

THE JOURNAL OF AGRICULTURE



"A Quebec Scene"—Reproduced by courtesy of C. N. Ry's. from the painting by Chas. W. Simpson, R.C.A., a glimpse of a habitant village in the environs of the St. Lawrence.

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ONE HUNDRED AND FIFTY YEARS ON NOTRE DAME STREET



IN MAY of 1782, a young man from the fen country of Lincolnshire, eighteen years of age, set sail for Canada. He found in Montreal a situation which immediately impressed him as affording a most promising opening for a brewery enterprise. In 1786 this enterprise was established.

As the business grew and his other interests multiplied, John Molson (known by this time as John Molson, the Elder) gradually withdrew from active management of the brewery and, with his eldest son, John Molson, the Younger, initiated steamship travel on the St. Lawrence. Thomas Molson, the second son, operated the brewery.

During this period of his career which saw the launching of the "Accommodation" and its first run to Quebec in 1809, he became popularly known as "Bourgeois des Steamboats".

The War of 1812 found John Molson, the Elder, a Captain of the 5th Battalion of the Select Embodied Militia, and John, the Younger, a Cornet in the Royal Montreal Troup of Volunteer Cavalry, so establishing the Molson military tradition.

Through the 'twenties and 'thirties the Molson enterprises grew with the community. John Molson, the Elder, branched into many fields. In 1826 he was invited to become President of the Bank of Montreal and held that office through a period of great stress.

The same keen foresight that had brought steam navigation to Canada was then directed towards rail transportation. John Molson, the Elder, died in January, 1836, at the age of 72. Railway traffic was inaugurated at Laprairie in the following July.

MOLSON'S BREWERY LIMITED

The JOURNAL of AGRICULTURE AND HORTICULTURE

Volume 39

MAY 9th, 1936

Number 11

EDITORIAL COMMENT

ALTHOUGH the weather throughout April lacked that balmy feeling that we usually associate with spring, there is reason to believe that summer is "just around the corner."

* * *

For one thing, we have noticed great activity these last few days amongst our more enthusiastic gardeners. And why should not everyone who has the space be an enthusiastic gardener? We know this from experience, that no vegetables or small fruits that one can buy on the market are as good as those that one carries direct from garden to kitchen.

* * *

It is with the hope of being of service to the thousands of farm folk who read our columns, that we include in this issue not only articles on planting the home garden, but also a spray calendar indicating protective measures against the various pests — both insect and disease — that worry the gardener. May we suggest that this spray calendar be cut out and kept in some handy place for reference? When it comes to formulae and details of application, a fresh calendar will probably be found useful.

* * *

Now is gardening the only sign of the burgeoning season. In this number we print the full list of summer and fall fairs for Quebec. Whilst most of the county fairs (and this year they will total 69) will be held during the months of August and September, Quebec's show season opens in a month's time, when Ormstown sets the ball rolling for the season. In addition to the county and provincial fairs, we shall have five regional exhibitions — several of which are to be held in summer rather than fall months.

* * *

Particular attention always centres in the Ormstown Fair, since it occupies the position of pacemaker for Eastern Canada. This year's dates for Ormstown are June 9-10-11-12, but it is none too early to send in entries now. On account of federal rulings, the directors find it necessary to close their entries by May 19 — a mere ten days off. Breeders will be interested to know that the directors of the Ormstown Exhibition have increased the prize money for Percheron horses by \$120, for Belgian horses by \$120, for French Canadian horses by \$115, for Jersey cattle by \$340, for Canadian cattle by \$300, for Yorkshire hogs by \$50, and for the Ladies' Department by \$50. Remember the closing date for entries — May 19.

* * *

We draw the attention of our readers to a radio talk on Quebec pastures, by Prof. L. C. Raymond, of Macdonald College, which we reproduce in this issue. Professor Raymond is chairman of the Macdonald College Pasture Committee, and has had charge of the very considerable amount of investigational and experimental work that has been carried on at various points in the province by this

committee working in co-operation with Quebec officials. His observations and recommendations deserve the careful consideration of every Journal reader, since pastures occupy so much of our farmed acreage and may, with attention, be made our most paying crop.

* * *

Horse breeding is still booming in the province. Mr. E. J. Thompson, of the Jersey Health Farms, Ile Bizard, recently made a considerable importation of Belgians, whilst by the time this issue is in the hands of our readers an importation of 40 or 50 mares — Percheron and Belgian — will probably have arrived. This lot have been selected by Mr. Gilbert E. Arnold, Grenville, but most of the mares are on order by members of breeding clubs throughout the province and so will be placed by the Department promoters.

* * *

In this connection, we learn from Mr. J. J. Gaureau, of the Quebec Live Stock Branch, that a fair number of farmers throughout the province are experimenting with raising their horses in the open. Osias Tremblay, of St. Bruno, one of four who are trying this out in the Lake St. John district, has found four reasons for the practice: 1. his colts never have colds; 2. they seem to escape distemper; 3. they have no lice; 4. they seem always to feel in good condition. A paddock is provided, if possible where other buildings will offer some shelter from prevailing winds, and the colts have a little board shed, open to the south, in which to sleep and eat. That is all. The Lake St. John district, it may be added, frequently experiences temperatures of 25 to 45 below in winter, but since it is inland the climate is fairly dry.

* * *

It is worth mentioning at this time that, beginning Monday, August 31, 1936, buyers of lambs in Quebec will pay one cent a pound more, and from Monday, October 5, two cents a pound more, for ewe and wether lambs than for buck lambs. The moral, of course, is that all lambs should be docked, and all male lambs not wanted for breeding should be castrated shortly after birth. When these operations are carried out early risk is reduced to a minimum. Money talks. In this case, it says "castrate male lambs designed for the meat market of Montreal."

* * *

Those growing corn in the sections of the province infested with corn borers should give some thought to this pest at this season of the year. All refuse of the corn crop — including corn stalks, stalk-filled manure, old cobs, corn litter and stubble — should be disposed of before June 1 of the following year. This may be accomplished by feeding, plowing well under, or burning — the latter being the surest way of preventing the spread of the pest. For further information concerning the areas infested and quarantine regulations we refer our readers to a short article given on page 18 of this issue.

The JOURNAL of AGRICULTURE AND HORTICULTURE

Issued Monthly By
THE DEPARTMENT OF AGRICULTURE OF THE PROVINCE OF QUEBEC

All matters relating to the reading columns should be addressed to S. R. N. Hodgins, Editor, Macdonald College, P.O., P. Q.

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On My Way

THROUGH be-clouded days I look out across the patchy landscape and see there upon the face of mother earth the evidence that spring is feeling not so well, that a recurrence of winter has overtaken it, and that it will be some days at least before it is its old self again. This occurrence seems to have affected everybody, and in their conversation the first thing mentioned is their regret for the sorry condition of spring. Though disappointed, not many were really surprised, for it seemed that the long-awaited, welcome messenger had set too fast a pace, one that could not be maintained, that in March it had pushed on with a strength that at least belonged to April and now it must suffer humiliation as opposing winter returned to make its last stand.

Perhaps in this turn of the seasons there is a lesson for any and all who have learned to observe what goes on around them in the quiet, even dull hours of the common day, and to apply the knowledge derived therefrom to the building up of a general principle that will be a dependable guide to the business of happy living. Thus, to make haste slowly is usually wiser than the unpleasant retracing of steps that were in error. What happened to the man in the parable of the marriage supper, who sat himself down in the highest room and when others higher than he arrived was with shame returned to the lowest place, bears to us down through the ages the information that men, like the seasons, are prone sometimes to be too forward.

Through the centuries it has been the quest of mankind, to find a way, not so much of controlling the weather as of discovering how to foretell a while ahead the turn the elements are about to take; yet they are the one issue that remains from day to day in doubt, the cause and certain affect not analysed beyond a few future hours — something, in the midst of all our proficiency, about which we must have patience, faith and trust.

The physical body registers warmth and cold, sunshine and shadow in feelings of comfort or degrees of distress. That indeed would appear to be what too much of humanity lives for — just to make themselves selfishly comfortable, regarding not the privation and poverty of those whose portion has gone some other way; yet I am constrained tonight to believe more than ever in even this kind of humanity, for there is no telling what grandeur lies in the soul of those who do not seem to care. They may never have had a chance, never have had the variations, the ups and downs along the road of life that

make for the knowing mind, the understanding; then all of an instant, as it were, they are face to face with some almost inhuman demand, and beyond all expectation they step out of their ordinary selves and become magnificent individuals. I have often tried to determine what it is that makes one person beloved by every one while others, so many others, are just individuals that pass back and forth along the way, meaning so little to the great family of the human race; I think sometimes that I know, and then again I wonder if I really do.

(Continued on page 21)

