughout the summer, the lack of organic matter in the soils is perhaps their greatest deficiency. The black, high organic matter soils, rich in strong bases and particularly rich in calcium, are named "Tschernozem" by the Russians. These soils, found in the wheat-growing areas of Russia as well as in our West, are probably the most fertile soils in the world, although Corn Belt farmers, whose land lies on the eastern fringe of the North American tchernoze area, may have the right to protest this statement.

As a general rule it may be said that semi-arid



Graph of Typical "Brown Forest Soil" Profile as found in Quebec Province, Virgin Soil.

"A Horizon"—layer 12" to 48" deep. Medium brown colour. Fe₂O₃ and Al₂O₃ instead of leaching out of the upper horizons are distributed evenly. This layer is loosely packed and is high in organic matter. Fine sandy loam.

"B Horizon"—layer usually several feet deep. Medium to light yellowish-brown colour. Contains much less organic matter than the "A Horizon". Usually loosely packed. Fine sandy loam.

the podzol belt includes a large part of the New England States, most of the south half of Quebec, (although there are many "glacial till" clays of excellent fertility), Northern Ontario, and some podzol-like soils in the northern parts of the western Canadian provinces. In South America, the southern half of Argentina (part of Patagonia and Tierra del Fuego) has many podzols. Nearly one hundred years ago Charles Darwin, one of the greatest observers the human race has had, remarked the great accumulation of semi-decomposed organic matter in many of the forests of Tierra del Fuego and the light coloration of some Patagonian soils. A graph of a typical podzol is given. The podzol belt soils are generally very acid. On some of the most advanced podzol soils, organic matter has almost disappeared, and silica is the dominant soil constituent. Within the podzol soil belt there may occur limestone soils and other soils that are well supplied with minerals, but these are exceptional.

It must be understood that these vast "earth belts" of soils are very irregular in width, and

Graph of Typical Heavily Podzolized Soil Profile as found in Quebec Province, Virgin Soil.

"A1 Horizon"—layer ½" to 6" deep. Dark brown to black colour. Raw humus.

"A2 Horizon"—layer ½" to 6" deep. White to dark grey (ashes) colour. Leached and bleached fine sandy loam.

"B Horizon"—layer 6" to 14" deep. Light reddish brown to dark brownish or reddish black colour. The sesquioxides leached from the "A horizon" have accumulated in this layer, colouring it red. Fine sandy to gravelly loam.

"C Horizon"—layer usually many feet deep of light greyish-brown fine sandy loam rather loosely packed. There are usually considerable gravel and small stones present.

and arid climate soils have a relatively high percentage of strong bases and are deficient in organic matter. Silica, iron and aluminum fall into the background slightly in these soils, although they are usually relatively more soluble in strongly alkaline soils of arid climates than they are in cool, humid climate soils. Intelligent application of water to arid soils results ordinarily in making possible the growing of tremendous crops. Hilgard points out that the average size of a farm unit in the Eastern United States during the early years of this century might be considered as from 40 to 160 acres, while in the irrigated arid lands of the West 10 acres was, under a different system, an area of ample size to constitute a farm. It is a striking historical fact that the most ancient civilizations were erected on arid soils. Egypt, obtaining her irrigation water from the Nile, lay on the edge of the Libyan desert. Babylon and Chaldaea, Assyria, Phoenicia and Judaea all were arid climate or semi-arid climate civilizations. The fertility of desert soils, when they are given water by those who know how to apply it, is phenomenal. The important part played in soil fertility by the strong bases of the soil is at once apparent from this statement.

But let us not wander too far away from our path in our imaginative journey from the poles to the equator. Farther down towards the equator than the podzol, glacial clay and tchernozem areas, the "brown earth" soils are to be found, in humid climate regions. In these there is much better distribution of organic matter, iron, aluminum and strong bases, throughout the different horizons, than there is in the podzols. There is, however, still a tendency towards acidity in the brown earths, although their acidity is generally not so pronounced as is that of the podzols. The countries of Central Europe and the central Eastern United States fall mostly into the brown earth soils area, as well as many of the soils of South Africa and of south central South America.

South temperate, sub-tropical and tropical soils, under moist conditions, generally are high in iron and aluminum and (except in water-logged areas such as the Florida everglades) they usually contain less organic matter than those of colder climates. Residual tropical soils which form under conditions of ample moisture supply, are called "Laterites", and the process of their formation is known as "lateritization". True lateritic soils are usually ill supplied with strong bases.

Tropical soils produce luxuriant jungle vegetation; this dies and becomes soil organic matter.

The processes of decay are so speedy in tropical soils that organic matter quickly "fades away", due to micro-organic action, in the form of such end-products of decay as carbon dioxide gas, nitrate nitrogen and water.

While in podzols and brown earths the accumulated semi-decomposed organic matter is a source of organic acids, which profoundly modify soil conditions by their action, in ordinary well-drained, moist-climate tropical soils the processes of decay are so rapid that organic matter quickly rots, producing carbon dioxide gas, and the silica tends to leach away due to the action of basic carbonates and bicarbonates.

Over a wide zone on either side of the equator there is normally a region of very great rainfall. The tropical "rain forests" are among the wettest places to be found anywhere on the solid earth. Next there is a band of regions of less humidity, and then a girdle of arid lands which varies much in width from north to south, and which extends right around the world. This was illustrated in the last issue of this Journal. High mountain ranges and the direction of ocean currents have much to do with the extent of aridity in these lands. In the southern hemisphere the west coast of South America is arid, in Australia a great portion of the island-continent is desert land, and in South Africa the Kalahari desert exists, surrounded by semi-arid lands. In the northern hemisphere, with its greater land masses, the west central part of North America is arid or semi-arid; in Asia the desert of Gobi, the arid regions North of Tibet and Afghanistan, and the peninsula of Arabia lie in this band; in Europe the tip of Spain; in Africa the enormous extent of the Sahara desert and the aridity of Somaliland testify to the continuation of the "Dry Belt".

Not all the arid and semi-arid lands of the world are warm lands. Bitterly cold conditions are met with at times, for example, in the Gobi and on the Tibetan plateau. Due to the intervention of other factors, as has been pointed out, there may occur within the recognized "belts" of quite similar climatic conditions, soils of an entirely different nature to the majority of soils in the area. Thus, Arctic soils will be encountered on high mountains in the tropics; forest soils occur away up in the tundra region along a strip warmed by the Mackenzie River; comparatively newly laid down glacial or sedimentary soils in any area will differ in character from the aged soils of that area that have been long exposed to climatic conditions.

(To be continued)

The continuous growing of hay offers some weed difficulties, though these are less marked on good land than on poor soils, particularly the acid soils. Old hay fields encourage the development of a number of perennial weeds, amongst which are ox-eye daisy, devil's paint brush, and golden rod. Some of these, such as devil's paint brush, are not serious on good land; they do not crowd out the grass, but when the grass thins out they replace it.

The good rotation helps very materially in controlling weeds, because at regular and sufficiently frequent intervals it changes the conditions in the fields from those which encourage any one type of weeds, and also offers opportunity through ploughing and cultivation for their destruction. The ox-eye daisy, the golden rod, and weeds of that type are destroyed by plowing and good seed-bed preparation. The annual weeds, such as common mustard, foxtail, shepherd's purse, do not grow in the hay field, and in the cultivated crop are destroyed.

Usually weeds do not offer a particularly serious problem where a good rotation is being followed and regular precautions are being taken. However, the rotation does not perform miracles. It alone is not sufficient to eradicate couch grass from an infested farm nor will it clear mustard out of a field in which this weed is established. Those weeds, the seed of which maintain their vitality in the soil for half a century, are not eradicated by having the soil under sod for four or five years.

The standard four-year rotation of a cultivated crop followed by grain and then by two years of sod, furnishes an excellent example of a rotation involving many desirable features. The cultivated crop, which in this discussion we will consider to be corn, allows for cultivation of the soil, and is valuable both from the point of view of getting the land in good physical condition, and for control of weeds. In addition, it offers a good place in the rotation for the application of barnyard manure, as the corn crop is a vigorous-growing plant, not usually suffering any ill effects such as lodging following heavy manuring. The grain crop follows a cultivated crop, giving an opportunity for a thorough preparation of a seed-bed not only for the grain crop itself but also for the clover and grass seed. The land is left in sod only two years, with the result that the sod is still good when it is turned under. The important position of the clover crop in this rotation deserves considerable attention. This crop, valuable because of its power to gather nitrogen from the air and thus increase the protein supply on the farm generally as well as the nitrogen content of the soil, is grown on each field once in four years. All these factors tend to keep the soil of a farm under such a system of rotation in a good state of productivity.

Unfortunately, a rotation cannot be considered only from the point of view of soil management. Many economic and other factors must be considered. The general scheme of farming to be followed in relation to the choice of crops, the labour available, the question of how intensive a farming scheme it is desired to follow, the general conditions of the farm as to drainage and stores, the climate, which, for instance, may eliminate the possibility of growing corn—which as a cultivated crop on a dairy farm is difficult to replace—and a number of other factors all have to be given consideration. As a result, very few farmers in Quebec find that the four-year rotation is applicable.

However, in considering the question of rotations for a farm, this standard four-year rotation should be kept in mind, as it features a number of very desirable characteristics. It is impossible here to outline rotations for many existing conditions. In any case, each farm with its varying conditions offers a separate problem. The general requirements, however, remain the same—maintaining the soil in good physical condition, keeping up the organic matter content of the soil, the control of weeds, the most extensive possible use of clover, limiting the length of period under sod to that giving good hay yields, and the whole adapted to a satisfactory scheme for the general management of the farm.

Factors Influencing Soil Management

XI. Rotations.

By E. A. Lods, Asst. Prof. of Agronomy, Macdonald College.

CONTINUOUSLY growing one crop on the same land has not been generally satisfactory. In most cases it results in reduced yields and in an increasing of the difficulties of soil management and crop production. As a result, farmers have found it advisable to grow crops in sequences, so as to combat the evils of continuous cropping and to simplify the maintenance of soil productivity. The rotating of crops is not only a factor in farm management in general, but also is very definitely a factor influencing soil management.

The continuous growing of one crop on the same land for a long period is quite possible, though usually not profitable. At Rothamsted Station, in England, wheat has been grown on the same land since 1852, with high yields where manure or fertilizers were used, and with a yield of about ten bushels per acre, as an average for seventy-seven years, where no manurial treatment whatever was given. Even without manurial treatments, better yields are obtained under a system of rotation than under the repeated production of one crop, particularly when the rotation includes clover crops.

The rotation including crops of varying plant food requirements and with different root development makes a more uniform, and theoretically a more economical, use of the plant food supply in the soil. In addition, the crops with the extensive and deep root system influence both the physical and chemical conditions of the lower layers of soil through the mechanical action of the roots themselves and through the fact of increasing the organic matter resulting from the decay of the dead roots.

The organic matter content of the soil is maintained and sometimes increased through the plough-

ing down of sod at regular intervals. This influence naturally is felt only when the sod is ploughed while it is still vigorous. In addition, it is more marked in the shorter rotations which involve ploughing under of sod at frequent intervals. The problem of maintaining the organic matter content of the soil is not a serious one under a one crop system on good soil if the crop is hay. However, the continuous growing of grain or of a cultivated crop results in a deficiency of organic matter. With a clay soil this frequently becomes associated with a very poor physical condition, making it difficult to keep the soil in good tilth. With sandy soils there results a more marked influence on the plant food supply, and a very definite influence on the physical condition of the soil relative to maintaining a satisfactory moisture content.

At best, weeds offer a problem, or rather a number of problems, in crop production and soil management. These difficulties are materially increased under a single crop system. Under eastern conditions, cultivated crops can be repeatedly grown on the same land without an increasing weed problem, provided that inter-cultivation is always thoroughly done.

With grain, weeds offer a very serious problem in a one-crop system. Most of the serious weeds are the annual weeds, which each spring start from seed and mature about the same time as does the grain crop. Usually the difficulties increase with time. Some perennial weeds, those with roots which live through the winter, also offer a very serious problem in a system of continuous grain growing. The more notorious ones at present under eastern conditions would be couch grass and perennial sow-thistle.

...who can estimate the effect on the mass mind of the world of the broadcasting of fine music and great thoughts...the feeding of the million with the soul food hitherto reserved for the few?—H. De Vere Stacpoole.

Poultry Feeding---The Feed Mixture

By L. H. Bemont, Poultry Dept. Macdonald College.

POULTRY are probably fed more different feed mixtures under various methods than any other type of farm stock. This is no doubt due to the fact that more concentrated foods must be fed to poultry than to other farm animals. The hen can utilize relatively small amounts of fibre only, and where the feeds that are high in fibre cannot be used we must find other sources of the necessary nutrients in other feeding substances. The result is that we must use a large number of ingredients each of which must supply some definite nutrient of the correct amount and quality. With so many ingredients to choose from, it is only natural that they should be combined in so many different ways. However, as long as the many requirements of the stock being fed are considered, slight differences in the ingredients and the proportions used do not seriously effect the mixture. This is the reason we find so many different rations giving equally good results. Success with any feed mixture is so closely linked up with the method of feeding it that it is often very difficult to make comparisons.

Before any ingredient of the mix is added to the ration, it must either conform to the following requirements or carry something that cannot be supplied conveniently in any other form. Each item must be :

1. Palatable
2. Clean and wholesome
3. Digestible
4. Available
5. Nutritious
6. Attractive

PALATABILITY

The palatability of a feed is of vital importance because the amount of feed consumed is determined to some extent by the likes and dislikes of the birds. Obviously a bird will eat more of a grain that appeals to its tastes than one which is too sticky, fibrous, or bitter. The results secured in growth, fattening, and egg production indicate clearly that they are influenced greatly by the amount of feed consumed. Although rye is chemically much the same as wheat, there is a great difference in the palatability of the two grains. Wheat is one of our best feeds and in almost any form will be readily taken by poultry, while the use of rye in a ration will cut down the amount consumed and lower the production. Much the same thing is true when comparing milk, in any form, and blood meal. Milk is one of the most palatable of poultry feeds, but feed consumption and production will both decrease if blood meal is added in very large quantities.