QUEBEC FAIRS FOR 1936

Exhibitions, under auspices of Quebec Agricultural Societies

SOCIETY	PLACE	DATE	SECRETARY AND ADDRESS
ARTHABASKA	Victoriaville	Aug. 18-19	C. R. Garneau, Arthabaska.
BAGOT	St-Liboire	Sept. 29-30	Rodrigue Gévy, Acton Vale.
BEAUCE Div. A	Beauceville	Sept. 15	Josaphat Roy, Beauceville-Ouest.
BEAUCE Div. B	St-Ephrem	Sept. 24	Achille Faucher, St-Ephrem-de-Thing.
BELLECHASSE Div. A	St-Michel		Caius Lacroix, St-Michel.
BONAVENTURE Div. A	Port-Daniel-Ouest	Sept. 16	G.-M. Kempffer, New-Carlisle.
BONAVENTURE Div. B	New Richmond	Sept. 15	W.-H. Willett, New Richmond Station.
BROME	Brome	Sept. 7-8-9	Edward Caldwell, Knowlton.
CHAMBLAY	St-Bruno	Sept. 9	Almert Bernard, St-Basile-le-Grand.
CHAMPLAIN	St-Stanislas	Aug. 25	J.-T. Jacob, St-Stanislas.
CHICOUTIMI	Chicoutimi	Aug. 27-28-29-30	Les.-J. Gobeil, Chicoutimi.
COMPTON No. 1	Cookshire	Aug. 24-25-26	T.-O. Farnsworth, Cookshire
COMPTON No. 2	Scotstown		G.-F. Cowan, Scotstown.
TWO MOUNTAINS	Ste-Scholastique	Sept. 14-15-16-17	J.-Léo Beaudet, Ste-Scholastique, rl.
DORCHESTER Div. A	Ste-Hénédine	Aug. 27	Oscar DeBlois, Frampton.
DRUMMOND	L'Avenir	Sept. 7	I.-H. Charpentier, L'Avenir.
FRONTENAC			Edmond Bureau, Lambton.
GASPE SUD Div. A	Cape Cove		Sydney-L. Cass, Cape Cove.
GASPE SUD Div. B	Barachois	Oct. 8	Anthony Tapp, Barachois.
GATINEAU Div. A	Aylmer	Sept. 11-12	R.-K. Edey, Aylmer, Box 114.
GATINEAU Div. B	Maniwaki	Sept. 15-16-17	Palma Joanis, Maniwaki.
HUNTINGDON Div. A	Huntingdon		John Smuill, Huntingdon.
HUNTINGDON Div. B	Havelock	Sept. 15	W.-P. Fisher, Hemmingford.
IBERVILLE	St-Alexandre	Sept. 4-5	Alcide Quintin, St-Alexandre.
JACQUES-CARTIER			Joseph Boileau, 118, 2nd Avenue, Ville St-Pierre.
JOLIETTE Div. B	St-Jean-de-Matha	Sept. 15	Léopold Marcell, St-Jean-de-Matha.
KAMOURASKA	St-Pascal	Sept. 15-16-17	P.-W. Lévesque, St-Pascal.
LABELLE Div. B	Mont-Laurier	Sept. 1-2	William Grenier, Mont-Laurier.
LAPRAIRIE	Laprairie	Sept. 22	Raoul Lussier, St-Philippe.
L'ASSOMPTION	L'Assomption	Aug. 26	Geo.-Art. Landry, L'Assomption.
LEVIS	St-Romuald	Aug. 29 to Sept. 2	Télesphore Carrier, Pinteindre
LOTBINIERE No. 1	Parkhurst	Aug. 25	L.-A. Dumont, Ste-Agathe.
MASKINONGE	Louiseville	Sept. 15-16	J.-E. Roy, Louiseville.
MEGANTIC Div. A	Inverness	Sept. 9	H.-A. Welch, Inverness.
MEGANTIC Div. B	Plessisville	Aug. 25-26	Th odore Fortier, Plessisville.
MISSISSIQUOI	Bedford	Aug. 27-28-29	C.-O. Jones, Bedford.
MONTCALM	St-Julienne	Sept. 22	Hon. J.-F. Daniel, St-Esprit.
MONTMAGNY	Montmagny	Sept. 1-2-3-4	Paul Carignan, Montmagny.
MONTMORENCY D. B	St-Famille	Sept. 23	Albert Faucher, Ste-Magny.
NAPIERVILLE			Arthur Collette, St-Rémi.
NICOLET Div. A	St-Léonard	Aug. 6	Henri Leblanc, Ste-Monique.
NICOLET Div. B	Gentilly	Aug. 5	Achille Turcotte, Gentilly.
PAPINEAU	Papineauville	Sept. 2-3	J.-N. Vallières, St-André-Avellin.
PONTIAC Div. A	Shawville	Sept. 24-25-26	R.-W. Hodgins, Shawville.
PONTIAC Div. B	Chapeau	Sept. 22-23-24	Edwin McMahon, Chapeau.
PONTIAC Div. C	Quyon	Sept. 7-8-9	M. J. Muldoon, Beechgrove.
PORTNEUF Div. A	Pont-Rouge		Roméo Piché, Pont-Rouge.
PORTNEUF Div. B	St-Casimir		J.-A. Foley, St-Thuribe.
PORTNEUF Div. C	Montauban	Sept. 8	Théodule Châteauevert, Montauban.
QUEBEC	Québec	Sept. 23	J.-D. Martel, 325 Blvd. Charest.
RICHELIEU	Ste-Victoire	Sept. 1-2	J.-U. Girouard, St-Ours.
RICHMOND	Richmond	Aug. 27-28-29	W.-R. Stevens, Richmond.
RIMOUSKI	Rimouski	Aug. 28-29-30-31	Alfred Dubé, Beauséjour.
RIVIERE DU LOUP	Isle-Verte	Aug. 25-26	Edmond Côté, Isle-Verte.
ROBERVAL	Roberval	Aug. 19-20-21-22-23	J.-Edouard Bolly, Roberval.
ROUVILLE	Rougemont	Aug. 25	C.-E. Lévesque, Rougemont.
SHEFFORD	Waterloo	Aug. 17-18-19	R.-R. Bachand, N.P., Waterloo.
SOULANGES	Pont-Chateau	Sept. 7	Laurier Léger, Côteau Landing.
STANSTEAD	Ayer's Cliff	Aug. 20-21-22	Homér-G. Curtis, Stanstead.
ST-HYACINTHE	St-Hyacinthe	Aug. 4-5-6	A.-R. Demers, 33 St-Dominique.
ST-JEAN	St-Jean	Sept. 7-8	J.-R. St-Arnaud, 112 rue Richelieu.
ST-MAURICE	St-Barnabé	Sept. 22	Chs. Marcouiller, St-Barnabé-Nord.
TEMISCOUATA	N.-D. du Lac	Aug. 26-27	L.-J. Dubé, N.-D. du Lac.
THREE-RIVERS	Three-Rivers	Aug. 10	Médéric Pothier, Banlieu, 3-Rivers.
VAUDREUIL	St-Lazare	Sept.	Henry Reid, Vaudreuil-Station.
VERCHERES	Ste-Théodosie	Aug. 26	Louis Dalpé, Verchères.
WOLFE No. 1	Marbleton	Sept. 9-10	C.-G. Skinner, Bishopton.
WOLFE No. 2	Ham-Nord	Sept. 15	J.-A. Coiteau, Ham-Nord.
YAMASKA	St-Frs-du-Lac	Aug. 18-19	Alfred Allard, Blondin.

PROVINCIAL SPRING FAIR

ORMSTOWN, Châteauguay County. June 9-10-11-12. W.-G. McGerrigle, Sec., Ormstown, Châteauguay.

REGIONAL FAIRS

LACHUTE, Argenteuil County. June 17-18-19-20. J.-A. Bothwell, Sec., Lachute, Argenteuil.
 ST-HYACINTHE, St-Hyacinthe County. August 4-5-6. A.-R. Demers, Sec., 33 St. Dominique St., Hyacinthe, P.Q.
 VALLEYFIELD, Beauharnois County. August 17-18-19-20-21. Jacques Malouin, Sec., Valleyfield, Beauharnois.
 SHERBROOKE, August 31, Sept. 1-2-3-4. Norrey W. Price, Sec. Manager, Sherbrooke, Sherbrooke.
 THREE RIVERS, August 10-11-12-13-14-15. Gaston Panneton, Sec., Regional Fair, Banlieue des Trois-Rivières.

PROVINCIAL FAIR

QUEBEC. Sept. 5 to 12. M. Emery Boucher, Sec., Provincial Fair, Hôtel-de-Ville, Québec.

Oscar LESSARD,
 Secretary, Council of Agriculture.

QUEBEC POTATO RECORD

By J. E. LATTIMER

Professor of Agricultural Economics,
Macdonald College

PLANTING time is a good time to study some of the potato records of the past few years for the province of Quebec. These records are important on account of the extreme variations from year to year which though adding to the difficulties also make particular attention necessary. They are also important as potatoes are probably the leading cash crop of the province.

In 1935 the estimated value of the three leading field crops in Quebec were in round numbers: hay 43, oats 19, and potatoes 9 million dollars. Hay and oats are both fed on the farm. Potatoes are also grown largely for home use, and a considerable proportion of this crop must be retained for seed. Assuming that seed and home use accounted for half of total production, then the balance in 1935 was worth more than any other field crop except the two mentioned. It is therefore probable that in 1935 potatoes were the leading cash field crop of the province.

Quebec is credited with growing 29 per cent of the total 1935 potato crop of the Dominion. With about 28 per cent of the population residing in the province, the quantity produced would indicate that the province is somewhere near a self-sufficing basis in this particular crop. We are aware, however, that considerable volume is brought in from other provinces. From October 1st to April 17th arrivals of potatoes in the Montreal market included 1,289 carloads from New Brunswick and 327 carloads from Prince Edward Island.

During this period the average wholesale price a bag (80 lbs) of Green Mountains from Prince Edward Island was fifteen cents a bag above that of the same variety grown in Quebec. The price of the same variety from New Brunswick ran about half way between the two.

It is maintained that potatoes grown in Quebec may be equal in quality to any brought in. Yet the market this season paid week by week always five and sometimes ten cents a bag more for those from New Brunswick and generally fifteen cents a bag more for those from Prince Edward Island.

It is generally conceded that the reason of the difference in price is the dependability of the grading of those brought from a distance. It is always an easier matter to secure more uniform grading in produce that must be sent some distance: it must be assembled in larger quantities, and, where this is done, opportunity for grading is improved. Any product handled in a small way locally is more difficult to bring up to a uniform standard. Some progress has recently been made in this respect, and improvement already apparent reveals the direction in which more might be accomplished.

The anomaly is that while the province is credited with producing a greater proportion of the total potato crop of the Dominion than its population forms of the Dominion total, the local commercial market is largely dependent on outside supplies. This can be explained only in two ways. One explanation may be that the

that all potatoes fit for human food will reach the commercial trade in years of profitable prices such as 1935. The more information available to consumers, the trade and the growers, of requirements and supplies, the more nearly will the approach be to the most happy solution of this difficult problem.

Improved methods of culture, greater control of pests and blight have done much to reduce the risk of crop failure. There is still considerable variation in yield per acre due to variations in the weather over which man has no control. But there is one factor that the grower is responsible for — the area devoted to the crop.

SUMMARY

While the records here included warrant further analysis than the length of this article permits, the following features are plainly revealed.

1. The need for continued study and attention to per capita consumption and market requirements.
2. The Montreal market paid more during the past season for potatoes brought from a distance than for local supplies.
3. Soil adaptability, cultural methods and grading practices are factors in securing any proportion of the market.
4. Returns per acre have varied widely in recent years; hence the need to consider returns for a number of years in order to make an estimate of the returns from this business and a possible policy at planting time.

people of the province consume more potatoes per capita than do other parts of the country. This may be possible. Consumption per capita of any product so adaptable to production for home needs as the potato is apt to remain something of a mystery. Another explanation may be that while the province may have produced the amount of potatoes required they may have been in such quantities and in such districts that a great proportion was used for live stock feed while commercial markets used supplies from other sources.

There is always a proportion of the potato crop used as feed for live stock. When crops are large (as in 1934) this accounts for the disposal of a large proportion of the crop. But in 1935 the situation was different, and it is probable that some potatoes were fed to live stock early in the season when prices were low that might later have been profitably marketed commercially.

It appears not only difficult but also impossible to make certain that no poor quality potatoes are marketed commercially in years of abundant supplies as in 1934, when some of the finest quality tubers were fed to live stock or carted out and plowed under. It may be just as difficult to ensure

Quebec Potatoes

	Acres (thousands)	Yield per acre (cwt)	Production (million cwt)
1924	159	105.3	17
1925	156	70.4	11
1926	159	92.3	15
1927	162	87.5	14
1928	164	79.7	13
1929	162	95.0	15
1930	166	81.4	13
1931	146	115.6	17
1932	133	87.0	11
1933	133	101.0	13
1934	143	99.3	14
1935	128	88.6	11

The variation in acreage from year to year depends largely upon price and is nothing new or strange. But there is here a rather significant long time trend which is downward. This must be considered in relation to the yield per acre which has during this time not only becomes less varied but has also increased by eight per cent in the latter half of the period as compared with the first six years.

Though yield per acre is improving and is becoming less uncertain there is still wide variation in total production. Here again the long time trend warrants attention. A total production for the province of 14 million cwt. in 1927 was valued at \$1.31 a cwt. while a crop of equal volume in 1934 was worth 48 cents a cwt. Apparently a smaller quantity of potatoes is being required and provided locally. This may be due to the decline in per capita consumption. Also it may be due to greater dependence on supplies from outside the province. The greater use of supplies from other provinces may be partly due to the somewhat pronounced loss of export markets in recent years, but which revived somewhat during the present season.

This discussion is concerned particularly with the provincial records. These alone make clear that price depends upon inter-provincial trade and also on the export trade which, though not at any time great in potatoes, has varied enough in recent years to be an important influence on price. The question which these records raise is whether or not the potato grower of the province is securing the desired share of the local market. This question naturally leads to an exam-

POTATOES IN QUEBEC — RETURNS PER ACRE. (1)

1924-1935

Year	Yield per a- cre cwt	Price per cwt	RETURNS PER ACRE
1924	105.3	.96	101.10
1925	70.4	3.25	228.80
1926	92.3	1.40	129.20
1927	87.5	1.31	114.60
1928	79.7	1.04	101.60
1929	95.0	1.28	121.60
1930	81.4	.95	77.30
1931	115.6	.51	58.95
1932	87.0	.63	54.80
1933	101.0	.71	71.70
1934	99.3	.48	47.65
1935	38.6	.79	70.00

(1) Data from Dominion Bureau of Statistics.

(Continued on page 37)

PASTURES IN QUEBEC

A Radio address given over the "Provincial Hour"

By L. C. RAYMOND,
Assistant Professor of Agronomy,
Macdonald College.

VERY few people have, I suppose, ever stopped to think of the important place that pastures occupy in the business of farming. Our flocks and herds of livestock find all or nearly all of their food supply for a period of approximately four months, each year, from this source. Relatively, the province of Quebec furnishes good pasturage; but the mistake has been made of assuming these grazing lands to be inexhaustible, and little if any attention has been given to them until very recently. In the limited space at my disposal, I want to give you some idea of the extent and nature of pasture lands and of the work that is being done to improve them.

Pastures occupy an enormous acreage in this province. It is estimated that one-fifth of the occupied farm land, or an area of about three and one-quarter million acres, is used for this purpose in Quebec alone. These pasture lands vary in their nature all the way from lands that could be freely tilled to those that are so rough and stony that they are of little use for any purpose in their present condition. The average carrying capacity reported is approximately one mature animal to two acres for the season. Good pastures carry at least one animal per acre, and in addition provide more nutritious herbage. The existing situation, then, presents both a challenge and an objective in this respect, at the outset.

Various agencies are at present engaged in determining practical measures for pasture improvement. The Federal Department of Agriculture through the experimental and illustration farm system has an extensive series of trials connected with most of the several branch stations in the province. The Provincial Department of Agriculture has established a network of grazing tests under the supervision of their field representatives, besides doing a great deal both financially and otherwise to popularize the use of the various materials for the treatment of pastures. Groups of workers are also located at two of the agricultural colleges — one at Ste. Anne de la Pocatière and one at Mac-

donald College — who are devoting their attention to somewhat more specific aspects of the problem. The findings of all these separate organizations is brought together in the Provincial Pasture Committee, which meets every year and which publishes, and distributes widely, a pamphlet giving the most recent recommendations for treatment and management.

Climate and soil represent two factors which have a decided effect on the improvement and management of pastures. Over the first of these we have no control, but distinct changes may be made in the latter.

Climate probably has a greater effect in determining the success or failure with pastures than any other one thing. Ideal climates for grazing lands are those found in parts of Great Britain and in New Zealand, where the frost-free season is long and the summers relatively cool and moist. These conditions are not found in Quebec. Our season is short, and a brief but cold spring merges rapidly into the warmth of early summer to be followed quickly, only too often, by a more or less prolonged summer drought. For any given field there is a surplus of grazing in June and a dearth in July and August which not only curtails the total output but also makes the management problem very difficult. Usually, on account of this situation, recourse is had to growing supplementary crops or to feeding purchased materials to overcome the shortage. Control measures are being sought which will in some degree avoid this difficulty.

The soil must, of course, always be regarded as basic to any study of pastures. Considerable attention is being given to this aspect, at present, so that areas of similar type may be grouped for investigational purposes. Four main soil zones are at present recognized for Quebec. These are the Appalachian Upland Podsoils to the south and west; the Brown Forest soils in the Cowansville region;

the flat lands adjoining our lakes and rivers; and the Laurentian highlands to the north. Each of these large sections has quite distinctive characteristics, but each still requires much detailed study to establish a good working knowledge of them. The native supply of plant nutrients, the reaction (whether sour or not), the texture and structure and many other things must determine the suitability of a soil for pasture and the treatments required.

The variability in soils is clearly shown by the vegetation that results in many of the old natural pastures. Even in one locality the dominant grass species may differ greatly between two fields. Along with a knowledge of soils, it is necessary to get some picture of the more important species involved and of the conditions under which they naturally develop. Information of this sort is gradually accumulating which will eventually make possible the classification of pastures not only on the basis of soil type but also of the kinds of plants which are naturally adapted.

Herbage species adapted for pasturage are, of necessity, of quite a different type from those used for hay. Timothy, for instance, which is such a common hay grass, on account of its tufted habit of growth cannot successfully withstand the close biting to which it is subjected in pastures. Grasses of that kind are replaced, in pastures, by those having a running rootstalk and which develop a low creeping habit having many points of attachment to the ground. Our severe climate prevents the use of some of the most valuable grasses found in Old Country pastures, e.g. the rye grasses. The most common species found are the bent grasses, such as red top and creeping bent, the blue grasses — both Kentucky and Canada — and some of the fescues. A similar situation exists regarding the clovers. Species such as red clover and alsike, on account of their habit of growth, cannot long exist in a close-grazed pasture, but the same family is represented by the low-growing, creeping and branching form known as wild white clover. This small and in unimproved pastures rather inconspicuous plant is widely distributed, and



is one of the most valuable of the pasture species. Curiously enough, it seems to be more prevalent on acid soils than otherwise, in spite of the well-known requirement of clovers for lime. Apart from its contribution to the bulk of the herbage, it has the most important effect of stimulating the grasses through its ability to gather and store nitrogen, taken from the air.

The initial stages of pasture improvement are usually accomplished through the use of commercial fertilizers and lime. The former supply one or more of the commonly deficient plant nutrients, nitrogen, phosphorus and potash. These are each available in a number of different products as separate elements, or they may be purchased in varying proportions as mixtures. A knowledge of the soil's make-up may give some slight indication of its probable needs, but trials, using various combinations and rates of these different elements under actual pasture conditions, furnish the only reliable answer to the question. Such trials are now being carried on extensively. While all three fertilizers are required in proper balance for optimum plant growth, the one that is most often deficient is phosphorus. This "phosphorus hunger" exists on practically all of the pasture lands as well as on much of the cultivated land on this continent. Fertilizers vary a great deal in the length of time they will remain in the soil. Nitrogen is of use for only one season. It is readily soluble and is either quickly used up or leached from the soil. Phosphorus and potash, on the other hand, are retained for considerable time and usually only need to be applied every second, third or fourth year.

Lime supplies the element calcium and is used primarily to sweeten sour soils. Its use on our old natural pastures as a top-dressing has hardly produced the result one would have anticipated. Favourable results have been found in some localities, but in most cases the increased production has hardly been sufficient to warrant the expense of application. Where the land has been cultivated, and particularly where a new seeding is involved, the result is quite different.

The present recommended use of these fertilizing materials for pastures is best summed up in the 1936 report of the Provincial Pasture Committee. These are provisional and must await further investigational work for refinement. At present two sets of conditions are recognized: those districts where wild white clover will develop quickly and naturally, and those where it will not. The essential difference between the two cases is that there is not the same need for nitrogen where the clover is plentiful, and since it is the most expensive element to buy, improvement can be more economically effected in such fields. For those conditions either phosphorus alone or a mixture of phosphorus and potash is recommended at the rate of 400-500 lbs. of 20% superphosphate and 75-100 lbs. muriate of potash per acre. If one prefers to use a ready-mixed fertilizer, the same result may be accomplished by applying 500 lbs. of a 0-16-6, i.e. one containing no nitrogen, 16% of phosphorus, and 6% of potash. For the non-clover areas, a complete fertilizer is essential, and the advice given is to use 500-700 lbs. per acre of a 2-12-6, i.e. one



How phosphate brings on wild clover. This photograph, from one of the experimental pastures at the Ste. Anne de la Pocatière Agricultural College, shows plenty of clover in the herbage of a pasture that received 500 lbs. superphosphate three years earlier.

containing 2% of nitrogen, 12% of phosphorus, and 6% of potash.

The transformation effected on an old, natural-pasture sward by either of the treatments mentioned is little short of phenomenal. It is difficult to give you a word picture that will do the situation justice. The most striking result is evident where the wild white clover does well. In the short space of a few months after applying the fertilizers the sward changes from a thin, weedy and grassy make-up to one in which the clover dominates. Owing to its growth habit, the clover spreads very quickly and during the first year may easily represent from 30-50% of the ground cover. In subsequent years the more useful and adapted grasses play a larger part, and one finds a very desirable proportion of grass and clover making up the sward.

The grazing animals, whether sheep or cattle, have an almost uncanny sense for the fertilized portions of a pasture. They unerringly select them and return to them repeatedly. Plenty of justification for this selection by the animal is found when the situation is carefully looked into. Not only are the better species emphasized in the fertilized sward, giving a more desirable and palatable herbage, but the chemical make-up of them is more in accordance with the needs of the animals.

The application of fertilizers should represent but the first stage of pasture improvement. Of almost equal importance is the management aspect. Unfortunately it is one that is often lost sight of entirely. Proper or improper management can mean the difference between a good or a poor pasture, a profitable or unprofitable undertaking. For example, the time of applying fertilizers may have a profound effect on the response of the herbage. Nitrogen should never be put on in the fall since it is readily soluble and, except when the plant growth is active, is rapidly carried away in the drainage waters. Phosphorus and potash, the so-called mineral fertilizers, are, in the language of the chemist, quickly and almost completely "fixed." The two latter may be, and it is advised that they should be, applied in the fall. The greatest danger lies in making the treatments too late in the spring, when there may be insufficient moisture available to produce the desired effect.

Probably the most important single management factor is grazing control. Both un-

der and over-grazing are to be avoided. Of the two conditions the former is likely to be the more detrimental to the sward, and certainly it is the one that most commonly occurs. The loss resulting from improper grazing is of relatively small concern on unfertilized natural pastures, but it is of the utmost importance when we have gone to the expense of fertilizing. Good grazing means keeping the herbage short. Grass should never be allowed to get more than 4 inches high at any time. The one thing to be avoided definitely is that of allowing any of the grasses to shoot into flower. Their feeding value and palatability are greatly reduced—in fact stock must actually be starved into eating them in that condition. The practice of rotational grazing, where efficiently carried out, is a good system. By this means the herbage in any one of the rotated fields may be quickly and completely eaten off and then given a rest for recovery while the stock are pastured in another field.