CLEAN AND WHOLESOME

Many poultrymen try to cut down feed costs by purchasing cheap or poor quality grains. Sooner or later trouble will be caused by this practice, because musty, frozen, decayed or damaged foods are likely to upset the digestive system of the birds, and their health and production will be impaired. Table scraps, green bone meal, or meat, and fish are feeds that must be examined carefully before they are added to the ration.

DIGESTIBILITY

Fortunately most of the concentrated feeds that are naturally low in fibre are highly digestible to poultry. The organs of digestion in the domestic fowl are so constructed that they cannot take care of large amounts of fibre; therefore feeds high in fibre should be avoided or restricted wherever possible. Alfalfa-leaf meal and wheat bran (both high in fibre) are ingredients that are found in almost every poultry ration but they are considered necessary because of their mineral and vitamin content.

AVAILABILITY

One of the strongest arguments for the use of commercial mixtures is that not all the ingredients of a home-mixed ration can be purchased in every community. In some districts, especially where poultry raising has not been carried on extensively, it is difficult to purchase such things as alfalfa-leaf meal, charcoal and powdered milk unless you buy in large quantities. The other side of the problem is that every poultryman should try to use home-grown grains wherever possible. Should corn, which is one of the best of grains for poultry feeding, be too expensive, the amount of ground barley or wheat may be increased to take the place of a large part of the cornmeal. Milk can be used

to replace about one half of the meat scraps of beef meal and thus decrease the amount of the most expensive part of the ration.

NUTRITIVE VALUE

The value of any ration is measured largely by the nutritive effect. This is measured by what is known as the nutritive ratio. Since the digestible protein is considered the most important part of the ration content, it is stated in terms of one part of the digestible protein to so many parts of digestible carbohydrates and fats taken together. By figuring the ratio of these nutrients in a large number of mixture that were giving success with a certain class of stock, an average of the best ratio for that stock was indicated, and we have a standard to work toward. A figure for one district at a certain season of the year may not be suitable for a warmer or colder climate. The ratio usually used as a guide for laying birds in this section of the country is one part of digestible protein to four and one half or five parts of digestible carbohydrates. By changing the quantities of the different ingredients in a mixture, this ratio can be varied to suit the requirements of almost any district. It must be remembered, however, that the feed containing the largest percent of total digestible nutrients is usually the least expensive in the final analysis, and feed should be purchased on that basis.

ATTRACTIVENESS

Fowls seem to prefer coarsely-ground feeds to finely-ground mixtures. Some grains may be fed whole, while others should be very finely ground and still other may be rather coarsely ground. Barley is one of the cereals that should be fed whole only in very limited quantities, but if this grain is used to supplement corn, it may be very finely ground and fed in the mash mixture. Barley is so hard and flinty that it is much more easily assimilated by the birds if the kernels are broken up into a flour. A poor grade of oats should never be fed to poultry, but if no better oats are available they should be hulled or finely ground and even sifted to remove the hulls.

Where scratch grain is fed in hoppers to growing stock, you will often notice that some grains are eaten more readily than others. Usually corn, wheat, oats, barley, sunflower, Kaffir corn, and buckwheat will be picked out first, in the order mentioned, although if any one of these feeds is of inferior quality, especially the oats, it will be almost sure to drop to the bottom of the list. Very often a moist mash is fed during the late fall and winter months to stimulate the consumption of mash so that production will be maintained during the cold months. Poultry will eat more scratch grain than mash if permitted to do so, and, as mash is the egg producing food, the mash must be made more attractive to the birds. Moistened mash is not only more palatable but also much more attractive if it is moistened with warm water.

OTHER CONSIDERATIONS

Other things to consider when choosing ingredients for the ration are also important. The feed must not only be adapted to the purpose for which the stock is being fed, whether it be egg production, meat production, or growth, but it must also maintain the birds in the best of physical condition and health. An excessive amount of carbohydrates in the form of scratch grain fed to laying hens will induce the production of fat to such an extent that the birds will become too fat to lay, and the object of feeding them will be defeated. This may be avoided by feeding all the scratch grain in hoppers one hour before the birds go to roost.

Too heavy feeding of a mash high in protein to developing pullets will force them into production before they have built up large, well-proportioned bodies, then when the cold weather comes along they will soon lay out all the egg materials in their bodies and become too thin to continue in production. When this happens, a partial moult usually results. Food given to birds goes for maintenance of their bodies first, and the over-supply of nutrients is stored in the body as fat which is later drawn upon for the production of eggs. Approximately three quarters of all food consumed is used by the bird to create heat and energy and also to replace broken-down tissues in the body.

Although we cannot say definitely what a vitamin looks like, we do know something about what does or does not happen when any one of the necessary vitamins are either lacking or are not present in sufficient quantities to do their full share of the work. Fortunately, most of them are present in adequate quantities in the ordinary ingredients of a poultry ration. If milk and cod-liver oil are a part of the hens' diet, we need not worry much about the vitamin content of the ration.

Many of the feeds given to poultry have a direct effect on the product. A liberal supply of milk will do much to increase the egg size, especially when the pullets are just getting started. Yellow corn, alfalfa, and green feed, with the exception of germinated oats and lettuce, darken the colour of egg yolks. Onions, rape, turnips and some kinds of fish if fed too liberally impart a distinct, characteristic taint to the flavour of eggs. Poultry flesh is effected in the same manner by some things. Buckwheat, barley, and wheat are used in fattening stations to produce a white, milk-fed appearance in the dressed birds. Four percent of cod-liver oil will give a distinct fishy taste to the flesh, but two percent does not effect the flavour if the feeding of the oil is discontinued ten days to two weeks before the birds are killed. Cottonseed meal, if it constitutes ten percent or more of the ration, will discolour eggs badly if they are held in cold storage.

Much work has been done by experimental stations, agricultural colleges, and feed concerns to determine the composition and value of different ingredients and mixtures. Newer knowledge is pointing to more simplified and less expensive rations and better methods of meeting the requirements of poultry.

We are gradually coming to the view that many poultrymen would gain by discarding the home-mixed rations. This is particularly true of the mash mixture which contains the least available and more expensive ingredients. It is always better policy to use both the scratch grain and mash mixtures put out by the same company if possible, because the two are balanced as one mixture, and unless the scratch mixture can be closely imitated an unbalanced ration may result. All-mash rations are being sold by most of the larger feed concerns, which will help to cut down the labour in feeding and give good results. In order to compete in the feed market at the present time, every large poultry feed manufacturer must employ experts in poultry nutrition to keep in step with the developments in feeding. There are many advantages in purchasing a ready-mixed feed, even though the initial price may seem a little higher than necessary. Remember that we must not judge a tool by its price but rather by the work it performs, and many times we find that commercial mixtures will more than pay the difference by maintaining better production and health. Constant quality, a great saving in labour, thorough mixing and the additional minerals and vitamins to be found in ready-mixed feeds are well worth having. Each man must decide himself whether the things to be found in commercial mixtures are worth the extra cost to him and govern his feeding practices accordingly.

For those who decide to continue with the home-mixed feed, the following ration will give satisfactory results for laying stock during the winter months. The figures given are pounds of each ingredient.

MASH MIXTURE

- 300 Wheat middlings.
- 200 Cornmeal (yellow)
- 100 Wheat bran.
- 100 Ground oats.
- 50 Meat scrap.
- 50 Fish meal or 75 powdered milk.
- 10 Bonemeal.
- 2 Calcium carbonate.
- 1½ Salt (fine).

SCRATCH GRAIN

- 400 Cracked yellow corn.
- 400 Whole wheat.

If a moist mash is fed, add to the water used 2% by weight of cod liver oil.

CHRISTMAS GIFTS WE CAN MAKE

By A. Martha Britt, Macdonald College.

BEFORE Christmas we are more concerned about what we will give than about what we will receive. We search through the stores for just the right gift, often fail to find it, and at the last moment in desperation buy something that we hope she will like. The presentation of a gift thus bought does not give nearly as much pleasure to the giver as a gift that has been planned, purchased and made especially to carry our Christmas greeting to that one particular person.

In the remaining weeks, why not make gifts? It is such a joy to create them, to see them grow from little bits of material into useful and attractive gifts. And how much easier it is to shop for some pretty pieces of material and delectable shades of yarn than it is to hunt for ready-made articles, and the Christmas fund allowed by our budget just seems to grow more elastic all the time.

If you can sew, knit or crochet, let the suggestions in this article help you in planning your gifts. Rummage through your scrap bag and box of yarn; this scrap and that bit of yarn will begin to live and suggest many things that it could be shaped into. All the commercial pattern companies have great help for you, for you can buy transfer patterns for applique motifs and cross-stitch designs in all sizes. Start several things; keep a bit of knitting in the living-room, and when you sit down your fingers will fairly itch to do another row or two. Put some sewing in a bag; hang it somewhere in the kitchen. Many stitches put in at odd moments while waiting for the water to boil, the cake to bake or the family to come in, will fashion these gifts so quickly that it will become quite a game each day to see how fast it will grow.

Anyone can make these gifts; the only requisites are: to use pretty materials of good color and design, work neatly and press the finished article carefully, wrap in tissue-paper in an interesting parcel and tie with colored twine, ribbon or seal with Christmas labels.

DRESSING TABLE

If you really want to delight the feminine heart, re-decorate her room. Have you ever made a dressing table (Fig. 1) a really feminine one? An ordinary unpainted kitchen table may be used, if it is too high, saw off the legs. A large wooden packing box is just as satisfactory, and if one knows how to build shelves, place shelves down

each side just inside the box. A long shelf across the back will be convenient to hold shoes.

With a small paint brush and a can of quick-drying lacquer, the uninteresting box or table can be transformed into a thing of beauty. Consider the color scheme of the room and choose a color that will harmonize. Apple-green, pink, rose, pale yellow, ivory, eggshell, mauve, french-grey and blue are attractive colors for bedroom furnishings.

A mirror on a standard may be placed on the dressing table, or a separate mirror may be hung directly above. The frame of the mirror may be lacquered to match the table.

As to choice of material, there are plain, striped or shot taffetas, and plain or glazed chintz. Often a plain chintz is used, with hem and motifs of a contrasting chintz appliqued on for decoration. Gingham may be treated in the same way. Large plaid gingham are most effective. Organdy, a sheer crisp fabric, is dainty, and dotted swiss with one or more ruffles is as feminine as anything could be. If one favors frills, make a straight foundation for the table and make four ruffles of the swiss, apply them to the straight pieces and they will be quite perky.

Material required: Measure the height of the table from top to floor; allow for hem at bottom and casing or hem at top; measure table around front and sides, or if the box is used and sides are lacquered, the curtain is only necessary across the front; multiply this measurement by two to allow for fullness.

Make a casing at the top to run the tape through, or shirr the top with three or four rows of gatherings, and stay to a straight piece of material or a tape on the wrong side. The curtain may be pinned around in place with glass push-pins.

Window curtains, over-drapes, or cushions for chairs may be made of the same material, thus giving the whole room an appealing attractiveness that will make of it an appreciated gift.

SHOE BAGS

Even shoes may now don a pretty gay bag when travelling in the over-night bag or reposing in the cupboard waiting for the next party. Get out the knitting needles and yarn of the favorite color to knit two bags, one for each shoe of the pair. These little bags (Fig. 2) may be shaped like the toe of a sock at the bottom and finished with a drawstring of braid at the top.

Make the bag thirteen inches long, ten inches around at the top and eight inches at the bottom. When knitted, the bags stretch and cling closely to the shoe, thus avoiding any bulk. One-half yard of braid is required for each bag. Knot each end one-inch from end, and fringe to make a tassel.

Sets of bags in different colors would make a delightful gift to one who is fastidious about her shoes and possesses several pairs, for she would find these bags ideal for protecting her light and colored shoes from dust, when not being worn.

A POCKET FULL OF DUSTERS

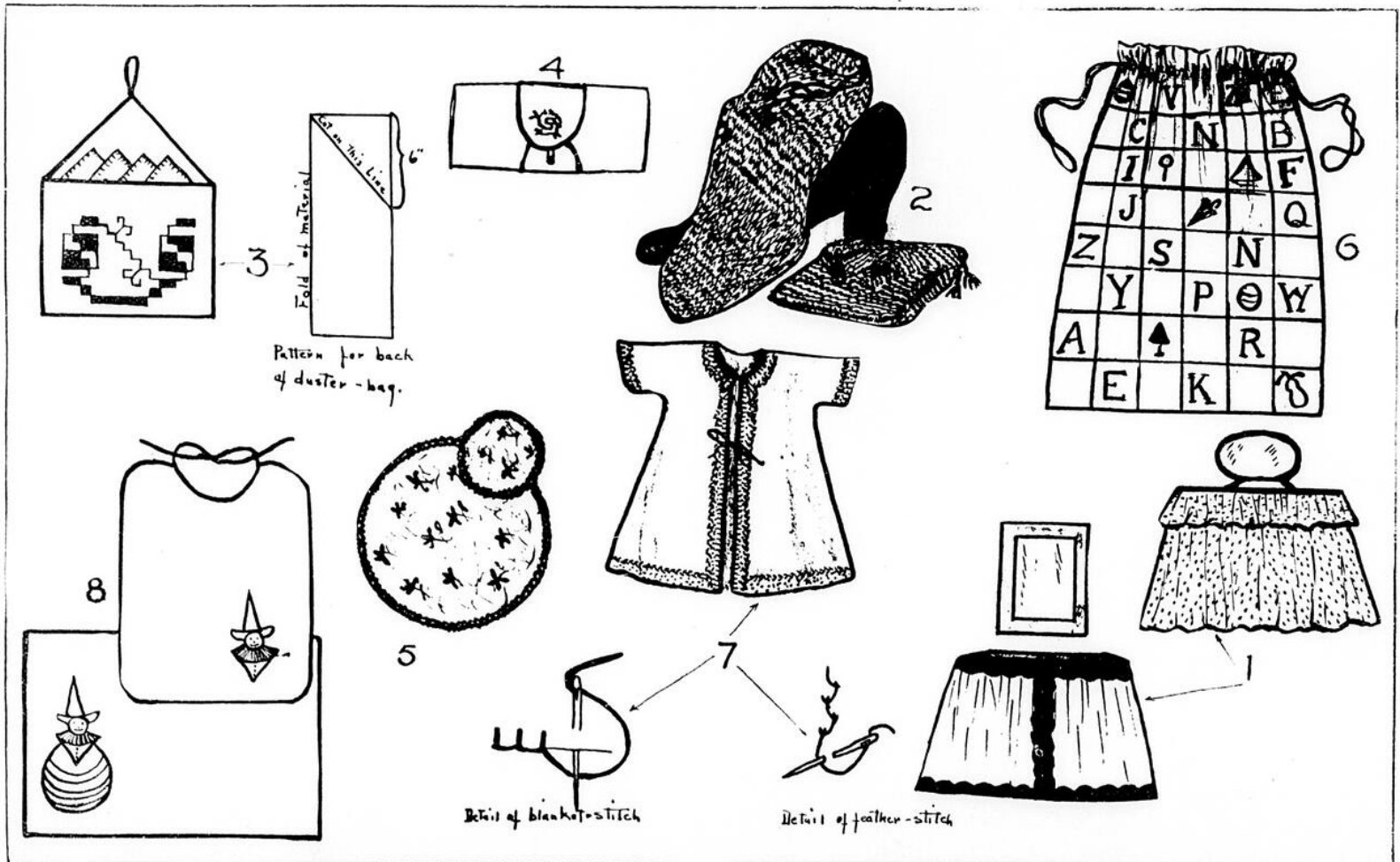
A duster is no longer just any old rag; the really modern duster is a piece of cheese-cloth neatly hemmed and tucked in a pocket of some pretty fabric conveniently hung on the cupboard door of bedrooms and kitchen.

The duster pocket (Fig. 3) may be made of crash in neutral tan or of gingham or chambray in plain colors or checked, or of printed cretonne or oilcloth. A strip eleven inches wide and twenty-three inches long is sufficient, or two pieces, one eleven by fourteen inches and the other eleven by eight inches. Often one has pieces this size in the scrap bag, if not, one-third yard of twenty-seven inch material will make the bag.

The 11 x 14" piece will serve as the back. Fold this piece through the center lengthwise, measure down six inches from the top, draw a line from this point to the folded edge at the top and cut on this line as indicated in sketch. Open this piece out flat, if the piece is 23" long fold up eight inches from the bottom to form a pocket. All edges may be finished with bias seam binding. Bind this edge before sewing to back. If the pocket is in two pieces, bind the 11" top edge of the 11 x 8" piece. Fold or match seams on lower edge, match side seams of front and back of pocket, pin and baste carefully.

Starting at the point at the top (being careful to catch both edges of pocket), sew binding all around and up to point where five inches are left for the loop. Stretch the two folded edges together so the loop will be strong and flat.

DUSTERS: Three or four dusters will fit nicely in the pocket if they are made of cheesecloth in fourteen-inch squares. Turn under the edges for a quarter-inch hem, and blanket stitch, all in the same color or a harmonizing colors. Fold the dusters in fourths and place them in the pocket so that the corner of each will show.



NAPKIN STRAPS

Little bits of linen two-inches wide and nine-inches long will make most useful little straps to hold the table napkin (Fig. 4). They may be made of linen in different colors or of white linen embroidered in various colors, each in a different color to designate ownership.

The edges may be rounded at each end and a little motif or initial embroidered in the end which buttons over. If the strap is to be made double, embroider the top before the facing is sewn to it, then the wrong side of the embroidery stitches will not show. The edge may be bound with bias lawn seam binding or finished by hand with cross-stitch, blanket-stitch or a simple crochet edge, or with a cord, which may be continued to form the loop for the button. If other finishes are used, crochet a loop or wind four or five strands of thread around a piece of cardboard three-eighths of an inch wide and buttonhole stitch over these threads to form the loop.

Use a crochet button or a pearl button three-eighths of an inch in diameter, a button with a blind shank.

BREAKFAST SET

A rather unique breakfast set (Fig. 5) may be made of glazed chintz, that is a chintz with a smooth glossy finish. Choose a waterproof chintz, for it has a permanent finish.

Mark the edges of dollars. If round, use ten inches as the diameter for the plate-dolies and sixteen inches as the diameter for the center-piece. If the oblong shape is preferred, the plate dolies should measure ten by fourteen inches and the center sixteen by twenty-two inches.

Have the edges hemstitched; trim and crochet a simple edge finish around each. These little sets may be made in various sizes, one centerpiece with two, four, six or eight plate dolies. They are as practical as they are attractive, for they may be washed off with a damp cloth.

LAUNDRY BAG

There isn't a member of the family who would not be delighted to get a laundry bag of his very own to hang in his cupboard. Even a man would admire a practical bag made of crash in a neutral shade, while the young miss would adore a bag made of pretty chintz, cretonne or gingham in color to harmonize with the color scheme of her room. School children and the wee tots would immediately form the good habit of putting their mused clothes into their laundry bag if it were fashioned of nursery cretonne in alphabetical patterns (Fig. 6) or Mother Goose scenes.

An average size bag may be made from seven-eighths yards of 36-40 inch material. Fold the two selvage edges together for the side of the bag. Turn down the top edge four inches for a one-inch casing and three inch hem. Tape in the half-inch width may be purchased in colors to match nearly any bag. Make eyelets in casing at each side of bag on the outside through which the two tapes, each one and one-half yards in length, may be drawn.

A CUDDLY ROBE

Nothing will please the small boy or girl more than a little eiderdown robe (Fig. 7) to slip into these chilly mornings and after the bath. Eiderdown is all the name implies, as soft, cozy and warm as any material could be, and it's washable, too. It may be purchased in lovely colors in the fifty-four inch width, and it is inexpensive. White, baby blue and pink are the dainty shades for the babe up to two years of age, while the deeper blue and rose are pretty for the older child.

The edge may be simply and attractively finished by turning under one-quarter inch, and with angora wool, yarn or silk floss blanket-stitch the edge in contrasting color. To make a wide decorative border, use the blanket-stitch on the edge, one inch in featherstitch, and between the two rows of stitching make french-knots or dots. If one can crochet, the little shell stitch may be used as an edge-finish.

Children always enjoy the nursery figures, too. A duck, a bunny, or any of the other favourites may be placed down in the corner of the robe and filled in solid with long stitches of angora wool to make it soft and furry, or it may be simply outlined or cut from eiderdown, flannel or silk and applied on with the blanket stitch to match the edge finish.

Seams should be stitched down flat. Ribbons may be used to tie the tiny robe, while buttons and loops or cord-frogs may fasten the larger robe.

BIB AND TRAYCLOTH

The wee tot will love this ducky little bib and traycloth (Fig. 8) made of linen crash in white, cream, blue, pink, yellow or green.

The motif or border for decoration may be a bunny, duck, clown or any one of the favourite nursery figures, applied with contrasting material or cross-stitched in colored threads. Patterns for both types of decoration may be purchased and easily stamped on the bib and cloth.

Bias seam binding one-half inch wide in white or colors may be purchased to finish the edge. The

most satisfactory way to bind the edge is to open the binding, baste and stitch on first turn of binding to the right side, edge of binding to edge of material, leaving six inches for ties at center back. Crease binding through the center, over edge of bib, and hem the folded edge of binding down by hand on the wrong side. Folded edges of binding stitched together will serve as ties.

If one prefers to finish the edge by hand, there are any number of attractive finishes; a hem may be turned under and fastened down with the blanket stitch, feather stitch or cross-stitch.

Homemade Goodies



THE appreciation of a gift is enhanced by the thoughtfulness that goes into its wrapping or container. Delightful containers can be made at home and are inexpensive. Having found a box of the desired size and shape, it is not a difficult matter to cover it with gaily colored paper. Sometimes a coat of shellac is just the additional touch that is needed.

To make the contents of the box still more attractive, line it with silver foil cut in scallops. Then place lace paper doilies or frills inside, and the beauty of the candies or cakes will be doubled in value.

Bright and dainty boxes, filled with home-made candies or cakes are always welcomed by the lucky recipient. One afternoon spent in the kitchen making these goodies can result in the completion of nearly half a dozen gift boxes. There is no reason why the fudge should not be creamy, nor the cakes the best of their kind. Given a reliable recipe, the proper utensils, a knack for combining the ingredients in the correct proportion, and good products will be the result.

These gift boxes of home manufacture may contain rich small cakes, fruit cake, or a few kinds of choice confections. Salted nuts, candied orange peel, or roses made from colored icing, make a contrast that is very decorative. We have not exhausted the commodities that make welcome gifts. There are jars of mince meat, glasses of jelly, jam, or marmalade, and moulds of plum pudding. These make a most attractive assortment for a Christmas basket.

With careful packing, these home-made goodies can be sent to distant points. For the friend near at hand, a delicious pie, or a gaily decorated layer cake would bring enjoyment.

White Fondant

2 cups granulated sugar 2 tablespoons corn syrup
1½ cups water 1 teaspoon vanilla

Put the syrup, sugar, and water in a sauce pan over the fire, and stir it constantly until the sugar is dissolved. For this a low heat is advisable. When the mixture begins to boil, cover the pan for four minutes; the steam will wash down the crystals that have formed on the sides of the pan. Later, as crystals form, wash them off with a bit of cheesecloth wrapped round a fork or spoon, dipped in cold water. Boil without stirring, until when tried in cold water a soft ball will be formed that will just keep its shape, which is 238° F. Pour at once on a cold wet platter. Let stand until lukewarm, but not long enough for the fondant to become hard around the edges. Scrape the fondant to one end of the platter and work with a spatula until white and creamy. It will quickly change from this consistency and begin to lump, when it should be kneaded with the hands until perfectly smooth. Add the vanilla before the kneading begins. Put the fondant away in a glass jar for two or three days to allow it to ripen. Or it can be used at once.

Chocolate Fudge

2 cups sugar 2 tablespoons corn syrup
¾ cup milk 3 tablespoons butter
2 squares chocolate 1 teaspoon vanilla

Put the chocolate broken into small pieces, sugar, milk, and syrup into a sauce pan and cook slowly,

stirring the mixture until the sugar is dissolved. Continue cooking until a soft ball is formed when dropped into cold water, or 236° F. Remove from the fire, add the butter, and let it cool to lukewarm. Add the vanilla and beat until the fudge loses its shiny look, and a small amount dropped from the spoon holds its shape. Pour into a greased pan. When cold cut into squares.

SUPERIOR FUDGE

Use the recipe given above for chocolate fudge, only use 4 squares of chocolate. When luke warm add vanilla, and ¾ cup of fondant. Beat until the fudge has lost its glossy appearance and can be molded.

USES FOR SUPERIOR FUDGE

ROLLY POLY. On a greased platter pat out a piece of Superior Fudge about ¼ inch thick, and four by five in area. On top of this lay a piece of white fondant of the same thickness but a little smaller in size. Roll like a jelly roll, and let it lie until firm. Cut into pieces about ½ inch thick.

LAYER FUDGE. On a slightly buttered platter or pan pat out a layer of fondant about ¼ inch thick. On top of this put a layer of Superior Fudge of equal thickness. Allow to lie until firm, then turn it out of the pan, and coat the top with melted chocolate. Before the chocolate stiffens, sprinkle with chopped nuts. Cut as desired.

FUDGE ROLLS. Prepare a layer fudge as above. Cut into very thin slices and roll like tiny jelly rolls.

USES FOR FONDANT

PEPPERMINTS. Melt one cup of fondant over hot water. Add oil of peppermint. Drop the melted flavored fondant from the tip of a teaspoon onto a flat greased surface. As soon as firm, they should be loosened, for they will break if left too long. If desired, the fondant can be colored pink, or yellow, or green.

LOAVES. Chop walnuts, dates and figs, mix slightly. Knead with the fondant only enough to mix the fruit through the mass. Dessicated coconut and candied cherries are pretty. The beauty lies in having the fruit colors stand out in the white candy. Do not chop the fruit in very small pieces; it will be more attractive if the fruit is cut when the candy is cut. Form the fondant in loaves, and let lie until firm. Then slice as desired.

NEAPOLITAN. Make three layers of fondant of different colors; put these together, with melted chocolate if desired. Nuts may be put into one of the layers. When firm, cut into slices.

FONDANT BALLS. Knead the fondant into small balls, then press a walnut or a blanched almond on the top of each. Or balls can be formed with hazel nuts in the center.

Quebec Divinity

2¼ cups sugar 2 egg whites
½ cup maple syrup ¼ teaspoon salt
2/3 cup corn syrup 1 cup walnuts
¼ cup water ½ teaspoon vanilla

Put the corn syrup, maple syrup, salt, sugar, and salt into a saucepan and cook, stirring until the sugar is dissolved. Without stirring, continue cooking until the mixture forms a hard ball when dropped into cold water, which is 265° F. If any sugar crystals form on the sides of the pan, wipe them off with a wet cloth. Remove the candy from the fire and gradually pour it over the stiffly beaten egg whites. Continue beating until the candy will hold its shape when dropped from the tip of the spoon. Add the nuts and vanilla, drop by teaspoons on a buttered surface, or turn it into a buttered pan and cut into squares.

M. H.

The power of enjoying and loving the best music is not a rare and special privilege, but the natural inheritance of everyone who has ear enough to distinguish one tune from another, and wit enough to prefer order to incoherence.—Sir W. H. Hadow.

Little Reminders

A GAIN we come to the time of the year when we seem to spend a great deal of our time dressing and undressing the children! To keep them from catching cold this is a very necessary thing—to be warmly clad when out and not have too much on indoors.

It must always be remembered that warmly clothed does not mean heavily clothed. How often do we see some poor wee urchin struggling along the road or trying to play, weighed down with the burden of cumbersome garments.

A lined windbreaker or short reefer coat with well fitting leggings for the small child and warm breeches for the older boy are so much comfortable than a long overcoat. The latter prevents any thought of quick motion and gathers snow on the inside as well as on the out. Have long mitts that go well up over the cuffs of the coat so that little chapped hands will not be the order of the day.

Be sure the winter cap—whatever style or material—is not too big. A headgear that is constantly falling over the small one's eyes causes much discomfort.

Combinations seem better than the two-piece underwear—one piece less to put on in the morning and not so many buttons to do up. Besides, sometimes the drawer and vest have a way of disconnecting, and the little body gets chilled.