These two management aspects and a number of others are more fully dealt with in the report of the Provincial Pasture Committee. If you are interested in pastures, ask your local agronomer for a copy and study the suggestions.

Fertilizers applications such as have been mentioned here resulted in a distinct increase in yield and carrying capacity. Wherever a reasonable sward existed at the outset, herbage yields have in most instances nearly doubled and the improved quality of the grazing has been very apparent. Furthermore, the greater density and vigor of the sward has in some measure prevented such rapid drying out during the usual midsummer drought.

In this very brief statement it has only been possible to touch lightly on a few phases of pastures. If space permitted one could go on to mention the extensive investigations that are being made on the nutritional, chemical, and botanical aspects, all of which will have an important effect on the ultimate solution of the problem.

In conclusion, I should like to add a word of appreciation of the provincial department of agriculture for their very helpful interest in this pasture work. Both financially and otherwise, they have given distinct leadership in a vital undertaking.

What To Look For in Seed Corn

In purchasing seed-corn there are two considerations which are of outstanding importance. First,—the seed should be of a type or variety which is known to be adapted in the district where it is to be grown. In a normal season such a variety should reach the glazing stage before there is danger of a killing frost. Second,—seed-corn should be high in germination. Buy only seed which has been tested and which shows good vitality. If attention is given to these two points all other seed-corn difficulties will take care of themselves. Consult your local agronomer regarding the suitability of varieties for your district, and regarding source of seed.

New Life For The Agricultural Society

An article prepared specially for Journal Readers

By C. H. HODGE,

Editor, "The Farmer," Toronto.

HOW many agricultural societies have the same officers, doing the same jobs, in the same way, year after year? Is the answer that a society can give to that question the reason why some of them are live, active, progressive organizations, while others are societies in name only, doing the one thing—holding a one or two day fair every fall—with steadily dwindling support and interest on the part of their members and constantly in difficulty with their financing?

L. C. Roy, Agricultural Agent, Canadian National Railways, recently made a little survey of what makes an agricultural society valuable to its community and successful in its work. He gathered what information he could in Quebec, gave it to a meeting of the Ontario Association of Agricultural Societies in Toronto, and while there gathered some more ideas presented by delegates to that meeting.

The most successful societies, he found, were those that worked closely with other organizations in their community, with representatives from all the organizations meeting as a central body to head up all the agricultural improvement work in that community. This gives each organization a knowledge of what the others are doing and enables each of them to lend their support to the others in advancing the general interests of all their members. He quoted the Kamouraska Society, which for a \$2.00 membership fee enables a farmer to belong to any one of 16 farmers' clubs in the area, a horticultural society, and the Kamouraska Agricultural Society.

The membership fee in an agricultural society in Montmagny county includes membership in the Women's Institute, a subscription to the Journal of Agriculture, use of agricultural machinery owned by the society, five tickets to the fall fair, and participation in any one of three drainage competitions conducted by the society.

This linking up with other organizations enables the agricultural society to make their local fairs real show windows for all the improvement work of that community, whether in crops, in live stock, natural products, manufactured articles produced in the community, or local handicraft exhibits. Those societies whose fairs featured the major lines of their district and provided a window display of its activities, rather than trying to cover everything in their prize lists, he found, were able to quicken the interest and natural



Judging of bacon hogs in progress at the Sherbrooke Fair.

pride of the people in their community, enlarge their attendance, and enable visitors and possible buyers from outside the community to see at once just what were its main agricultural features.

Many societies, Mr. Roy reported, had greatly stimulated local interest through junior farmer or boys' and girls' club exhibits. This could be further stimulated by appointing young men from new districts, setting them definite tasks connected with the society, and then seeing that they understood how to go about them.

By stirring up local talent and developing rivalry between neighboring centres, some societies had been able to add greatly to their entertainment features and at the same time reduce the cost. Evening concerts, sports contest, dramatics, could all find a place at the local fair and prove excellent attractions.

Placards enabling visitors to identify the owners of different exhibits, and announcements of the names of major prize winners or those taking part in different events, all added to the local interest and helped to make everybody "Fair-minded."

These features, with particular attention to the slogan "something new each year and new every day," were the secrets of success of the local fair as of the large exhibitions, Mr. Roy found as the result of his survey.

Leadership in New Activities

Holding a local fair is only the climax to the year's activities of an agricultural society which really seeks to give leadership to its local community, however, said Mr. Roy. In different parts of the country societies were sponsoring a wide variety of projects that

were valuable to their members and all tending to bringing out larger and finer exhibits to the fairs. In most of these projects the agricultural society was the natural body to give leadership and direction.

The bringing into the community of valuable pure-bred sires is a function of an agricultural society that has long been recognized. Its success apparently depends upon the type of animal secured and the measure of care and supervision given it. One such society in Western Ontario now has six such sires for the herds of its 60 members. It has found the best method of operating to be through local units of about 10 members. These units purchase their own sire with money advanced by the society. All animals must be registered, and approved by a representative of the provincial department of agriculture. The society will advance up to \$145 for a bull and \$25 for a boar. Members of the unit have the use of the bull for a stated number of cows, usually three or four, on payment of a fee of \$4.00 a year for three years.

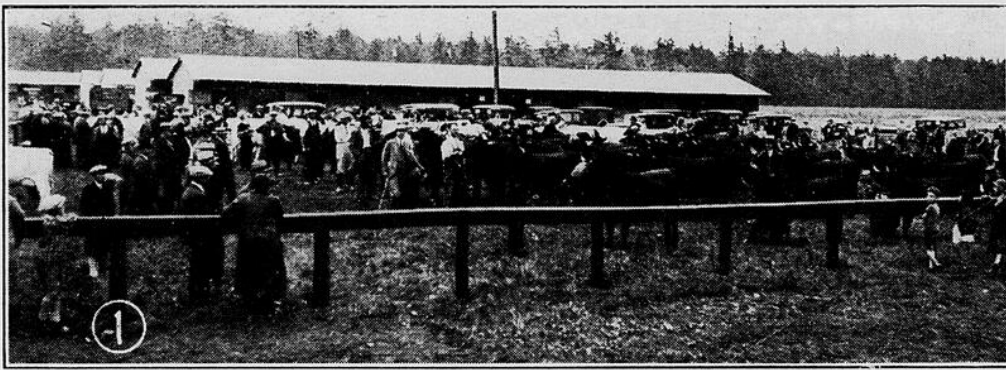
Part of these fees are used to pay the keeper of the bull, payments running from \$15 to \$25. At the end of the three-year period the animal becomes the property of the keeper; thus he has a definite incentive to give it good care. The rest of the fees are used to repay the money advanced to the unit by the society and, with the grants made to societies for this purpose by the provincial government, have usually more than covered the cost of the animals. So successful has the plan proved in the county in which this society operates that all the other societies in the county have adopted it and are forming new units and purchasing additional sires this year. They have several stallions, and a number of bulls and boars, standing for service in the county. The project is particularly valuable in communities where there is a shortage of good sires, but one of the oldest and best managed societies in Eastern Ontario has been securing sires for its members for 68 years.

Equally valuable work has been done through agricultural societies in crop improvement by introducing new and tested varieties of seed grain. More recently a few societies have gone a step further and established seed-cleaning plants, equipped with the best seed-cleaning machinery available. This service not only enables their members to thoroughly clean and free from weeds the seed they sow, but it enables the community to build up a reputation as a source of improved seed for buyers from other sections. In other words, these societies assist their members to secure higher crop yields through good seed and then assists them in putting their crop in condition to command a premium when placed on the market.

Through a suggestion from L. H. Newman, Dominion Cerealist, Mr. Roy found that societies establishing these cleaning plants were able to render still another service to their members—that of treating their seed grain for the control of smuts such as have been controlled previously by the well known formalin treatment.



Members of Boys' and Girls' Calf Clubs leading their animals at the annual county show at Plessisville.



Canadian cattle in the ring at the regional fair of St. Hyacinthe.

Mr. Newman and his staff found that with the dusts now on the market for treating seed for smut, the seed can be treated weeks in advance of the time of seeding; that seed so treated and stored in bags will not be touched by mice. The dust material for treating costs about 3 cents a bushel, and a machine to mix the dust through the grain can be secured for a cost of about \$20. It will be possible now for the operator of a seed-cleaning plant to secure one of these machines — which can easily be driven from the same power line that drives the cleaning machinery — treat the farmer's seed grain for smut immediately after it leaves the cleaning machine, bag it up, and let the farmer take it home and store it away until he is ready to sow it. It will be safe from mice, due to the dust it contains, and will be treated and ready when the rush of seeding starts.

Another suggestion from Mr. Newman was that agricultural societies organize a series of variety tests of the leading crops in their communities. He said they had developed at the Ottawa Experimental Farm new varieties of oats that were more resistant to rust than the common varieties; others that were stronger in the straw or gave a higher yield. These were now available for testing in different localities in comparison with the varieties now grown there, to determine if they would show the same superiority under new conditions that they had shown at Ottawa. A society that was seeking to advance the interests of their community could easily bring these new varieties to the attention of its members by arranging for a series of small test plots on some central farm in the district.

Inevitably this interest in better seed leads to a desire for a seed fair, and nobody is in a better position than an agricultural society to sponsor an event of this kind.

Other activities which an agricultural society can sponsor and support to increase its membership and hold their interest are found in community campaigns against disease and insects attacking farm crops and stock. As with smut diseases in grains, organized efforts are far more effective than individual attempts in clearing up warble-fly grubs in the backs of cattle, bot-fly grubs in horses, worms and other parasites in sheep and hogs. The publicity attending an organized campaign focuses attention on the losses caused from these pests and encourages many more individuals to adopt preventive or control measures. The agricultural society is the natural body to furnish leadership and direction to such campaigns. That they are worth while attempting may be seen from the fact that in Ontario last year over 1,500,000 head of cattle were treated for warble-fly grubs.

It led to whole counties being practically free from any running of their cattle when at pasture in the summer. The cost, in comparison with previous losses from the drop in milk production and damaged hides, was little or nothing.

It is this type of work, coupled with a survey of the community's possibilities in the growing of special crops and live stock to fit their particular needs and conditions, that in Mr. Roy's opinion makes an agricultural society valuable to its members and successful in its work. It will lead inevitably to larger entries and attendance at the local fair and the community that will attract attention far beyond its borders.

Why We Should Buy Quebec No. 1 Sealed Timothy Seed

Because the seal and the Federal Government tag put on the bag CERTIFY:

1° THE ORIGIN — The seal is the only thing to prove that the seed has been grown in Quebec. In buying such seed you are sure to buy home-grown seed.

2° THE QUALITY — The sealed Timothy seed is of superior quality. It is produced and prepared under the supervision of a seed inspector. A field crop inspection is done with a view to establishing the aptitude of the crop to give No. 1 seed. After the recleaning, each bag of seed is carefully inspected. If the seed is free from Ox-Eye Daisy and of the quality described by the Seeds Act for No. 1, the inspector puts on the bag the official seal after having attached a tag countersigned by himself to guarantee the origin and the quality of the seed in each container.