Night garments, on the other hand, are the opposite to this. The two-piece pyjamas give more freedom of movement than the one-piece sleeper. Make the top piece to slip over the head; this saves buttoning and prevents the garment becoming undone. Have the coat come well down over the top of the trousers. Even the very small child is better off in the two-piece suit. The sleeper often does not allow the child to stretch freely without binding him somewhere. If the garment does this, it may by causing pressure make the child very restless, if not bring on further trouble. A well trained child may need attention every night until his sleepers are changed to the two-piece pyjamas when no further remedy may be necessary.

M. G.

Q. W. I. Activities

THE home and its activities occupied much of the attention of the members of the Quebec Women's Institutes during the past month, in house-cleaning and general preparation for the comfort of the family during the long winter months. Work in schools was also stressed.

The report of Chatham Branch, Argenteuil County, told of a practical talk and discussion on the serving of meals. Morin Heights had a visit and an interesting address from the county president, and Pioneer branch heard a talk on education.

Brome County Branches stressed educational needs at the monthly meetings. Abercorn had a paper on school work, and Foster branch arranged for the serving of hot school lunches. South Bolton branch anticipated Christmas with suggestions as to timely gifts.

Cowansville Branch in Missisquoi County studied Canadian Industries and Canadianization at its meeting, as did also Stanbridge East Branch. "Facts About Canada" was the subject of the roll-call.

"Child Delinquency in the Home in Relation to Family Problems" was the subject of an address by Mr. J. P. Balharrie of the Ottawa Juvenile Court at the semi-annual meeting of Ottawa County Women's Institutes held at Eardley. At this meeting plans for exhibits at next year's fairs were discussed. The branch at Eardley had a visit from the district Agronomer. Aylmer Branch canned and donated 247 cans of tomatoes for school lunches during the winter months, and gave prizes for six schools. Rupert Branch gave a programme on "A Town of the British Isles". The Gatineau Institutes sponsored a successful school fair at Wakefield.

Beech Grove in Pontiac County planned to entertain the semi-annual county convention, and had a talk on the value of vegetables as a food. Fort Coulonge had a talk on uses of cheese, and Wyman branch listened to an address on "The Flag and what it stands for."

The Wales Old Folks' Home at Richmond received a visit from Richmond Women's Institute, and a shower of jam, as well as listened with delight to a programme. A talk on "Better Schools" proved interesting as programme for the monthly

meeting. Dennison's Mills Branch had a quilting "bee" at the close of the business meeting.

"Some of Canada's Trade Relations" was the subject of an address by Miss McCain, Superintendent of the Quebec Women's Institutes, at the monthly meeting of the Abbotsford Branch in Rouville County. The life of a Canadian Poetess, Isabella Crawford, was a subject of study.

The report of Warden-Waterloo Branch, Shefford County, shows a busy month. Sick and needy ones in the community received neighbourly help, and sewing was planned for others. The schools were not forgotten by this active branch. First aid kits and hot lunches were planned, subject to the approval of the school staff.

In Sherbrooke County, Brompton Road Branch planned a social event to raise funds. Lennoxville Branch voted \$25 towards the funds of Malvern Cemetery. The meeting took the form of a musical which proved a decided success. The officers and members took part in the Armistice parade, and placed a wreath at the soldier's memorial. An interesting talk on Cairo, Egypt, was enjoyed at the monthly meeting.

A live interest is being taken in the schools in Stanstead County by practically all Women's Institute Branches. Medical inspection is being carried on by Ayer's Cliff Branch through the local doctors, and great improvement in the health of the children noted. North Hatley branch is offering prizes in a health contest, and \$25 was offered to assist in the expense of medical inspection. Two scholarships, totalling \$50, have been offered, and health equipment placed in the school. The history of Stanstead County was discussed. Stanstead North Institute offered prizes in each grade of the school. "The History of Belgium" was the subject of study, and other topics of interest in home-making were discussed.

Schools seem the centre of interest at Way's Mills. Prizes for personal hygiene, and for attendance were offered. Medical inspection received assistance, and a child was provided with school necessities. Agriculture and gardening were topics of study.

Como, Hudson and Hudson Heights Branch, Vaudreuil County, stressed the importance of proper food for school children. This branch is considering the offering of school prizes for personal hygiene and courtesy.

M. ELIZABETH McCURDY,

Farm Helps From Birds

NOW is the time to plan how to attract birds when they arrive in the spring. Birds are of an aesthetic, as well as of an economic, value. We love them, as they represent beauty, life and song. Upon agriculture, the prosperity of any land depends. To the farmer, his most dreaded foes are insects and noxious weeds. Upon these do the birds largely depend for their food.

Entomologists estimate that in the United States alone there is a loss to agriculture of \$700,000,000 annually through the devastations of insects. Were it not for the help of the birds, the loss would be much greater. Successful agricultural operations might even be impossible.

To attract birds around our homes, we must provide protection, suitable nesting places, food and water. Do not supply too many bird houses, because birds, like people, demand privacy. Shelter the entrances by projecting roofs, and let them face away from the prevailing winds and rain storms. Water is needed and should be supplied in a container having a rough edge so that the bird will not slip in. For food, we may plant trees or shrubs which bear berries, or expose food such as suet, pork rinds, cut-up apples, cracked corn, peanuts, rolled oats, rice or sunflower seeds.

A coconut with a hole in it makes an ideal food container. Stuff it with suet, and the coconut meat, as well as the suet, will be eaten. Another way of providing food is to mix it with melted fat and pour it over a limb of a tree. Take care that the cat is prevented from climbing the tree by placing a strip of tin about a foot and a half wide around the trunk of the tree.

Now comes the question of what birds do we want around? Which will be the most beneficial to the farm? Some have their bad points, but the good which even they do warrants their presence. The crow, the hawk and the owl have their redeeming points. They eat rodents, rabbits, white grubs and cutworms. The night hawks and owls do their work during the night, while the other birds work during the day. Thus we have a twenty-four hour service. In examining the stomach of a

hawk, 100 grasshoppers were found to have been its one meal. Birds are always hungry. They fill their stomachs, then cram their crops. 72,000 weed seeds were found in the stomach of a duck, 8,000 chickweed seeds in a pheasant's crop, 28 white grubs in a flicker's crop, 18 boll weevils were eaten by one swallow, and 68 cotton boll weevils by another swallow.

Some birds, such as swallows and night hawks, catch flying insects, while others, such as the woodpecker, dig for the insects. All day long, unceasingly, goes on the work of birds picking up insects from trees, flowers and the air. The family of sparrows feeds largely upon weeds. One quarter of an ounce of weed seed per day is a conservative estimate of one sparrow's diet. To this, many insects would be added.

Possessing wings, birds may soon be on the spot should an abnormal gathering of insects occur in one place. A classic example of concentration of bird attack upon invading insects is to be found in the invasion of the Rocky Mountain locusts between 1865-1867. Practically every species of bird, large and small, immediately gathered. They gorged themselves with the locusts and prevented the complete destruction of the crops. Whenever grasshoppers, rodents or wheat aphids arrive in large numbers, so do the birds.

Let us examine the diet of a few of our best known Canadian birds, and see whether they are of benefit to the farm or not. The bluebird's diet consists of 68% insects and 32% vegetable matter. This takes absolutely no toll from the farm crops. The robin eats worms and fruit. The thrush also eats fruit, but many beetles, ants and caterpillars find their way into its stomach. Three quarters of the food of the kinglet consists of wasps, bugs, flies, jumping plant lice and beetles. Besides, it eats poison ivy seeds, as well as many other noxious weed seeds. The nuthatch does absolutely no harm, but much good. The tiny brown creeper, which remains here the entire year, eats minute insects and their eggs, also the cocoons of moths, scales and plant lice. The house wren loves cutworms, ticks, plant lice, grasshoppers, beetles and caterpillars. The barn swallow works from early morn until night and devours weevils, ants, flies and beetles. The grosbeak (many of whom were around the houses this year eating the fallen maple seeds) has the best reputation of birds as an insect eater. The tussock, gypsy, brown-tail moths, the army worm, the codling moth and the cankerworm, are a few of the many enemy insects eaten by this bird.

The house wren brings food to its young once every two minutes. This continues all day long. The average time for other birds is from five to eight minutes. Just think of how many insects must be caught in a day. What would happen to the farm crops were birds to disappear? Surely it pays us to attract birds to the farm and keep them there. Not only do they repay us in song, and in the beauty of their colouring, but they also pay us in many dollars and cents as represented by crops saved.



Quebec Captures Many Honors at Royal

Credholme Farm, Streetsville, Ont., on Nether Craig Sunray; 4 & 5, Glen Campbell Farms, Dundas, Ont., on Kirkcudbright White Jenny (Imp), and Irene Douglas of Hill Top; 6, Harry McGee, Islington, Ont., on Lady Clover of Spruce Row; 7 & 9, R. R. Ness & Sons, Howick, Que., on Burnside Lovely Pearl and Nether Craig Brownie; 8, J. Stuart Laurie, Agincourt, Ont., on Annie Laurie.

Cow, under 6 yrs. having an official record (24) 1, Harry McGee, on Plunton Chatty 27th; 2, Waldo W. Skinner, Senneville, Que., on Lessnessock Daisy Flower; 3, Glen Campbell Farms, on Bargaenoch Snowmaid 2nd; 4, John H. Baker, East Aurora, N. Y., U.S.A., on Strathglass Lustre Lady; 5 & 11, J. H. Black, Lachute, Que., on South Craig Princess Royal, and Ardgonn Santa, (Imp); 6, Edgar C. Budge, Montreal, Que., on Thorncroft Star Snowdrop 2nd; 7 & 10, H. A. Swart, Simcoe, Ont., on Fairvue Mignonette and Auchenbrain Beauty 58th; 8 & 14, Gilbert McMillan, Castle Milltown Sally 4th, and Harleyholm Gay Lass 3rd; 9, Wm. Todd, Lachute, Que., on Auchenbrain Crummie 21st; 12, McIntyre Bros., Sussex, N. B., on Hobsland Lucy 4th; 13, Credholme Farm, on Barr Juno (Imp).

Cow, 4 years or over, not in milk (24) 1 & 3, Waldo W. Skinner, Senneville, Que. on Lessnessock Dairy Flower and Linnhead Rosie; 2, 5 and 7, Glen Campbell Farms, Dundas, Ont. on Bargaenoch Snow Maid 2nd, Kirkcudbright White Jenny, Imp. and Irene Douglas of Hilltop; 4 and 10, Gilbert McMillan, Huntingdon, Que. on Ravensdale Stella and Harleyholm Gaylass 3rd; 6, J. H. Black, Lachute, Que. on Adgown Santa Imp.; 8, McIntyre Bros., Sussex, N. B. on Hobsland Lucy 4th Imp.; 9, Edgar C. Budge, Montreal, Que. on Thorncroft Star Hyacinth 3rd.; 11 J. Stuart Laurie, Agincourt, Ont. on Annie Laurie; 12, Donovan Bros., Cold Brook, N. B. on Creeksburn Irene; 13, Harry McGee, Islington, Ont. on Chapmanton Blackbird 14th; 14, John H. Baker, East Aurora, U.S.A. on Low Milton Debutante.

Cow, 3 years and under 4, not in milk (9) 1, Gilbert McMillan on Castle Milltown Sally 4th; 2, Wm. Todd, Lachute, Que. on Auchenbrain Crummer 21st; 3 and 5, J. H. Black on Barr Lena Imp. and Cornell Pride 2nd; 4 H. A. Swart, Simcoe, Ont. on Alta Crest Sunny Love; 6, W. H. Coverdale, Portsmouth, Ont. on Barr Kirtle; 7 and 9, McIntyre Bros., Sussex, N. B. on Springbrook Bonnie Lass and Hobsland May 8th Imp.

Heifer, 2 years and under 3, not in milk (4) 1, Waldo W. Skinner, on Bois de la Roche Sprightly 2nd; 2, Credholme Farm on Cults Brocade Imp. 3, McIntyre Bros. on Springbrook Lady Cormia; 4, W. H. Coverdale on Netherhall Ladylans 3rd.

Heifer Senior Yearling (21) 1, 5 Glen Campbell Farms on Glen Campbell Phoney and Ickham Rosabelle Imp.; 2, 6 and 12, R. R. Ness & Sons, Howick, Que. on Burnside Lovely Grade, Palmerston Rosalind 6th and Brunsdale Top Grades Lovely; 3, Waldo W. Skinner on Bois de la Roche Ivy; 4, J. H. Black on South Craig Romona; 7, H. A. Swart on Strathallen Enid; 8, Credholme Farm on Credholme Dairy Maid; 9, John H. Baker on Bonnie Boys Fatima; 10 J. J. Richards & Sons, Red Deer, Alta. on Woodlands Cinderella; 11 George Johnson, on Parimont Patsy; 13, W. H. Coverdale on Rowallan Augusta 6th.

Heifer, Junior Yearling (14) 1, C. J. Miller on Springlea Maria; 2, Glen

Campbell Farms on Carnell Amelia Imp; 3 and 7, R. R. Ness & Sons on Burnside Top Grades Mina and Palmerston White Bess 2nd; 4, Credholme Farm on Hobsland Jenny 29th; 5, Waldo W. Skinner on Bois de la Roche Ada; 6, W. H. Coverdale on Woodlands Blossom; 8, McIntyre Bros. on Springbrook Ruby 2nd; 9, Harry McGee on Harnelbel Tunphil Again; 10, J. Stuart Laurie on Gladden Hill Daisy Maid.

Heifer, Senior Calf (17) 1, Waldo W. Skinner, on Bois de la Roche Cherry 5th; 2, Wm. Todd, Lachute, Que., on Meadow Shade Jean; 3, J. H. Black, on Willowhaugh Royal Treasure; 4, H. A. Swart, on Strathallen Tea Tray; 5 & 8 Glen Campbell Farms on Fenton Barns Judy 4th (Imp), and Auldoun Sapphire (Imp); 6, John H. Baker, on Elmbrook Miss Craig; 7 & 10, R. R. Ness & Sons, Howick, Que., on Burnside Top Grades Sadie and Burnside Top Grades Vera; 9, Credholme Farm, on Burnside Top Grades Violet; 11, Jas. G. Hall, Fairville, N. B., on Quinton Dairy Queen; 12, Harry McGee, on Harnelbel Qui Vive 3rd.

Heifer, Junior Calf (17) 1, Credholme Farm, on Credholme Red Rose; 2, J. H. Black, on Willowhaugh Mona; 3, 7, and 11, Harry McGee on Harnelbel Zita 2nd, Harnelbel Buntie 2nd and Harnelbel Esther 2nd; 4, Glen Campbell Farms on Glen Campbell Daisy 2nd; 5, Cumming Bros., on Glengarry Gretta; 6, Coverdale, on Le Moines Point Julia; 7, Harry McGee, on Harnelbel Buntie 2nd; 8, R. R. Ness & Sons, on Burnside Top Grade's Heatherbell; 9, W. W. Skinner, on Bois de la Roche Lizzie 5th.

Senior Champion Female—Gilbert McMillan, Huntingdon, Que., on Harleyholm Butterfly 3rd. Reserve—Harry McGee, on Plunton Chatty.

Junior Champion Female—C. J. Miller, Lachute, Que., on Springlea Maria. Reserve—Glen Campbell Farms, on Glen Campbell Phoney.

Grand Champion Female—Gilbert McMillan, on Harleyholm Butterfly 3rd. Reserve—McGee, on Plunton Chatty.

HOLSTEINS

(Judge: Alex Hansen, Savage, Minn.)

Bull, Junior Calf (25) 1, Innisfree, Ltd., Lefroy, Ont., on Jim Fair Echo; 2 and 10, C. P. R. Supply Farm, Strathmore, Alta., on Strathmore Matchless Sensation and Strathmore Matchless Commodore; 3 and 5, Lonsdale Farm, Sussex, N. B., on Lonsdale Hartog Masterpiece and Lonsdale Sir Pontiac; Abberkerk; 4 and 7, Raymondale Farm, Vaudreuil, Que., on Raymondale Supreme and Raymondale Direct; 6, A. H. Fair, Kingston, Ont., on Hemlock Johanna Re-Echo; 8, R. A. Profitt, Freetown, PEI., on Doktor Rocharm of Willow Farm; 9, Wm. Jones, Mount Elgin, Ont., on Count Abbekerk Mercedes; 11, Amos Wilkinson, Wallenstein, Ont., on Paul Hartog Tensen; 12, J. Walter Jones, Charlottetown, PEI., on Abegweit Nigger.

Bull, Senior Calf (11) 1, and 2, C. P. R. Supply Farm, on Str. C. Koba Fairchild and Str. C. Zozo; 3, Hay & Co., Calgary, Alta., on Hays Rag Apple Echo; 4, T. O. Dolson, Brampton, Ont., on Ben Abbekerk Dawn; 5, Lonsdale Farm, on Lonsdale Sir Banostine Hartog; 6, J. P. Livingston, Baden, Ont., on Calamity Francie Korndyke; 7, Robt. Low, Stratford, Ont., on Sir Francie Romeo Posch 7th; 8, John J. Innes, Stratford, Ont., on King Sylvia Ormsby Piebe 4th; 9, Alphonse Latulippe, Plessisville, Que., on Raymondale Prince Abbekerk Clyde; 10, Oscar H. Schmidt, Elmira, Ont., on Korndyke Jontiac Lestrangle; 11, Hon. Geo. S. Henry, Toronto, Ont., on Gano Hermes Keyes;

You will enjoy the flavour of SALADA GREEN tea

"SALADA"

GREEN TEA

874

'Fresh from the gardens'

Bull, yearling (15) 1, Stevenson Farms, Alliston, Ont., on Montvic Pabst Rag Apple; 2, A. H. Fair, Kingston, on Sir Teake Waldorf; 3, Lonsdale Farm, on Faforit Ormsby Masterpiece; 4, Hay & Co., on C. J. C. Prince Ormsby; 5 and 7, C. P. R. Supply Farm on Strathmore Designer and Strathmore Koba Zozo; 6, W. G. Milne, Langstaff, Ont., on Pluto Ormsby; 8, Amos Wilkinson, on Paul Francie Posch; 9, F. Pelletterio, Milton, Ont., on Ivan Burke Abbekerk; 10, C. W. Strangways, Brampton, Ont., on Inka Wayne Burke.

Bull, 2 yrs. and under 3 (10) 1, Lonsdale Farm, Sussex, N. B., on Lonsdale Sir Inka Abbekerk; 2, R. A. Profitt, Freetown, PEI., on Kerk Rocharm; 3, I. B. Kellam, Weston, Ont., on Perfection Korndyke Posch; 4, Raymondale Farm, Vaudreuil, Que., on Brookholm Inka 27th; 5, Mount Victoria Farms, Hudson Heights, Que., on Montvic Rag Apple Baron; 6, R. J. Kelly and W. M. Irwin, Ingersoll, Ont., on Erindale Sir Segis Burke; 7, W. J. Elgie, Sault Ste. Marie, Ont., on Soo Sir Bess Garben.

Bull, 3 yrs. and under 4 (7) 1, Raymondale Farm, Vaudreuil, Que., on Strathmore DeWinton Matchless; 2, J. Walter Jones, Charlottetown, PEI., on Abegweit Hienke Francie; 3, Wm. Jones, Mount Elgin, Ont., on Prince Colanthus Pontiac Gerben; 4, Robert Thompson, St. Paul, Ont., on Mont Vic Rag Apple Netherland; 5, Oscar H. Schmidt, Elmira, Ont., on Greenvigg Albert Canary Sylvius; 6, John J. Innes, Stratford, Ont., on King Sylvia Ormsby Piebe; 7, Stanley J. Croxall, Uxbridge, Ont., on Highview Veeman Alcartra.

Bull, 4 yrs. or over (8) 1, and 5, Lonsdale Farm, on Abbekerk Sylvus Lad and Ivan Burke of Crystal Springs; 2 C. P. R. Supply Farm, Strathmore, Alta., on Gano Paul Bruce; 3, A. H. Fair, Kingston, Ont., on Pieterje Sylvius Korndyke; 4, J. Stanley Watson, Woodbridge, Ont., on Abbekerk Sylvius Lad 3rd; 6, J. Walter Jones, Charlottetown, PEI., on King Plus Chieftain; 7, T. O. Dolson, Brampton, Ont., on King Jemin Cornucopia; 8, Geo. C. McIntosh, Science Hill, Ont., on Maple-

croft Captain Keyes.

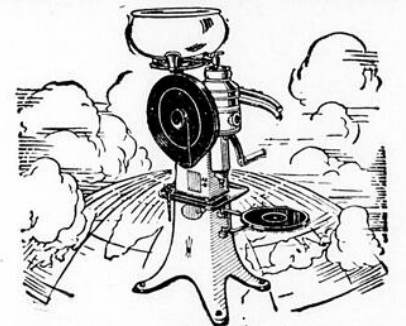
SENIOR CHAMPION BULL—Lonsdale Farms, Sussex, N. B., on Abbekerk Sylvus Lad; Res. Raymondale Farm, Vaudreuil, Que., on Strathmore Dewinton Matchless.

JUNIOR CHAMPION BULL—Stevenson Farms, Alliston, Ont. on Montvic Pabst Rag Apple; Res. C. P. R. Supply Farms, Strathmore, Alta., on Sir C. Koba Fairchild.

GRAND CHAMPION BULL—Lonsdale Farm, Sussex, N. B., on Abbekerk Sylvus Lad; Res. Raymondale Farm, Vaudreuil, Que., on Strathmore Dewinton Matchless.

Cow, 5 years or over in milk (14) 1 and 8, Lonsdale Farm, Sussex, N. B. on Temple Farm Bell and Aaggie Abbekerk Jewel; 2 and 7, Wm. Jones, Mount Elgin, Ont. on Josephine Abbekerk Helbon and Korndyke Helbon Tortilla; 3 and 6, A. H. Fair, Kingston, Ont. on Rose Korndyke Walker 2nd and Ridgedale Maid Segis; 4, 11 and 12, Raymondale Farm, Vaudreuil, Que. on Dinora Francie, Barbara of

De Laval



The World's Best Cream Separators

A size and style for every need and purse.

"3,000,000" Golden Series, the world's best—4 sizes; with hand, belt or motor drive. Combines the easiest running with the cleanest skimming. Equipped with ball bearings, which are protected against rust. Has many other important features and refinements.

Utility Series—3 sizes; like the Golden Series but lacking several non-essential features. Sold at lower prices.

Junior Series—3 sizes; a quality line of small separators. Efficient and durable.

Europa Series—4 sizes; European-made De Laval Separators, at still lower prices.

Sold on easy terms or monthly installments.

See your De Laval dealer or write nearest De Laval office.

The De Laval Company, Ltd.
PETERBOROUGH WINNIPEG LIONTREAL VANCOUVER

Healed His Rupture

I was badly ruptured while lifting a trunk several years ago. Doctors said my only hope of recovery was an operation. Trusses did me no good. Finally I got hold of something that quickly and completely healed me. Years have passed and the rupture has never returned, although I am doing hard work as a carpenter. There was no operation, no lost time, no trouble. I have nothing to sell, but will give full information about how you may find a complete recovery without operation if you write to me. Eugene M. Pullen, Carpenter, 11-D Marcellus Avenue, Manasquan, N. J. Better cut out this notice and show it to any others who are ruptured—you may save a life or at least stop the misery of the rupture and the worry and danger of an operation.

Pleasant Valley and Patricks Francy Calantha; 5, T. O. Dolson, Brampton, Ont. on Abegweit Nona; 9, Oscar H. Schmidt, Elmira, Ont. on Benach Zena; 10, Mount Victoria Farms Hudson Heights, Que. on Marion Lulu Korndyke.

Cow, 4 years and under 5, in milk (14) 1, Chas. Cornwall, Norwich, Ont. on Mabel Calamity Veeman; 2, Anthime Paquette, St. Vincent de Paul, Que. on Ourville Dekool Bannostine 2nd; 3, A. H. Fair on Echo Vale Princess; 4, T. O. Dolson on Tenson Change Posch; 5, Wm. Jones on Ruby Hartog Mercedes; 6, W. J. Elgie, Sault Ste. Marie, Ont. on Lynn Grace Calantha; 7 & 8, Mount Victoria Farms, Hudson Heights, Que. on Canary Hartog Mayne nad Pauline Mercena Posch;

Cow, 3 years and under 4, in milk (12) 1, C. P. R. Supply Farm, Strathmore, Alta. on Lacombe Keyes Dekol Segis; 2 and 7, Lonsdale Farm, on C. V. Jewel Ormsby and Colequid Miss Helen; 3, R. A. Profitt, Freetown, P. E.I. on Rose Kirk Colantha; 4 & 5, A. H. Fair on Abbekerk Rose 2nd and Lady Burke Veeman; 6, Wm. Jones, on Princess Tidy, Hartog; 8, Haley & Lee Springford, Ont. on Fayne Posch Mercena; 9, Mt. Victoria Farms on Darkie Plus Toitilla; 10, I. B. Kellam, Weston, Ont. on Aggie Dutchland Segis.

Heifer, 2 yrs. and under 3 in milk (18) 1, C. B. Heeney Ingersoll, Ont. on Glenroe Posch Darkness 2, & 7, Raymondale Farm, on Patricia Kerk and Raymondale Korndyke Inka; 3, Lonsdale Farm, on Josephine Mercena Abbekerk; 4, A. H. Fair, on Paula Pietje Posch; 5, J. Walter Jones, Charlottetown, P.E.I., on Countess Bertha Keyes; 6, R. Ray McLaughlin, Oshawa, Ont., on Elm Ethel Posch; 8, Oscar H. Schmidt, Elmira, Ont., on Clovermead Patsy Colantha; 9, C. P. R. Supply Farm, on Lacombe Korndyke Lee; 10, Mt. Victoria Farms, on Montvic Rag Apple Pietje.

Cow, 6 Years or over, having an official record begun at 4 years or over (12)—1, & 5, Raymondale Farm, Vaudreuil, Que., on Sally Francy and Dinora Francy; 3, C. P. R. Supply Farm, on Belvedere Dekol Ruby; 4, W. J. Elgie, on Averill Inka Pontiac; 6, & 8, Lonsdale Farm, on Aaggle Abbekerk Jewel and Eastview Model Rawweed; 7, Mount Victoria Farms, Hudson Heights, Que., on Marion Lula Korndyke.

Cow, under 6 years, having an official record (22)—1, Mount Victoria Farms, Hudson Heights, Que., on Triune Papoose Piebe; 2 & 4, Wm. Jones & Sons, on Josephine Abbekerk Helbon and Korndyke Helbon Toitilla; 3, T. O. Dolson, on Abegweit Nona; 5, & 6, Raymondale Farm, Vaudreuil, Que., on Raymondale Fobes Inka and Barbara of Pleasant Valley; 7, R. A. Profitt, on Rosekerk Colantha.

Cow, 4 yrs. or over, not in milk (19) 1, Mount Victoria Farms, Hudson Heights, Que., on Triune Papoose Piebe; 2, 10 and 12, Raymondale Farm, Vaudreuil, Que., on Sally Francy, Valentine Vale and Raymondale Fobes Inka; 3, Clinton & McIntosh, Science Hill, Ont., on Tidy Posch Johanna; 4 and 11, G. R. Row, Currie's Crossing, Ont., on Nancy Echo M. Tensen and Gladys Posch Johanna; 5 and 9, A. H. Fair, Kingston, Ont., on Hemlock Abbekerk Queen and Queen Pietje Pontiac; 6, C. P. R. Supply Farm, Strathmore, Alta., on Belvedere Dekol Ruby; 7, Lonsdale Farm, Sussex, N. B., on Amy Rooker Posch; 8, W. J. Elgie, Sault Ste. Marie, Ont., on Averill Inka Pontiac.

Cow, 3 years and under 4, not in milk (16) 1, C. P. R. Supply Farm, on Sti. Matchless Fairchild; 2, Jas. Rettie, Burgessville, on Belle Dew-

drop Keyes; 3 and 4, Mount Victoria Farms on Queen Lodoga and Montvic Rag Apple Segis; 5, John J. Innes, Stratford, on Home Farm Snow; 6, Raymondale Farm on Raymondale Sally; 7, G. R. Row, Curries, on Mercena Korndyke Belle; 8, Wm. Jones, Mount Elgin, on Peggy Snow Mercedes.