The most satisfactory material so far discovered for destroying ants, says the Dominion Entomologist, is sodium fluoride, sold by druggists in the form of a fine white powder. As sodium fluoride is somewhat poisonous, care should be taken to prevent children or domestic pets from gaining access to it.

Our Agricultural Societies

Their finances, projects. The General Council of Agriculture project of reform adopted

By Frs. FLEURY

(Translated by S. D. Hemsley)

THE Agricultural Societies have appreciably improved their financial position during the last five years. The comparative financial report submitted by Mr. Oscar Lessard, secretary of the Council of Agriculture for the province of Quebec, at the annual meeting of this organization on the 17th and 18th April had many points of interest.

Mr. J. Antonio Grenier, Deputy-Minister of Agriculture, speaking after Mr. Ovide Loisel, president of the Council of Agriculture, commented thus on the report:

"Our Agricultural Societies have appreciably decreased their liabilities, taken all together, during the last five years. We believe that they are showing definite signs of prosperity, and we should thank the farming classes for the efforts which they made not only to maintain these organizations but also to put them in the position of giving even greater service."

The comparative statement published below shows the financial position of the societies in 1929, which may be considered a very prosperous year, compared with 1935, a year of de-

pression. However we can say, not without pleasure, that the number of members has increased by 4,000. After having encouraged more agricultural enterprises they show better balances. The deficit shows a decrease of more than a third whilst the credit and debit account shows improvement.

"Relative to this greatly increased credit, we should remember that since the depression, property and other fixed assets have tended to be devalued — certainly they have not been overvalued. The same is true of the debits which have decreased by more than \$40,000," added M. Grenier.

An old farmer quoted by Mr. Georges Bou-

(Continued on page 28)



Some of the comfortable stables for horses and cattle on the grounds of Pontiac Agricultural Society No. 1, at Shawville.

THE HOME GARDEN

A Radio address given over the "Provincial Hour"

By H. R. MURRAY,

Assistant Professor of Horticulture,
Macdonald College.

THE object of a home garden is to produce an adequate supply of fresh vegetables for the owner's table. This supply should start with the early spring and continue until frost, with a sufficient surplus for storage and canning to last throughout the winter. In most localities of Quebec this is possible if careful attention is given to the planning, the choice of crops and to some means of home storage. Few people realize the large number of different vegetables which can be grown successfully in this province, with kinds and varieties to suit every taste.

Whether on the farm, in the rural village, or in the city, the home garden may be made into a very profitable venture. A small plot of ground may be made to supply a large amount of the most appetizing, healthful, fresh vegetables. Without question, more vegetables are consumed when they are produced at home than when they are purchased. The remark is often made that it is cheaper to buy vegetables than to grow them. In the cities this may be true if one has the money to buy or when the people are more highly paid for their time. With the farmer, though, we generally find that unless he produces his vegetables, the family goes without. Fresh vegetables are not usually available in country communities; and supposing they were, to buy them would mean an outlay of cash for people who now have to conserve their ready cash for absolute necessities which cannot be produced at home. Furthermore, vegetables produced in the home garden may be substituted for more costly articles of food, to cut table costs.

The importance of this possibility can be better understood if we consider that about 2/5 of a labourer's income is spent on food. By cutting this cost with home grown products, the family savings will be increased, resulting in better homes, better health and better living.

During recent years the importance of vegetables in the diet has been stressed more and more. Vegetables minerals, vitamins and roughage which are essential for good nutrition, especially in growing children. Dietitians tell us that in minerals a medium sized carrot is equal in lime (necessary for bone building) to 1 1/2 lbs. round steak, or 1/2 loaf of whole wheat bread, or 7 medium sized apples; five eighths of a cup of cooked spinach is equal in iron (necessary for pure red blood) to 10 slices of white bread, or 4 cups cooked oatmeal or 6 1/2 cups milk. Spinach, lettuce, cabbage, carrots, tomatoes, sweet potatoes, string beans and swiss chard are good sources of vitamin A, tomatoes in either raw, cooked or canned state, cabbage and carrots in the raw state, lettuce, turnips, onions, potatoes, spinach and swiss chard are good sources of vitamin C. All vegetables contain vitamin D; lettuce and water cress vitamin E; best greens, kale, potatoes, spinach

and water cress vitamin G. These vitamins are essential for growth, good health and resistance to disease. Vegetables rich in vitamins are also excellent sources of iron and phosphorous.

Roughage or bulk is needed for proper elimination of waste from the body. The woody, stringy fibres of vegetables furnish this in a much cheaper form than do some other foods.

In selecting the site for the garden, care should be taken in locating it. The garden should be near the house for convenience and because it is usually a spare time proposition. A southern slope is recommended as there the soil usually warms up earlier in the spring and permits earlier planting. It should have good drainage, both for water and air, and, as vegetables require plenty of sunshine and moisture, the close vicinity of large shade trees should be avoided.

It is best to select a sandy loam, as this type of soil is most suited to vegetables in general. This is an early type which warms up quickly in the spring, drains effectively and is easy to work. It is also easy to keep in good physical condition as it does not bake or crust. Plowing or spading the garden plot in the fall is almost always preferable as it will permit earlier spring preparation and planting. Humus forming material turned under at this time of year will decompose more rapidly and enrich the soil more for the early crops than if turned under in the spring. Insects are also exposed to the weather and are generally destroyed.

After plowing or spading (or if the plowing and spading were done in the fall, just as soon as the ground has dried out enough to work), we should pulverize the soil thoroughly and work it down to a smooth, fine, firm condition. In the small garden, this can be accomplished by raking, but in the larger farm gardens, the soil should be disced following plowing, and then harrowed and levelled with a drag for the smoothing touches. This finishing is important because if seeds are planted in a coarse lumpy soil they will be very poorly covered and the result will be a poor germination, a poor stand, and a poor yield. A final preparation of the seed bed, such as hand raking, is recommended if the garden is not too large.

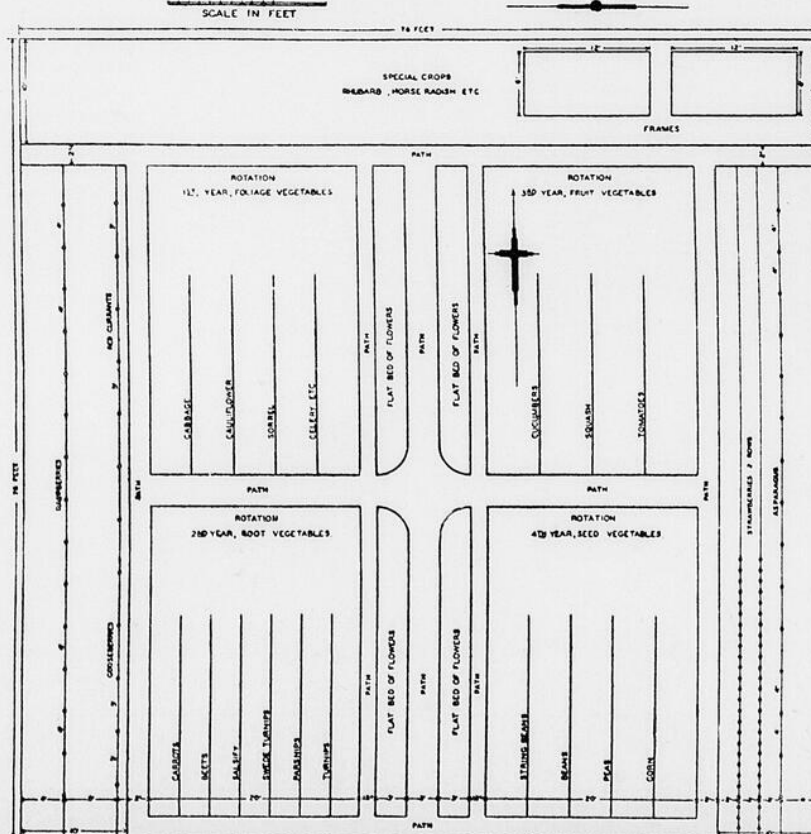
The size of the garden will depend entirely upon the size of the family and the space available. In towns and villages the space is necessarily limited and the garden is planned to fit the area. In the country the plan will be made and the required ground allotted for it. Plan to include vegetables for canning and storage. Every family should can at least 10 different vegetables. The winter's supply of canned produce should include at least 20 quarts of tomatoes and 10 different vegetables for each person. In addition it should include for each person 2 to 3 bushels of potatoes, 5 heads of cabbage and 40 pounds of other vegetables.

The actual plan for the home garden should be made on paper early in the year to show the arrangement of the crops. No one garden plan will suit all conditions or all tastes, but certain principles should be kept in mind when preparing it. The vegetables planted should be those most desired by the family. Always keep in mind that a small garden well cared for is better by far than a large one which is neglected. Regardless of size, it should be planned to be economical of labour. In small gardens, much time and labour can be saved by the use of a wheel hoe. If there is plenty of space available and the garden is on the farm, it is best to plant the rows sufficiently far apart for horse cultivation. Other conditions being equal, it is usually best to have rows running north and south, for then the effects of shading are less marked.

Perennials, such as rhubarb, asparagus, bush fruits, berries and other crops that remain in one place for several years, should be located on one side or at the end of the garden so that they will not interfere with plowing and other operations of land preparation. Parsnips, salsify and other long season crops should be grouped together. All crops which occupy the land during the same period of time should be planted side by side. If only a limited amount of land is available, succession cropping may be carried on successfully. If possible further arrange the vegetables according to the number of days required for maturity. If the early matur-

PLAN FOR A FARM-GARDEN

PREPARED BY THE HORTICULTURE SERVICE OF THE PROVINCE OF QUEBEC



Selected Varieties of Vegetables

(Prepared by the Horticultural Department,
Macdonald College)

In the following list, the varieties are arranged in the order of earliness:

ASPARAGUS:—Mary Washington.
BEANS:—(Yellow) Round Pod Kidney Wax, Pencil Pod Wax.
(Green) Bountiful, Stringless Green Pod.
(Pole) Kentucky Wonder (both yellow and green strains available)
BEET:—Crosby Egyptian, Detroit Dark Red, Long Smooth Blood.
BRUSSELS SPROUTS:—Improved Half Dwarf.
CABBAGE:—Golden Acre, Glory of Enkhuizen, Danish Ballhead (Short stem strain)
CARROT:—Chantenay, Danvers Half Long, Nantes.
CAULIFLOWERS:—Early Snowball, Early Erfurt.
CELERY:—Golden Plume, Golden Self-Blanching, Giant Pascal.
CORN:—Banting, Sunshine, Golden Bantam.
CUCUMBER:—Early White Spine, Davis Perfect, Improved Long Green.
CITRÓN:—Colorado Preserving (Green seeded).
EGGPLANT:—Early Dwarf, Black Beauty.
HERBS:—Dill, Fennel Mint, Sweet Marjoram, Sage, Savory, Thyme.
LETTUCE:—(Leaf) Grand Rapids, Black Seeded Simpson.
(Head) May King, Big Boston, New York.
(Cos) Paris White.
MUSKMELON:—(Green Fleshed) Rocky Ford, Montreal.
(Salmon Flesh) Bender Surprise, Oka, Hearts of Gold.
WATERMELON:—Cole Early, Peerless.
ONION:—(Red) Red Wethersfield, Southport Red Globe.
(Yellow) Yellow Globe Danvers, Southport Yellow Globe.
(Sets) Ebenezer.
(Transplanting) Alisa Craig.
PARSLEY:—Champion Moss Curled.
PARSNIP:—Hollow Crown.
PEAS:—(Dwarf) Laxton Superb, Blue Bantam, Thos. Laxton.
(Tall) Alderman, Telephone.
PEPPER:—Harris Earliest, Ruby King.
POTATO:—Irish Cobbler, Green Mountain.
PUMPKIN:—Pie.
RADISH:—(Summer) Saxa, Early Scarlet Globe, French Breakfast, White Icicle.
(Winter) China Rose.
RHUBARB:—Macdonald, Victoria.
SPINACH:—Bloomsdale, King of Denmark, Princess Juliana.
SQUASH:—(Summer) Straightneck.
(Winter) Hubbard (Green or Golden).
TOMATO:—(Red) Earliana, John Baer or Bonny Best.
(Pink) Livingston Globe.
(Yellow) Golden Queen.
(Foreign) Livingston Globe, Grand Rapids, Kondine.
TURNIP:—White Milan, Purple Top Milan.
SWEDE:—Canadian Gem.
VEGETABLE MARROW:—White Bush, Green Bush.

flower plants and wrinkled peas; *tender* which includes corn, potatoes and tomatoes, and *very tender*, which includes melons, cucumbers and squash. Frequently the season will develop in such away that those of the hardy and half-hardy classes can be planted at the same time.

In seeding, open a furrow of proper depth (generally four times the diameter of the seed) by the repeated pressing of the loosened soil with the back edge of a rake, along a tightly stretched garden line, or using the corner of a hoe and making a drill of the right depth. Following this the seed may be shaken from a packet or an envelope, scattering the seeds in the bottom of the furrow. Larger seeds such as peas or beans are often spaced by dropping them with the fingers. A uniform distribution is the aim. A rake or hoe will serve to cover the seed with the

right depth of fine soil. Avoid putting lumps of soil or stones upon the top of the seed. The final step is to firm the soil on top of the row by tamping with the flat side of a hoe or the back of a rake.

This sowing will usually be too thick if a large proportion of the seeds come through; hence the plants will grow under very crowded conditions. This is especially true of the root crops; therefore, thinning should be started just as soon as third or fourth pair of true leaves have developed. Thinning at this stage will prevent the growth of weak, spindly plants.

Throughout the summer, garden soils should be stirred by frequent shallow cultivations. This operation will keep the surface soil well worked, and will form a mulch which will help retard moisture losses as well as
(Continued on page 30)

The Culture Of Gladiolus

By E. H. JONES, Macdonald College

THE gladiolus is the best of all flowering bulbs for the amateur to grow, and is lovely enough to satisfy the most exacting tastes. One may have them in delicate pastel shades, if ones taste runs in that direction, or in shades of extreme brilliance.

The gladiolus is propagated readily from seed, or by the use of new corms. The latter method is used extensively; in this way the variety is perpetuated. These new corms are found growing attached to the base of the old bulb, and are separated when cleaning the bulbs in the fall. They should be stored in paper bags in a dry, cool place during the winter, and should be planted in the same manner as year-old seedlings, that is about three inches apart, as soon as the ground is ready. They bloom in their second year.

While any good garden soil is adapted to the culture of gladioli, the plants thrive better in a sandy loam. If gladioli are wanted for decoration, plant the corms in groups in the border; if wanted for cut flowers, then use the straight row method. The corms should be set out about six inches apart in the row, with twenty inches between the rows. If a fair number is used, it is an excellent plan to make successive plantings about fifteen days apart, from the time when the ground is workable until July. This system will insure continuous bloom from the end of July to the end of October.

As the old corm produces its flower, it dies and a new one takes its place. The corms are lifted in the fall and left in the sun for a few days; the tops are then cut off to within six inches of the corm and stored in a cool place. When properly ripened, the old corm should be taken off and the new one properly cleaned. Shallow boxes are useful for storing. If they are put away in bulk, the corms are likely to generate heat and develop a fungus disease, when the probabilities are that part of the corms will be destroyed.

It is agreed that strong, fresh manure should be avoided. If the soil is not sufficiently rich in plant food it is best to use such manure on the previous season's crop. Any complete fertilizer is beneficial when thoroughly worked into the soil at the rate of four to six hundred pounds an acre. It is also a good idea to scatter a little between the rows during the growing season. Constant cultivation is essential, and frequent waterings should be applied during dry spells.

For those who are interested in flowers for exhibition, the corms should be planted accordingly to be sure to have the flowers at the right time. By planting at intervals of a few days you may be reasonably sure of flowers for the required time.

Sometimes it is necessary to provide support. Many growers use stakes about three of four feet long, placed about eight feet apart. Twine is then tied on both sides for support. To have good specimens in perfect shape, laths are frequently used tapered at one end. Being flat, the stem can be tied to the lath and thus can be kept in perfect shape. For exhibition purposes the spike should be cut when three or four flowers are out. The stem should be cut as long as possible, leaving enough foliage to mature the corm properly. Some growers pinch out the terminal bud; this practice encourages the lower buds to open.

Thrips are the worst enemy of the gladioli. They have caused losses of thousands of dollars to commercial growers within the last few years. This insect is believed to have been brought into this country from Australia. However, excellent work has been done at the experimental farm at Ottawa. Every grower should write to Mr. A. G. Dustan for bulletins on the control of this pest. If every person growing gladioli would follow out the information given, there is no reason why we should not exterminate this pest.

My own method of treating three thousand corms which the previous year did not produce one spike of any value, was to use corrosive sublimate at the rate of one ounce to six gallons of water. This material should be dissolved in a small amount of hot water, and then diluted to the correct strength. The corms should be dipped for three hours. Wooden, earthenware, or enamel vessels should be used, since the sublimate quickly corrodes metals. As this is a deadly poison the greatest care should be exercised in its use.

A second method was used in which three hundred were treated by dipping them in a solution of nicotine sulphate at the rate of ½ a liquid ounce diluted in one gallon of water. The corms were left in the solution for twenty-four hours. These corms did not produce flowers of any value for two years previous to this treatment. Both of the above treatments destroyed all thrips and the eggs. The flowers produced in both cases were of first class quality.

ing crops are planted together, then this space can be used for second plantings after the early crops are removed.

A little assistance may be needed in selecting the right kinds and varieties. Experiment stations, colleges, agronomes and reputable seed companies can be of great help in recommending the right things to plant and the quantities of seed to buy. In buying seed demand high quality and be ready to pay for extra value: in the long run the best seed will be found to be the cheapest. The yield and quality secured at harvest time will more than pay for the extra cost. Unless very small quantities are desired, seed should be bought by the ounce or pound rather than in small package lots. Buy only from reputable and known seed houses, and preferably from local dealers who observe the performances of seed sold to gardeners, and who therefore can supply seed that will meet the growers' requirements. When the garden is so situated that purchases cannot be made direct from seed dealers, seed can be ordered from a reliable seed company by mail. In ordering from seed catalogue, it is generally better to select standard varieties, rather than the highly featured new sorts.

The date of seeding will vary somewhat from year to year with different seasons. The vegetable crops can be grouped into four classes. **Hardy**, which includes onions, spinach, lettuce and round peas; **half-hardy**, which includes beets, carrots, cabbage and cauli-

DEPARTMENTAL NOTES

Grant for Purchase of Grader

TO aid in the rapid and economical carrying out of drainage works on Quebec farms, the Department of Agriculture agrees to undertake a part of the purchase price, and to pay transportation from the factory to the station nearest the farm, of a grader specially built for use in drainage projects.

The Department offers:

(a) to pay directly to the manufacturer 50 per cent of the purchase price, to the extent of \$95 per grader;

(b) to be responsible for transportation costs from the factory to the nearest station, or to the farm if the grader can be transported by road, according to whichever means is least expensive.

This offer is subject to the following conditions:

1. The only people who can advantage of this offer are groups of trustworthy farmers, made up of five or six proprietors who live on the revenues derived from the working of their farms;

2. An accepted cheque, payable at par, to the order of the Plessisville Foundry, manufacturer of this grader, must be sent to the Department of Agriculture at the same time as the group contract (a copy of which may be secured from the Rural Economics Branch).

3. A group contract (see above) signed by the hand of each farmer making a part of this group, must be sent to the Department, with the amount representing the half of the purchase price of the machine;

4. To get things started, a machine will be placed at the disposal of each of the agronomic divisions of the province until April 1, 1936. At the date, if the farmers of certain agronomic divisions have not sent their orders to the Department of Agriculture, they will lose their right to obtain the reduction mentioned above and that right will be transferred to other groups who may have organized themselves in other agronomic divisions. These

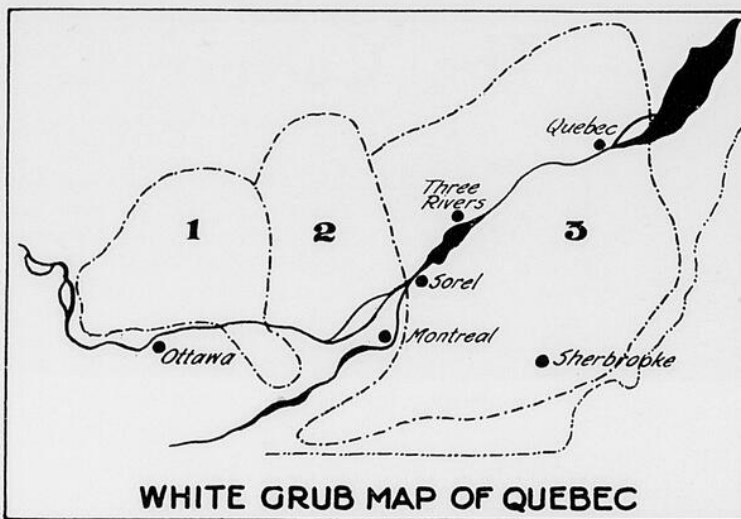
latter requests will be considered in order of their receipt and registration;

5. The budget set aside for this purpose provides for 50 per cent of the purchase price and the transportation of one hundred (100) machines. When this figure has been reached, later requests cannot be considered;

6. This offer expires automatically on June 1, 1936;

7. All correspondence relating to this matter must be addressed to the Chief of the Rural Economics Branch, Department of Agriculture, Parliament Buildings, Quebec.

J. Antonio GRENIER,
Deputy-Minister of Agriculture.



WHITE GRUB MAP OF QUEBEC
The zones of distribution of the White Grub for 1936 are: 1.—Grubs of the second year; 2.—Flight of adults and grubs of the first year; 3.—Grubs of the third year.