Heifer, 2 years and under 3, not in milk (10) 1, Wm. Jones on Belle Mercedes Echo; 2, Geo. C. McIntosh, Science Hill, on Elizabeth Keyes Hartog; 3, Raymondale Farm on Nancy Countess Keyes; 4, and 8, Lonsdale Farm on Queen Elizabeth Francy and Glen Allen Inka Keyes; 5, Mount Victoria Farms on Montvic Rag Apple Colantha; 6, W. J. Elgie, Sault Ste. Marie, on Soo Flora Colantha; 7, J. Walter Jones, Charlottetown, P.E.I., on Hiemke, Changel-

ing Lady; 9, Alex Rettie, Norwich, on Wildwood Teake; 10, R. A. Profitt, Freetown, P.E.I., on Daisy Rooker Francy.

Heifer, Senior Yearling (18) 1, R. A. Profitt, Freetown, P.E.I. on Falconwood Rocharm Kerk; 2 and 9, A. H. Fair, Kingston, Ont. on Falconwood Busfeldt Lady and Seaside Belle Echo; 3, C.P.R. Supply Farm on Str. Mechthilde Canary; 4, Hays & Co., Calgary, Alta. on Hays Rag Apple Bess; 5, Lonsdale Farm, Sussex, N. B. on Mercena Princess Faforit; 6, Geo. W. Barnard Norwich, Ont. on Queen Comet Dewdrop; 7, T. O. Dolson, Brampton, Ont. on Lady Burke Abbekerk; 8, J. Walter Jones, Charlottetown, P.E.I. on Abegweit Peggy; 10 Oscar H. Schmidt, Elmira, Ont. on Pine Lodge Lady June;

Heifer, junior yearling (24)—1,

Raymondale Farm, Vaudreuil, Que., on Netherland Queen Pluto; 2, Hays and Co., on Hays Bess Carnation; 3, C.P.R. Supply Farm, on Strathmore Mary Koba; 4, A. H. Fair, on Island Barbara Plute; 5 & 6, W. J. Elgie, on Soo Daisy and Soo Princess Alcartra; 7, Hon. G. S. Henry, on Safie Keyes Segis.

Heifer, senior calf (29)—1, and 3, Raymondale Farm, Vaudreuil, Que., on Raymondale Kerk Inka and Peerless Blanche Burke; 2, and 6, Lonsdale Farm, on Lonsdale Hartog Netherland and Lonsdale Hartog Star; 4, C.P.R. Supply Farm, on S.rathmore Mechthilde Duchess; 5, John J. Innes & Son, on Francey Snow Ormsby; 7, Oscar H. Schmidt, on May Posch Pontiac.

Heifer, junior calf (27)—1, Haley and Lee, on Queen Tidy Posch; 2,

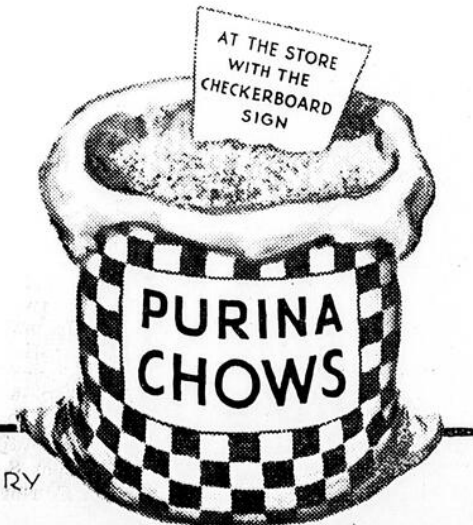


AS THE YEARS ROLL BY—

SOMEWHERE in your neighborhood stands a tree...deeply rooted, tall, broad and kindly...the grand old tree of the countryside. As a slender sapling swaying in the breeze, this same tree once heard the sly pad-pad of Indian feet. Much later it saw the very first telephone excite the neighborhood. It was there to hear the first automobile chug-chug into the community.

In the days before this tree first saw the telephone or the automobile, there appeared in many neighborhoods a slender sapling of a thing. Like the tree it has grown big, broad, stout, entering every neighborhood. A close friend it has become on many, many farms... a friend because of the job it has done. This something is Purina Chows, feeds for your stock and chickens, feeds which come in Checkerboard Bags. Consider what has happened since Purina Chows appeared 36 years ago. Pullets laying dozens instead of half-dozen. Cows milking gallons instead of quarts. Steers putting on pounds instead of ounces. Pork to market in six months. Better feed has done its share, Purina Chows has told its story.

Purina Chows in a bag is eggs in a bag, milk in a bag, pork in a bag. Purina's big experiment farm, broad laboratories, huge mixing mills make sure that you do get more of these things in every bagful. This is the reason why Purina Chows has grown from a slender sapling of a thing in a few neighborhoods to a welcome friend in every neighborhood. Like the grand old tree of the countryside, it's a live thing...a growing thing, getting bigger, broader, stouter as the years roll by. Ralston Purina Company, Limited, Montreal, P. Q., and Woodstock, Ontario.



MAKERS OF 63 CHOWS for LIVESTOCK and POULTRY

Raymondale Farm, on Brookholm Inka Colantha; 3, Mount Victoria Farms, Hudson Heights, Que., on Montvic Rag Apple Korndyke; 4 and 7, Lonsdale Farm, on Lonsdale Nellie Concordia and Lonsdale Winona Abberkerk; 5 and 6, C. P. R. Supply Farm, on Str. Koba Queen and Str. Sunny Lady; 8, Wm. Jones and Son, on Clover Crest Pollyanna Mechthilde.

Senior Champion Female—Mount Victoria Farms, Hudson Heights, Que., on Triune Papoose Piebe. Reserve—Lonsdale Farm, on Temple Farm Bell.

Junior Champion Female — Raymondale Farm, Vaudreuil, Que., on Netherland Queen Pluto. Reserve — Haley and Lee, on Queen Tidy Posch.

Grand Champion Female — Mount Victoria Farms, on Triune Papoose Piebe. Reserve—Lonsdale Farm, on Temple Farm Bell.

FRENCH CANADIAN CATTLE

(Judge: S. J. Chagnon, Quebec, Que.)

Bull, under 1 year (7) 1. Prov. Dairy School Farm, St. Hyacinthe, Que., on Ultra Choisi de l'Ecole; 2. Arsene Denis, St. Norbert, Que., on Ansene 11G; 3. Alban Sylvestre, St. Simon, Que., on Sylvestre Prince 5G;

Bull, 1 year and under 2 (4) 1. E. Sylvestre, St. Hyacinthe, Que., on Maurice de la Victoria; 2. 4. Arsene Denis on Denis 14F and Ans Denis 5G; 3. Prov. Dairy School Farm on Galant de l'Ecole.

Bull, 2 years and under 3 (4) 1. J. H. Omer Lemay, St. Hyacinthe, Que., on Chamant de la Vallie; 2. Arsene Denis on Blacide 15th; 3. E. Sylvestre on Pascal de la Victoria.

Bull, 3 years or over (3) 1. Arsene Denis on Denis 11th; 2. E. Sylvestre on Jim C; 3. Alban Sylvestre on Hector de St. Pascal.

SENIOR CHAMPION BULL Arsene Denis, St. Norbert, Que., on Denis 1E; RESERVE J. H. Omer Lemay, St. Hyacinthe, Que. on Chamante de la Vallie.

JUNIOR CHAMPION BULL E. Sylvestre, St. Hyacinthe, Que., on Maurice de la Victoria; RESERVE Prov. Dairy School Farm, St. Hyacinthe, Que., on Ultra Choisi de l'Ecole.

GRAND CHAMPION BULL Arsene Denis, St. Norbert, Que., on Denis 1E; RESERVE E. Sylvestre,

St. Hyacinthe, Que., on Maurice de la Victoria.

Cow, 3 years or over, not in milk (6) 1 and 2, Alban Sylvestre, on Sylvestre A137 and Sylvestre Argil; 3, E. Sylvestre, on La Price des Priss; 4, Arsene Denis, on Denise Duchesse.

Heifer, 2 years and under 3 (5) 1. E. Sylvestre, on Luio de La Victoria; 2. Alban Sylvestre, on Sylvestre Brillante 4th; 3, Arsene Denis, on Denise 15th.

Heifer, 1 year and under 2 (8) 1. Alban Sylvestre, St. Simon, Que., on Syl Le Price 2nd; 2. E. Sylvestre, St. Hyacinthe, Que., on Jeanette de la Victoire; 3. Arsene Denis, St. Norbert, Que., on Denise 15th.

Heifer, under 1 year (7) 1. Alban Sylvestre on Syl Zora 4G; 2. E. Sylvestre on Jule de la Victoire; 3. Arsene Denis on Denise 10G; 4. Prov. Dairy School Farm, St. Hyacinthe, Que., on Ginette 2G.

JUNIOR CHAMPION FEMALE Alban Sylvestre, St. Simon, Que., on Syl le Price 2nd; RESERVE Alban Sylvestre on Syl Zora 4G.

Cow, 3 years or over in milk (7) 1. Arsene Denis on Denise Laura; 2, 3. E. Sylvestre on Julenne and Sylvestre la Louise; 4. Allan Sylvestre on Florienne.

SENIOR CHAMPION FEMALE E. Sylvestre, St. Hyacinthe, Que., on Luio de la Victoria; RESERVE Albani Sylvestre, St. Simon, Que., on Sylvestre A137.

Graded herd, 1 bull over 2 years, 2 cows 3 years or over, 1 heifer 2 years and under 3, 1 heifer 1 year and under 2, 1 heifer under 1 year (3) 1. Alban Sylvestre; 2. E. Sylvestre; 3. Arsene Denis.

2 animals any age either sex progeny of one dam (3) 1. Arsene Denis; 2. Alban Sylvestre; 3. E. Sylvestre.

4 animals any age either sex get of one sire (3) 1. E. Sylvestre; 2. Alban Sylvestre; 3. Arsene Denis.

Junior Herd: 1 bull under 2 years, 2 heifers 1 year and under, 2 heifers under 1 year (3) 1. E. Sylvestre; 2. Alban Sylvestre; 3. Arsene Denis.

GRAND CHAMPION FEMALE E. Sylvestre, St. Hyacinthe, Que., on Luio de la Victoria; RESERVE Alban Sylvestre, St. Simon, Que., on Syl le Price 2nd.

FRENCH CANADIAN HORSES (Judge: J. A. Godbout, Ste. Anne De La Pocatiere, Que.)

Stallion foaled in 1929 (4) 1. Albani Sylvestre, St. Simon, Que. on Prince. 2. S. R. Copland, Harriston, on Lincoln of Sunnydale. 3. Arsene Denis, St. Norbert, Que. on Fitte. 4. Ernest Sylvestre, St. Hyacinthe, Que. on Laurent de la Victoire.

Stallion foaled in 1928 (1) 1. Edmour Denis, St. Norbert, Que. on Etalene Denis E.

Stallion foaled in 1927 (2) 1. Alan D. Cameron, Owen Sound, on Gilbert de Dorchester. 2. Edmour Denis, St. Norbert, Que. on Brillante.

Stallion foaled previous to January 1st, 1927 (3) 1. S. R. Copland on Lincoln De Cap Rouge. 2. Arsene Denis on Narcisse de Cap Rouge. 3. Anselme Cabana, St. Cuthbert, Que. on Brillant.

Foal of 1930 (3) 1. Arsene Denis on Nelly. 2. Albani Sylvestre on Laurent. 3. Ernest Sylvestre on Marquis de la Victoire.

Mare foaled in 1929 (1) 1. Arsene Denis on Baronne 4th.

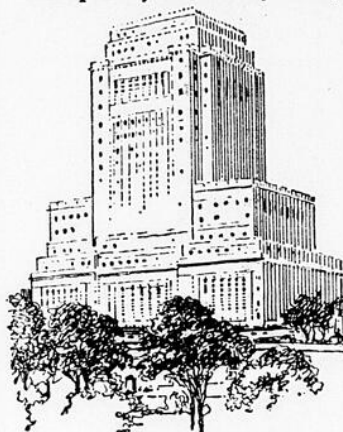
Mare foaled in 1928 (1) 1. Arsene Denis on Brunette.

Brood mare foaled previous to Jan. 1, 1928 (6) 1. Arsene Denis on Baronne 2nd. 2. Albani Sylvestre on Madeleine Cap Rouge. 3. Ernest Sylvestre on Black Duchess.

CHAMPION SENIOR STALLION —S. R. Copland, Harriston, Ont. on Lincoln de Cap Rouge; Res. Alan D.

"Let Me Work for You,"
says the Pension Investment Bond

Now, while health and strength are yours, while you can spend your money freely, secure in the knowledge that



you can soon earn more, set aside the modest payments required for a PENSION INVESTMENT BOND.

When inclination or necessity causes you to retire, your Bond will work for you, supplying you with a regular monthly income which will continue as long as you live.

With a Pension Investment Bond you become your own pensioner.

Let the Sun Life Man give you fuller particulars.

SUN LIFE ASSURANCE COMPANY OF CANADA
HEAD OFFICE MONTREAL

Cameron, Owen Sound, Ont. on Gilbert de Dorchester;

CHAMPION JUNIOR STALLION —Albani Sylvestre, St. Simon, P. Q., on Prince; Res. Edmour Denis, St. Norbert, P. Q. on Elalene Denis E.;

GRAND CHAMPION STALLION S. R. Copland, Harriston, Ont. on Lincoln de Cap Rouge; Res. Alan D. Cameron, Owen Sound, Ont. on Gilbert de Dorchester.

CHAMPION SENIOR MARE — 1 and Res. Arsene Denis, St. Norbert, Que. on Baronne 2nd and Brunette.

CHAMPION JUNIOR MARE —1 and Res. Arsene Denis, St. Norbert, Que. on Baronne A. and Nelly.

GRAND CHAMPION MARE — 1 and Res. Arsene Denis, St. Norbert, Que. on Baronne 2nd and Brunette.

3 ANIMALS, 3 years or under, get of one sire (3) 1, 3 Arsene Denis St. Norbert, P. Q.; 2, Ernest Sylvestre, St. Hyacinthe, Que.

At the Grand Central and also the Glendale Airports, men and women students found that Elizabeth Haywood diets enabled them to remain more hours in the air without tiring. They also found something else: the Elizabeth Haywood milk diets gave them poise and comfort and inculcated dietary habits of great permanent value.

At the Glendale field the "penny-a-pound" idea for giving "joy-hop" flights to spectators in the field became quite popular. Many heavy-weight women, who desired to take advantage of these flights, consulted Miss Haywood, who had recourse to milk as a fundamental dietary principle, and demonstrated a method of using milk to secure adequate nourishment while retaining firm skin and flesh—yet reducing!

Fresh milk, buttermilk, cheese and even sour milk cuisine, as well as ice cream, are now served in the

Milk in Aviation

"I believe an aviation pilot, to be fit for high pressure combat flying, stunting and long periods in the air, should use at least one quart of milk a day." These are the words of Miss Elizabeth Haywood, dietitian of the Methodist Hospital, Los Angeles, California. Miss Haywood is also the official dietitian of the Grand Central Airport at Los Angeles, as this port found it necessary to appoint an official dietitian not only as a means of instruction to men and women training to become pilots, but for passengers making long air trips and prone to develop airsickness on long flights.

Almost the first act of the new port dietitian was the laying down of the diet most suitable to forefend airsickness. The principal ingredient was milk, a quart a day during long flights. This was in accordance with the practice of Army and Navy pilots everywhere. A diet largely made up of milk dishes and milk to drink prevents in most cases, and in many instances ameliorates, airsickness.

COLDS



Minard's battles colds and grippe. Heated and inhaled . . . and rubbed on throat and chest . . . this far-famed liniment brings quick relief. Always keep a bottle in your medicine chest! 87



An operation may not be necessary

SMALL ailments, if neglected, sometimes grow serious. On occasion, an operation becomes inevitable. It is wise to guard your health continuously. **Marlatt's Treatment** is a proved and reliable system cleanser. It tones up the liver, prevents bile stagnation and relieves jaundice, chronic stomach trouble, gastritis, constipation and other diseases. If you suffer at all from any of these symptoms you will find Marlatt's invaluable.

Five Dollars per Treatment.

Sold and recommended by leading druggists.

J. W. MARLATT & Co. Ltd.,

Toronto, Ontario

Write for unsolicited testimonials. 28

various menus of the Western Air Lines as prime foods of the air. With the start the Curtiss-Wright service has given milk in the diet of its nautical students, and other flight services falling in behind the banner of milk and milk products, both Army and Navy schools now serve large quantities of milk, while the larger air schools of a similar nature which maintain a dietary cuisine average about one and a half pints per day, though the Government air schools run slightly more than a quart per day per officer and man.

The milk is given as a table beverage, though in several civilian schools it is available all day long in cooled milk counters. It is interesting to observe that all the greatest air pilots are heavy consumers of milk. Naval aircraft carriers are among the heaviest per capita milk consumers. In the entire American naval service, two meals per day see fresh cold milk from the ship's refrigerators served, not only in the officers' mess but in the general crew's mess as well.

National Dairy Council of Canada

The Pullet Ration

A definite plan of feeding is necessary to insure best results from laying pullets, poultry experts of the Dominion Department of Agriculture advise. The well balanced ration includes scratch grain, mash, green feed, grit, shell, certain supplementary vitamine feeds, and plenty of fresh clean water. There are, however, a wide variety of materials which go to make up this ration. Home mixing of suitable formulae is recommended. Wheat, oats and corn or barley go into the making of a good mash. Fifteen per cent of animal feeds, one per cent of salt, and an equal quantity of cod liver oil, should be mixed in. Grit and oyster shell should be available in hoppers at all times. Alfalfa, clover, or cabbage make excellent green feeds, and where these are not available alfalfa leaf meal may be used. Raw potatoes, field carrots and mangels make succulent supplementary feeds. The feeding of cod liver oil supplies the vitamine which prevents rickets.

Three Basic Principles

SPEAKING at the Canadian National Exhibition in Toronto the Hon. Robert Weir, Federal Minister of Agriculture, named three essentials for the improvement of farming as an industry: First, the use of better blood in breeding stock to ensure better results from the same work and the same amount of feed; Second, more scientific feeding and where possible the purchase of cheaper feeds of equivalent value; and Third, the development of more highly specialized marketing decreasing the spread between producer and consumer, insuring the best quality at a uniform standard to hold a market once obtained, and to develop a dependable volume of quality products. He further urged the farmer to eliminate waste wherever possible; and the exercise of sober balanced, and constructive thought in relation to farm problems.



DEPARTMENT OF TRADE AND COMMERCE OTTAWA, CANADA

November 29th, 1930.

To Christmas Shoppers,
Everywhere in Canada.

Choose Gifts that Give Canadians Jobs!

What do you suppose is the size of Canada's annual gift bill? Would it surprise you to learn that it is vastly greater than the sum voted by Parliament in September last for the relief of unemployment? Note the following, and you will realize that it must be so.

To begin with, everyone of her 10,000,000 people has a birthday each year. If only one in five receives a birthday gift, and it is worth only a dollar, there is \$2,000,000 to begin with.

About 70,000 weddings take place in Canada each year. At the low average of \$100 for the presents sent each bride, there is another \$7,000,000. And at least 500,000 of the wedding anniversaries celebrated each year are marked by a gift to the wife costing at the very least \$5. So there is another \$2,500,000.

There are over 1,800,000 mothers in Canada and about the same number of fathers—say 3,500,000 in all. With Mother's Day and Father's Day observed as widely as they are, another \$1,000,000 for gifts for them is easily accounted for.

Other huge sums are spent for gifts to sweethearts, for bridge prizes, and for trophies for every conceivable kind of contest.

And commencing now, and continuing for the next three weeks, comes the great annual round of gift buying that marks the Christmas season. Computing the per capita Christmas shopping bill at only \$5.00, the aggregate for that alone would be \$50,000,000!

All told, Canadians probably spend well over \$75,000,000 a year on things to be given away, sometimes as rewards but mostly as tokens of esteem or affection! And if we assume that in the production of every \$7,500 worth of such goods, as sold at retail, steady employment has been given to one person, it follows that Canada's annual gift bill is sufficient to keep 10,000 producers busy the year round!

With unemployment so prevalent in all parts of the country, with so many of our fellow Canadians dependant upon charity even for the bare necessities of life, don't you agree with me that the moral obligation rests heavily on all of us to govern our Christmas gift buying by the "Produced-in-Canada" policy, to the end that it will help to give some fellow citizen a job?

Another point! For our personal consumption we buy what we specifically require, but for gift purposes we buy anything that we think will prove acceptable to the recipient. That being the case, shouldn't it always be easy to find, among the many splendid things that are produced in Canada, something that is suitable alike to the person and to the occasion?

Remembering that this is the season of peace on earth and good will to man, and that the relieving of unemployment is one of the most ideal ways of spreading Christmas cheer, may I not plead with all of you to restrict your Christmas buying as far as possible to things that have been produced in Canada, so that in addition to bringing joy to the recipients of your favour, you will be conferring great happiness on some fellow Canadian who is now out of work!

Very sincerely yours,

Minister of Trade and Commerce.



If you weigh its advantages you'll favor this plan

A LIFE INCOME for your wife! An education for your children! A generous "clean-up" fund to pay off mortgage and debts! These are the three valuable protective features offered by

**The Great-West
THREE-WAY
FAMILY
PROTECTION
POLICY**

... features embodied only in this special form of life insurance, and at moderate cost.

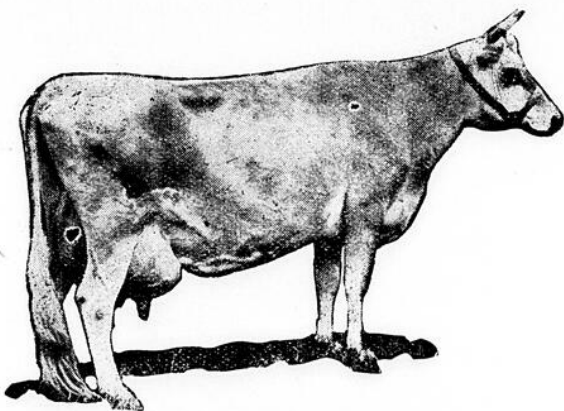
When you weigh its advantages you will favor this new Great-West plan. It is actually three policies in one... a plan that gives a large amount of insurance at a cost within reach of the average man.

MAIL THIS COUPON
The Great-West Life Assurance Company,
Winnipeg, Manitoba, 60-B
Without obligation please mail me complete details of the new Three-Way Family Protection Policy.

Name

Address

**THE GREAT-WEST LIFE
ASSURANCE COMPANY**
HEAD OFFICE ... WINNIPEG



"POGIS LADY GOLDEN" Champion Jersey of the British Empire for first-seven lactation periods

Use "National Brand" Brewers Dried Grains as part of Cows Winter Feed

The best known Dairymen of Canada have a very high opinion of the National Brand Dried Grains to increase the milk production of cows. Practical men consider that it has a necessary place in a well balanced ration that can hardly be taken by any other concentrate. **Brewers' Dried Grains** may also be used up to one half the grain allowance for Horses at hard work.

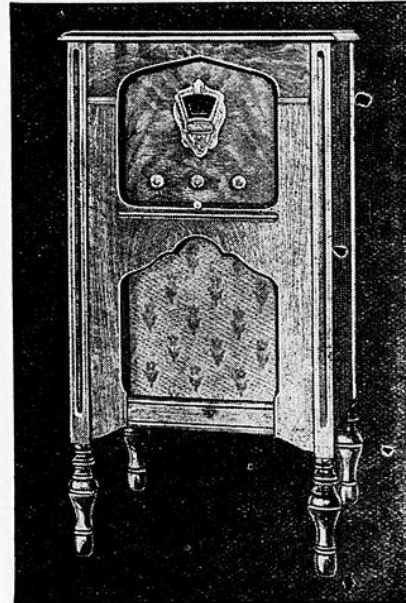
Enquire from your feed dealer, or write direct for price list and booklets on DRIED GRAINS and DRIED YEAST

**DRIED GRAINS DEPARTMENT
THE NATIONAL BREWERIES LIMITED, 740 St. Maurice St., MONTREAL**

ECONOMICAL

... perfect in performance

The New MARCONI Radio brings you maximum entertainment at minimum cost



**MARCONI
(2-volt D.C.)
"SUPERIOR"
RADIO**

SPECIFICATIONS

Embodying features hitherto unknown in Battery-Operated Receivers. Seven newly developed high efficiency two volt R.V.C. Radiotrons. Three Stages of tuned Screen Grid amplification. Screen Grid Power detection and Pushpull Power Tubes. Motor Type 10" Cone Speaker. A Battery operated Receiver having selectivity, sensitivity, volume and tone quality equal to a high-grade A.C. Receiver. Operates at a fraction of the cost of other types of Battery Receivers. Walnut Cabinet, offering simplicity with beauty. The ideal Receiver for Farms, Summer Homes and remote districts. Height from floor 38 3/4". \$150 without tubes or batteries.

Here is a new radio, exclusively designed for rural reception... A battery operated set... yet having the Volume, Tone Quality and Selectivity of the finest A.C. Receivers.

Now you, too, can afford to enjoy the world's finest entertainment... for the New Marconi D.C. "SUPERIOR" Model, the first set to feature the new, economical 2 volt tube, costs almost nothing to operate by comparison with other radios. For just a fraction of a cent per day, it will bring you hours of pleasure... stations you never hoped to get.

Like all other New Marconi models, the D.C. "SUPERIOR" has been tested and

approved for Tone Quality, Beauty of Design and Sensitive-Selectivity by outstanding musical authorities, interior decorators and scientists. The sets these unprejudiced judges have chosen for their own homes, you too can buy with assurance!

Next time you're in town, drop in at a Marconi dealer's store. See, test and hear the New Marconi Radio for yourself.

Whether you decide on the D.C. "SUPERIOR" or one of the other four Marconi models, you are assured of the world's finest in radio entertainment at the lowest possible cost.

These famous Canadians have selected a New Marconi Model to grace their homes... Your dealer has twin models in stock NOW!

Dr. Ernest MacMillan, Toronto—Outstanding Canadian composer, conductor and organist; President of the Toronto Conservatory of Music.

Boris Hambourg, Toronto—Internationally famous cellist; member of the famed Hart House Quartette; Director of the Hambourg Conservatory of Music, Toronto.

Madame Jeanne Dusseau, Toronto—Celebrated Canadian soprano, formerly with the Chicago Civic Opera Company, and well-known to radio audiences.

Miss Martha Allan, Montreal—Daughter of Sir Montagu and Lady Allan; known throughout the Dominion for her work in the Little Theatre Movement.

J. Herbert Hodgins, Toronto—Managing Editor of Canadian Homes & Gardens and Mayfair, magazines sponsoring homes beautiful in Canada.

Mrs. Minerva Elliot, Toronto—Internationally known interior decorator; designer of interiors for some of Canada's most distinguished homes.

Canadian MARCONI Company

MONTREAL

Branches: Vancouver, Toronto, Halifax, St. John's, Nfld.

LOWER Bacteria Count



To prevent loss due to "high bacteria count"—KEEP ALL DIRT OUT OF MILK

The Only Sure Way

High bacteria count is chiefly caused by long hair on flanks, udder and underline of cows. Manure, swarming with dangerous bacteria, collects and cakes on the long hair. During milking some of it rubs off into the milk pail—no matter how careful the milker.

85% of fresh manure dissolves in milk and cannot be strained out any more than you can strain sweetness out of coffee after sugar has been added. Bacteria in milk increase by millions every hour. *Low grade and rejected milk are the result.*

To overcome this loss—remove the cause! Clip flanks, udder and underline so there are no long hairs to gather up stable filth. Grooming can then be done in a fraction of the time.

Farmers who clip their cows tell us the clipping machine pays for itself in one clipping and then brings extra profits year after year. This is because low bacteria count brings them top prices and their milk is never rejected.



STEWART
No. 1 Clipping Machine

The world's best for clipping cows, horses, etc. Anyone can use it. Strong, ball-bearing, easy-running. Blades tempered by our new process. Cut faster—stay sharp longer.
Price \$14.50 (West, \$15.00.)
Satisfaction or money back

To Eliminate Lice

Lice mean a big loss to the dairy farmer.