Get After Those White Grubs

NOW is the time to make a thorough onslaught on the White Grubs — particularly in that district numbered 1 on the map where farmers will suffer from the ravages of the second year grubs. Farmers in this region should make a special study of the precautions to take to insure that their 1936 crop will be sufficient for their needs.

The diagram of the life cycle of the grub will clearly show why the year of the second

year grubs is the one in which most actual damage is done: the grub in that year has a long, underground feeding period. But remember that it is important to take steps to eradicate the pest if you suffer from the white grub in any of the stages of its development.

In all soils where in spring the farmer finds two or more white grubs to the square foot, susceptible crops will be greatly diminished. Farmers finding such an infestation should prepare the soil thoroughly for early crops (to come off by August 1-10) so that the fields may be summer-fallowed for next year. Notice in the life cycle that ploughing in August will turn up the grubs. Fine cultivation will then kill a great many and the disc harrow will cut up more; some will be eaten by birds, and still others will be killed by the sun or cold. Thorough cultivation in the spring will similarly kill many of the grubs.

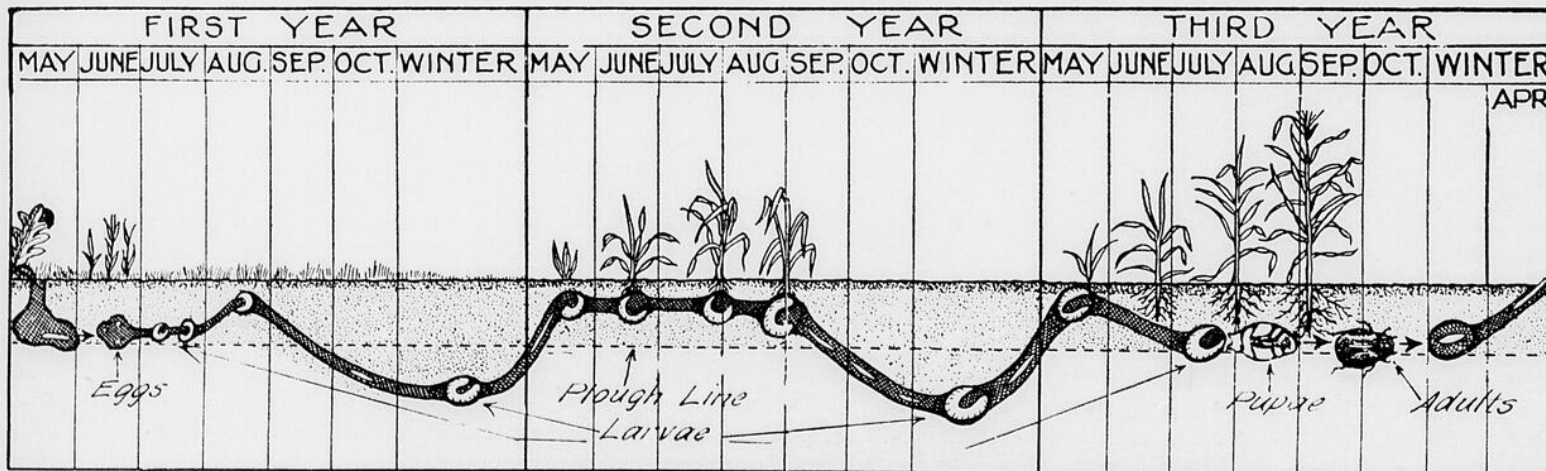
Where it is possible, very susceptible crops such as corn, potatoes, strawberries, timothy, bent grass and vegetable seedlings should be sown on rich land or in fields which were in hoed crops in 1935, or which show only a few grubs. Waste and grass land heavily infested last year are suitable only for buckwheat or sunflowers unless the land has been worked many times with the discs.

It is extremely important to keep meadows and pastures and, generally, all cultivated fields in high fertility.

Finally, the farmer who has seen his harvests decrease through the activities of the grubs should be alive to the need of increasing his acreage of ensilage and forage crops by a quarter or even a half this year so that his 1936 crop will be sufficient for his needs.

A basic line of attack on the grubs is: thorough preparation of the land this spring and working it again this summer.

No farmer in the affected areas should be without the Quebec Department of Agriculture Bulletin No 130 which gives full information on combatting this pest.



LIFE CYCLE OF THE WHITE GRUB

Two Important Diseases Of Ducks In Quebec

DUCK MALARIA

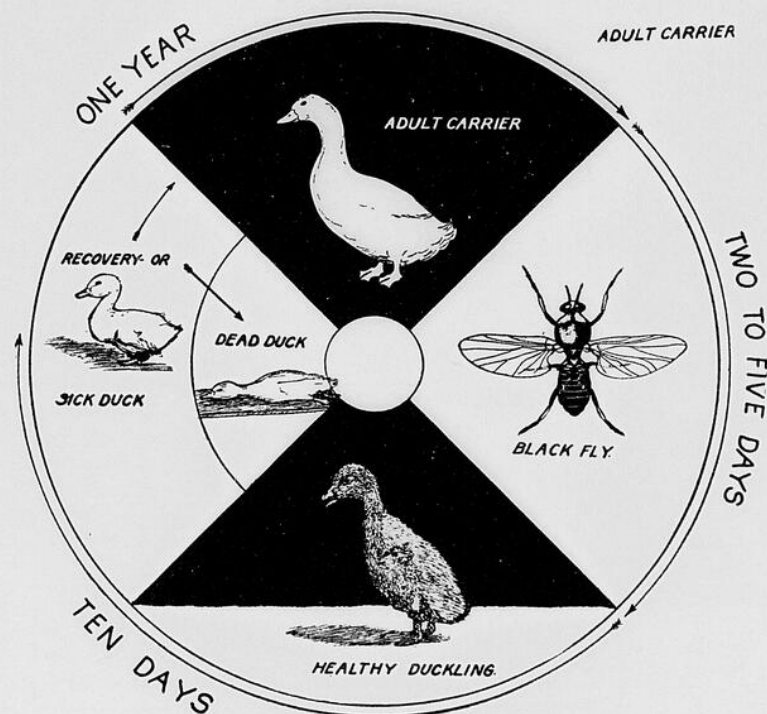
By W. E. SWALES

Institute of Parasitology, McGill University, Macdonald College, P. Q.

BLACK-FLIES are well-known causes of losses among ducklings in Quebec and elsewhere, but the nature of a serious disease they are able to transmit is probably not so well known. In certain parts of the province, farmers have ceased to keep ducks owing to the almost total loss of ducklings during the early summer through black-fly attack. Although it is possible that the injury caused directly by the biting and blood-sucking activities of the flies is responsible for some losses, by far the more serious losses are due to a malaria-like disease carried by them. Accordingly this article is written in the hope that a knowledge of the disease will enable owners of ducks to protect their young stock this season and in following years.

The disease is caused by a microscopical parasite which develops in the blood of ducks. This parasite was first seen and described in Canada by Dr. A. B. Wickware of the Health of Animals Branch of the Department of Agriculture in Ottawa, in 1914. Although at that time the parasite was found in the blood of sick birds and could not be found in healthy birds, Dr. Wickware hesitated to say that it was the cause of the serious disease brought to his attention. However, he described and pictured the parasite very well, recognized it as a member of a group of protozoa known under the generic name *Leucocytozoon*, and named it as a new species, *Leucocytozoon anatis*. This parasite was later proved in the United States to be the cause of the disease and in 1930 became the subject of an intensive study by Dr. E. C. O'Roke in Michigan. The investigation lasted for three years, and during this time Dr. O'Roke described every phase of the life history and proved that it was transmitted by a certain blackfly, *Simulium venustum*. Due to the fact that the disease is similar in many ways to human malaria and that it is transmitted by an insect, it has come to be known as Duck Malaria.

The black fly responsible is, unfortunately, one of the most widespread species in North America. It was the subject of a publication by Mr. C. R. Twinn of the Entomology Branch, Ottawa, in 1933. Mr. Twinn reported that *Simulium venustum* occurs throughout Canada as one of the most common species and that, in common with other black-flies, it passes its immature life-stages in swift or fairly swift, running water. Even small streams containing swiftly flowing water are suitable breeding places. The female fly lays its eggs on rocks, logs or plants at the



The annual cycle of Duck Malaria.

surface of the water; the eggs hatch out larvae which attach themselves to rocks, etc. In about three weeks the larva changes to a pupa or cocoon from which the fly will emerge in from two to seven days. The adult female fly, which is so tiny that it can get through ordinary mosquito netting, then goes in search of blood as food (the male does not suck blood). The adult fly is found from May to October in Quebec, but it occurs in greatest numbers in June and July.

An adult duck which has recovered from the disease contracted the previous year may have a certain number of parasites in its blood, even though it does not show disease symptoms. Thus the adult breeding ducks are able to act as immune carriers of the disease. When a black-fly sucks the blood of one of these birds it takes a number of the parasites into its stomach. Upon gaining entrance to the black-fly the parasite begins the part of its cycle which involves sexual multiplication, and in from two to five days a new form of the parasite is developed. This form is again able to infect ducks, and when the black-fly bites a susceptible duckling the parasite gains entrance to the blood stream and commences yet another phase of multiplication (this time, non-sexual). The forms of this stage multiply exceedingly rapidly in the body of ducklings, first in the lungs, liver, spleen and kidneys, and, after seven days, in the blood. On the tenth day following the bites of infected black-flies, the blood is capable of infecting other black-flies of the same species. At this time the duckling is very sick, and death may occur on this day or in one to two days later.

The disease strikes very suddenly; infected ducklings may appear healthy in the morning, refuse food at noon, and be too weak to stand in the evening. They may die in convulsion a few hours later; a period of excitement just before death is well-marked, and is often accompanied by short convulsive cries.

Newly infected adult ducks (other than chronic and apparently healthy carriers) are not so suddenly affected. They appear listless for several days, refuse food, but drink water readily, and do not take any interest in their surroundings. These symptoms are generally followed by recovery.

A post-mortem examination of a duckling which has died from malaria will reveal certain well-marked changes. The lungs are red and inflamed, the spleen is almost black and is greatly enlarged, and the blood is pale and watery. The other organs are pale, as in cases of anaemia.

A consideration of the above characteristics of duck malaria will show that it can be readily distinguished from the direct injury caused by black-fly bites.