Clipping a strip down the cow's spine and tail is a very effective means of eliminating lice. One of those who have tried this method says, "Clipping sure does away with lice and when you get rid of lice the cows milk a lot better. It is as good as an extra feed of meal a day."

Buy a STEWART Clipping Machine from Your Dealer

Flexible Shaft Co. Limited, 349 Carlaw Ave.
Toronto 8, Ont.

"FEEL WELL AND STRONG"



MRS. GUS ARSENAULT
82 Albert St., Moncton, New Brunswick

"Before my last baby was born I was very weak, nervous and discouraged. I saw an advertisement in the paper about a woman who had been like me so I bought a bottle of Lydia E. Pinkham's Vegetable Compound. I took three bottles and it carried me safely through that critical time. I have three children to care for and I feel well and strong. I tell others about your medicine."
—Mrs. Gus Arsenault.



MRS. CHAS. SLINGERLAND
R.R. No. 4, St. Catherines, Ontario

"I have used several bottles of Lydia E. Pinkham's Vegetable Compound and find it helps me wonderfully, especially before childbirth. I have five lovely children. After my last baby came I had a miserable pain in my right side so I bought another bottle of the Compound and I feel fine now. I work outside during the fruit season in addition to my housework."
—Mrs. Charles Slingerland.

Lydia E. Pinkham's Vegetable Compound

Lydia E. Pinkham Medicine Co., Lynn, Mass. U. S. A. and Cobourg, Ontario, Canada.

RHEUMATISM

is caused by failure of kidneys to remove uric acid poisons from the blood. Gin Pills relieve by neutralizing this acid and restoring the kidneys to normal action — 50c a box at all druggists.



Mail this coupon and receive a sample of Gin Pills FREE.
National Drug & Chemical Co. of Canada, Limited
Dept. A, 240 Richmond St. W., Toronto, Ontario
Name.....
Street.....
Town.....Province.....

RAW FURS

We are interested in the following furs the hunting season of which is now going on :

RED FOX, CROSSBRED FOX, MINK, PEKAN, LYNX and RACCOON.

After December the 15th. time allowed, we'll buy BEAVER and OTTER.

We pay the highest prices on the market.

WRITE US FOR CONSIDERABLE LOTS

CHS. DESJARDINS & CO.
LIMITED

1170 St. Denis Street,
MONTREAL, Que.

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 cost only \$1.00 per annum. Send your subscription to Mr. O. Lessard, secretary of the Council of Agriculture, Parliamentary Building, Quebec, Que.

HOME LIGHTING Solved



With the NEW INSTANT LIGHT Aladdin

Kerosene Mantle Lamp

NOW in any home where Kerosene oil is used for lighting one may enjoy all the comforts and pleasures of a perfect light. This new Aladdin gives

A Beautiful White Light

just like sunlight, and is of better quality than gas or electric. Completely fills a big room with a flood of glorious light that delights the eyes of the aged and insures the eyes of the young against injury.

No longer need a home lighted with kerosene be gloomy, cheerless and foreboding after nightfall. The Aladdin will make it a place of cheer, happiness and contentment, and give lasting satisfaction for an entire lifetime.

A Style for Every Purpose — A Price to Suit Every Purse

The Aladdin line comprises table, vase, hanging, bracket and floor lamps, in a variety of handsome and durable finishes.

Exquisite Shades—Hand Decorated —Glass and Parchment

Multicolored shades in either glass or parchment are available — decorative and pleasing. Plain glass shades too if preferred.

Ask Your Dealer If your dealer cannot supply you write us for full information



Table Vase Hanging Bracket and Floor Lamps

BURNS 94% AIR

Features

Aside from the fact that Aladdin light is the closest in quality to sunlight of all artificial light and is at the same time the most economical, it has many other desirable features such as:

- 1 LIGHTS INSTANTLY
- 2 Burns Common Kerosene (coal-oil)
- 3 Burns 94% Air; Only 6% Fuel
- 4 Burns 68 Hours to a Gallon
- 5 Gives More Light than 10 Common Lamps
- 6 Gives a White Light—Like Sunlight
- 7 Absolutely Safe
- 8 Burns without Odor
- 9 Burns without Smoke
- 10 Simple to operate, no trouble
- 11 No Pressure or no pumping up
- 12 No Generating or Generators

The Mantle Lamp Company of America, Inc.
405 Logan Ave., Toronto (8), Canada

To Palm fringed Coasts of pleasant weather.....



FLORIDA



Change sombre pine for stately palm; skies of grey for shining blue; piercing winds for gentle zephyrs. Due south lies sunny Florida, America's "Riviera", with its smart resorts, gay life and unlimited scope for outdoor fun. Golf, yachting, swimming, motoring. Any Canadian National agent will give you particulars of through services and convenient connections.

Full information from any Canadian National Agent

CANADIAN NATIONAL

MEN AND WOMEN. — Steady, profitable employment, weekly pay, selling our universally known, guaranteed quality Trees and Plants, Newest and best varieties. There is good money in it for you. Illustrated up-to-the-minute equipment. Real sales co-operation. Write LUKE BROTHERS NURSERIES, Montreal.

Fur Bearing Animals

MINKS, Raccoons, Muskrats, Ferrets. Select Quality Foundation Stock. JAMES L. PETERMAN, London, Ontario.

FOR SALE

CHINCHILLA Rabbits, heavy and Giants of Flanders. Good producing stock and young ones. Reasonable price NORMAN G. GLATT-FELTER, Drummondville, Que.

GET your brown robes in sheepskin also mats of the finest shades at the ROBERT Tannery of Papineauville, Que.

FOR SALE

TWO good farms of about 295 and 310 acres each, pasture and lodgings for 80 cows. Stables with cement floors and running water also 3 silos. Two fine houses running water, hot air furnace and outbuildings. For terms, write to STEWART, DENAULT & CO., Limited St. John, P. Q.

MONEY TO LEND

FARMERS! Loans at 5% capitalized reimbursed in 5, 10, 15 or 20 annuities. "CREDIT IMMOBILIER", 35 Notre Dame St. West.

Rabbits for Sale

GIANTS of Flanders Rabbits coming from stock weighing from 12 to 16 lbs. Cheap. For price, write to JEAN D. LACHAPPELLE, St. Paul L'Ermite.

WOMEN wanted to sew for us at home. Sewing machine necessary. No selling. ONTARIO NECKWEAR COMPANY, Dept. 193, Toronto 8, Ont.

MEN AND WOMEN.—If you like trees and shrubs, why not sell them? Make a business of it. Part time or full time, 900 varieties of proven Red Tag Nursery Products. Cash every week. Finest equipment. Write DOMINION NURSERIES, Montreal.

Horse Ailments

To reduce strained, puffy ankles, lymphangitis, poll evil, fistula, boils and swellings, use Absorbine. This famous antiseptic liniment stops lameness, allays pain, heals sores, cuts, bruises and boot chafes. Does not blister or remove hair, and the horse can be worked during treatment. \$2.50—at druggists or general merchants. Booklet on the horse sent free. 78 W. F. Young, Inc., Lyman Bldg., Montreal



The SMITH STUMP PULLER will turn your waste stump land into profit. Send today for Catalog and Special Introductory offer. W. SMITH GRUBBER CO. Sta. 26 LaCRESCENT, MINNESOTA

Acids In Stomach Cause Indigestion

Create Sourness, Gas and Pain. How to Treat.

Medical authorities state that nearly nine-tenths of the cases of stomach trouble, indigestion, sourness, burning, gas, bloating, nausea, etc., are due to an excess of hydrochloric acid in the stomach. The delicate stomach lining is irritated, digestion is delayed and food sours, causing the disagreeable symptoms which every stomach sufferer knows so well.

Artificial digestants are not needed in such cases and may do real harm. Try laying aside all digestive aids and instead get from any druggist some Bisurated Magnesia and take a teaspoonful of powder or four tablets in water right after eating. This sweetens the stomach, prevents the formation of excess acid and there is no sourness, gas or pain. Bisurated Magnesia (in powder or tablet form—never liquid or milk) is harmless to the stomach, inexpensive to take and is the most efficient form of magnesia for stomach purposes. It is used by thousands of people who enjoy their meals with no more fear of indigestion.

Folding Live Animal Traps

CATCH your Mink, Muskrats and Marten alive, and make some real money. I will buy all your catch. Big demand for live animals and this is the best trap ever offered for taking them alive. Price of trap only \$3.00. S. ROBERTS, Lloydtown, Ont.

FOR SALE

High Class Canadian National Silver Foxes.

IF you want the best, write or wire us, and to prove the quality of our stock, I might mention some of our winnings last Fall at the great Show held in Charlottetown P. E. I. First for adult herd of four Females and one Male. First for best pair of matched silvers and Champion Adult female born previous to 1928. We can supply you with one or one hundred pairs of the above breeding. H. J. KENNEDY, Southport, R. R. No. 1.

Shearing machine Sharpening

MAIL us your blades. Price \$0.60 set. Snow-plough for sale. WILFRID FONTAINE, Pierreville, Que.

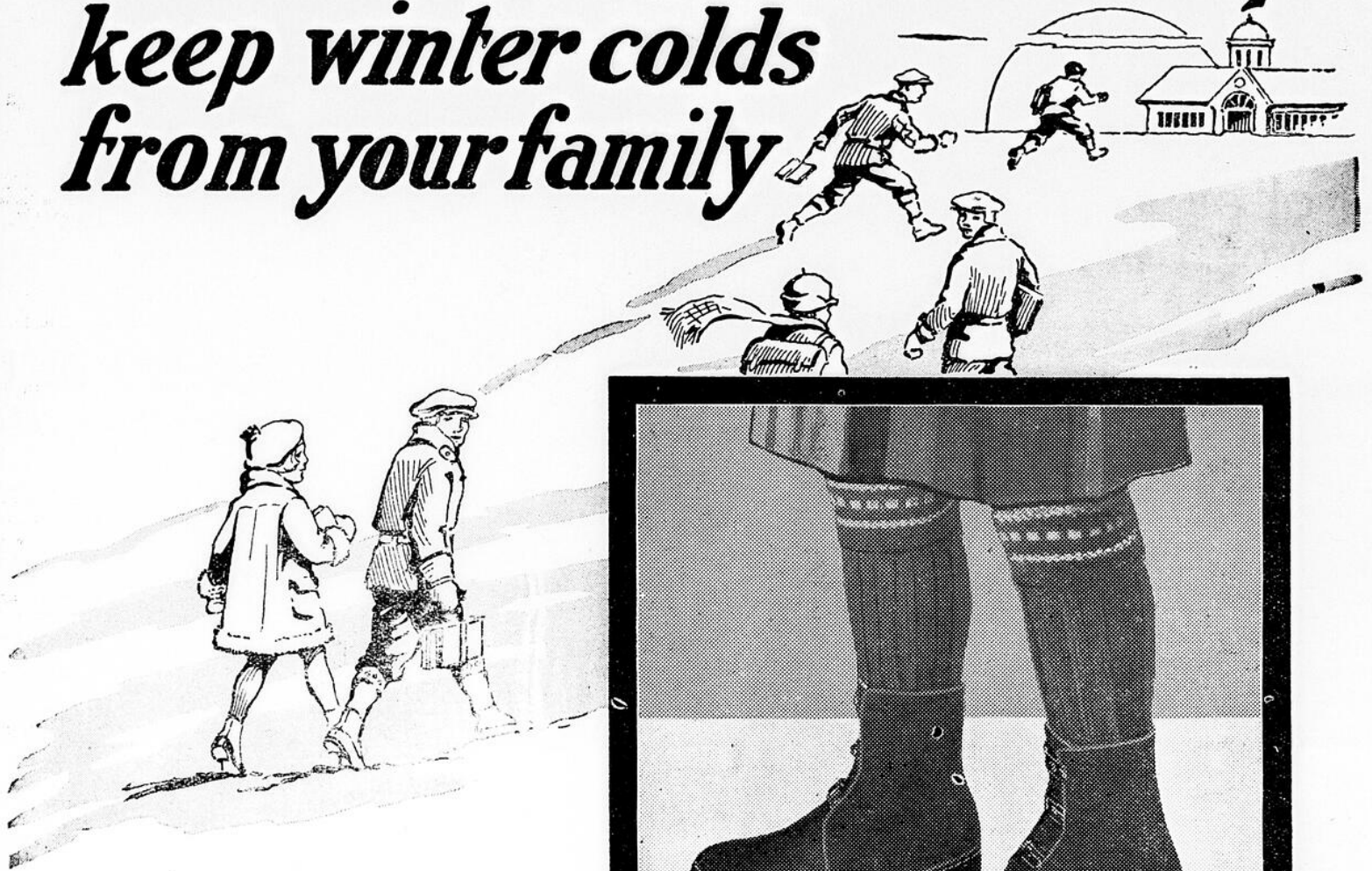
FOR SALE

TWO accredited freshened milch cows. Apply to HECTOR BAZINET, St. Charles sur Richelieu, Que.

Pou'try for Sale

EGGS IN 3 DAYS.—Guaranteed in pulverizing "Old Reliable Magic Egg Gland" tablets in drinking water or paste of your fowls, or your money will be reimbursed. If your hens don't lay, the Magic Tablets will do them promptly lay; if they actually lay the same tablets will increase their laying power by dozens of egg and more. Mrs Crawford, Ont., writes: I used of your tablets and from the second day, I obtained splendid results. The Magic Tablets are full of vitamins and marvellous ingredients for the egg formation. Free Poultry raising Bulletin. One large box, 60¢, two large boxes, \$1. Postpaid. Wanted agents, RELIABLE STOCK FOOD CO., Box 566-J, Toronto, Ont.

MINER RUBBERS *will help keep winter colds from your family*



MINER RUBBERS offer comfortable protection against damp cold feet, so often the cause of colds, influenza and other winter ailments.

Every member of your family should have a pair—they are the cheapest health insurance you can buy and no matter what the weather they keep the feet warm and dry.



The "Myrtle"

Miner Cashmerette overshoes are warmly lined with fleece and strongly made of high quality Cashmerette. The rubberized fabric is reinforced. They will stand the rough and tumble wear of children.

Ask for "Miner's"

THE MINER RUBBER CO.
LIMITED

MINER RUBBERS
KEEP THE FEET DRY