CONTROL

It will be seen from the above account that if the black-flies do not first attack an infected bird, then they cannot transmit the disease to healthy ducklings. Hence the first consideration is the adult carrier, which must be considered

(Continued on page 40)

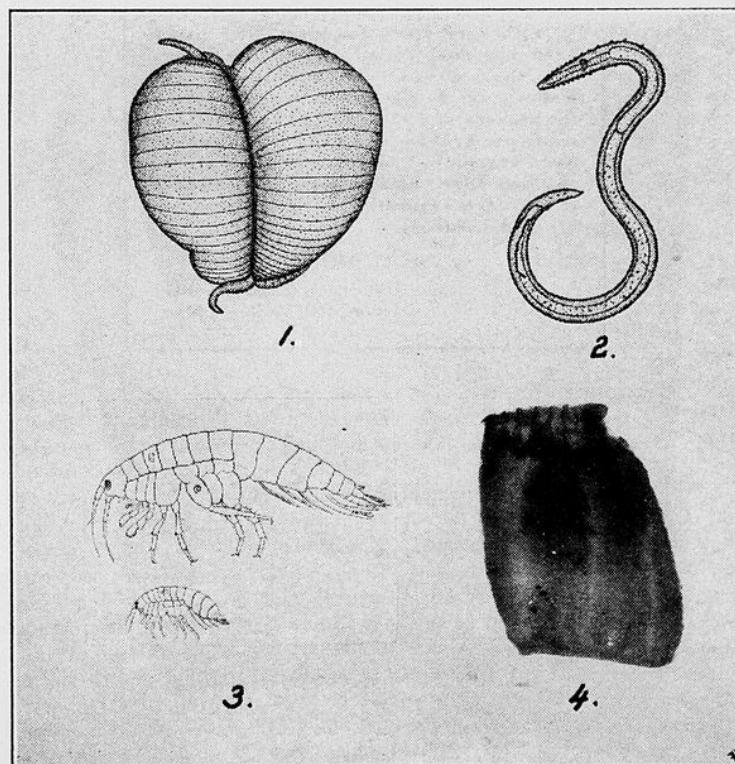


Fig. I.—*Tetrameres crami*—Female. Fig. II.—*T. crami*—Male. Fig. III.—The amphipod carriers of the parasite. Fig. IV.—An opened stomach, showing a medium infestation.

Brooding The Chicks

By G. STANLEY WALSH, Hemmingford, Que.

BROODING is always an anxious time for the poultryman. We have found, however, after ten years of brooding on our poultry plant, that if strong chicks are put in the brooder houses, and very careful attention is given to details, the mortality may readily be kept down to 1 or 2 per cent.

The difficulty is that there are many details to watch, and often a slip in only one detail will produce a heavy loss. The following is our method of brooding, which having proved successful here, may contain suggestions for other poultrymen.

As poultry house construction is a subject in itself, it is taken for granted that that part of the brooding has been properly attended to and that construction, insulation and ventilation are suitable for our climate.

The brooder house fire is lit at least two days before the chicks are due to be put into the house, and after the house has been carefully inspected so that all air leaks have been plugged. During the two or more days, the fire is regulated so that it will run at 98 degrees at the tip of the hover and about 6 inches from the floor.

On the first day the fire dries out the building. The morning of the second day we put down the litter of cut straw — a depth of about 2 inches and one foot away from the stove. A wire screen about 3 ft. high, of 1 inch mesh (or less) is circled around the stove, keeping it about 3 ft. from the tip of the hover. Bags are kept available in the brooder house to put on the screen should there be a cold windy day or night.

We never mix breeds of chicks in one colony house, as the development varies at different ages, and as one breed of chicks usually suffers at the hands of the other.

It is important to have sufficient hopper space so that the weaker chicks will not be bumped around when they are trying to get to the feed.

In the same way, it is important to have plenty of accommodation at the water fountains. We prefer powdered milk for the first 3 or 4 weeks; then, if available, skim or buttermilk.

Before we take the chicks to the brooder house, filled mash hoppers and water fountains are put in place within the screen.

Overcrowding a house is often a cause of trouble. We find that from 250 to 300 chicks is plenty for a 52 inch hover and will give the chicks every chance. Chicks should be moved in regulation chick boxes or a similar container that will prevent chill winds or drafts from reaching them. The chicks are carefully removed from the boxes and placed in a circle at the tip of the hover. They feel the heat being reflected and thus know where the warmth is.

Ventilation depends on the weather. The chicks need all the air they can get without chilling or having any wind or draft on them.

The chicks should sleep in a circle a little from the tip of the hover. They will move in and out depending on the amount of heat being reflected. If, at bed time, the chicks have not formed in a circle, we carefully put them in this position. After a night or two they get the circle-forming habit.

Mash, fresh water, grit, oyster shell and charcoal are kept available for the chicks at all times.

Any indications of cannibalism should be checked at once. If toe-pecking, feather — pulling or the like takes place, the chick with blood on it is removed and something nasty to the taste (we use IZAL) is put on the bloody area. This usually checks it at once, though the treatment may have to be repeated in a few days. Usually two applications will check any cannibalism. This trouble is much more likely to occur if the house is over-crowded.

When the weather is warm and bright and the soil is dry, the chicks are let out. If they are very young, a temporary 3 ft fence of 1 inch mesh is put up, giving them a yard about 10' x 25'. When the chicks are able to fly

Cost Of Fuel For Brooding Chicks

The main item of cost in brooding early-hatched chicks is for fuel used in maintaining the required temperature. The kind of fuel used and the construction of the building are the main factors influencing this cost. It is not economical to use a poorly constructed building or too low grade of fuel for brooding purposes. When such equipment is used, uneven temperatures usually result in heavy losses of young chicks. The brooder house should be double boarded and well insulated, the ceiling tightly boarded to avoid unnecessary loss of heat, and the building well banked to prevent floor drafts. Banking of walls is particularly necessary when buildings are equipped with wood floors.

A well constructed building, properly insulated and located on a site that is protected from winds, costs less to heat, and deaths due to uneven temperatures and chilling are reduced. Poorly constructed brooder houses are difficult and expensive to heat. The uneven temperature that obtains in such houses is one of the most common causes of chick losses.

With coal stove brooders, and using hard nut coal costing twenty dollars a ton, the average daily fuel cost at the Experimental Farm, Brandon, during the seasons of 1934 and 1935 was fifteen cents per brooder per day. During these two years the minimum temperatures reached four below zero and twenty below zero respectively during the two brooding seasons.

R. M. HOPPER,
Dominion Experimental
Farm, Brandon, Man.

up on the fence, it is time to remove it. Our houses are always moved on to fresh ground in the fall, so that no moving is necessary in the spring.

Our cleaning method is as follows:

Before the stove is placed in the house, the floor and walls are thoroughly sprayed with a disinfectant (we use IZAL). As the brooder house has been well cleaned, scraped and sprayed in the fall, this is all that is necessary. We clean whenever the litter gets dirty, but do not spray again until the first cleaning after the stove has been removed and the chicks are outside. The straw is cut only for the first application.

We remove the cockerels as soon as we can tell the sex, thus giving the pullets plenty of room.

The temperature of the brooder-house is very gradually reduced after the first few days. The speed of reduction depends on the actions of the chicks. They must always be comfortable and happy.

Either over-heating or chilling may cause serious trouble — a big loss for a couple of days and a small continual loss for some time. Prevention is the only cure.

If the brooding details have been carefully followed, we should now have a nice house full of pullets to enter the next stage of their existence—rearing.

Rearing The Chicks

By G. STANLEY WALSH

THE fire has been removed, and the weather is warm enough for the chicks to go out. Hence the worries of brooding are behind us; but the responsibilities of rearing are upon us. When the brooding has been well done and so has produced healthy chicks, the rearing is simple; but details should not be neglected — as they often are during our busy periods of seeding, haying, and harvesting.

The chicks have been separated, and the pullets and cockerels are now on range in different enclosures so that when the cockerels get older they will not worry the pullets.

Feed: use a good commercial rearing feed or a recognized good home-mixed rearing feed. The usual difference between the brooding and rearing mash is that shorts and alfalfa-leaf-meal are substituted with an equal amount of bran, and if you have had powdered milk in the brooding mash it could be left out if skim milk or buttermilk are available. Mash, grit, oyster shell, and charcoal are kept in front of the chicks all the time. When the chicks are old enough to eat scratch grain (regular size), it should be supplied in a hopper and kept in front of them all the time. Fresh clean water should be supplied at least once a day. If feeding skim-milk or buttermilk, see that it is cleaned up by about 3 o'clock in the afternoon.

Roof ventilation is essential during rearing. It keeps the air in the house circulating better; also I believe that without roof ventilation there is likely to be a lot of very crooked breast bones among the birds due to the warm stagnant air surrounding the birds as they roost. The feed, of course, would have a bearing on this too; but even with the best of feed you can get very crooked breast bones if you do not have roof ventilation.

In cool weather the cloth sash frame is our main means of ventilation, and the amount it is opened depends on the weather. While the chicks are young, no drafts or wind can be allowed on them. We open and close the cellul-glass frame according to the weather. During the very warm weather, the house door is kept hooked open during the day, and closed at night when the air cools.

The rearing stock should have sufficient roosting space so that all birds can comfortably get on the roosts. The roosts are at the rear of the house away from wind and drafts. About once a month the roosts and any places that the birds roost should be painted with a nicotine product such as Neotine. This will prevent any lice or mites appearing. Our roosts are 2 ft. or more from the floor.

The houses are cleaned whenever the litter gets dirty or damp. About once a month they are sprayed with a good disinfectant such as

Izal. The cleanings are taken away immediately and spread on a hayfield. Leaving the cleanings in a pile is very dangerous, as beetles, which are the cause of many of the intestinal poultry parasitic troubles, may collect in the piles and eventually be eaten by some of the rearing stock, or by some wild bird whose droppings may cause trouble to the rearing stock.

A feeder should be alert to notice any birds that are dumpy, weak on legs, wings drooping, head of whitish appearance, — and at once remove them from the flock. Any trouble that seems serious should at once be put under the Provincial Veterinarian's supervision for advice.

The pullets are moved into their laying quarters when a few eggs begin to appear in the colony house. When the birds begin to mature, we always put a box in the colony house for them to use for a nest instead of

(Continued on page 31)

The Marieville Co-operative Hatchery

AMONGST Quebec's cooperative hatcheries, that operated at Marieville has been greatly expanded this year. From a capacity of 21,000 eggs when first established, it has been increased to 42,000-egg capacity in 1936. It is one of the hatcheries producing certified chicks. Year by year its business has increased, while its co-operating members, some thirty in number, are more enthusiastic than ever.

To build up such a hatchery, so well furnished today, the co-operators were obliged time after time to draw on their capital for the purchase of land, the fitting out of the place, and the enlarging of the buildings, but already they realize that the financial sacrifices made voluntarily for these purposes are returning to them today in the shape of qual-

ity products and of very encouraging results. The figures given herewith show this:

Year	Number of eggs placed in incubator	Chicks hatched	hatched hatched
1932	37,990	26,224	69.0
1933	56,059	37,128	66.2
1934	59,929	40,662	67.85
1935	65,080	42,055	64.62

The Marieville hatchery, as is shown by the results, is truly co-operative. Those in charge of running it are farmers who have good business sense and are interested in the progress of poultry raising.

In the autumn of 1935, the executive committee decided to enlarge the plant to the tune of \$1000 and to purchase another incubator. In addition to two machines of a capacity of 16,000 eggs each the hatchery has a smaller machine of 5,000-egg size — it is thus possible, with the various compartments, to take off two hatches each week. There is, further, a well-managed warehouse which fills an important need.

All indications are that the number of members will increase and that the co-operative movement amongst poultry-raisers will be still more vigorously fostered. The poultry club of l'Ange-Gardien, recently organized, is an example of something that has been done to meet this need of union.

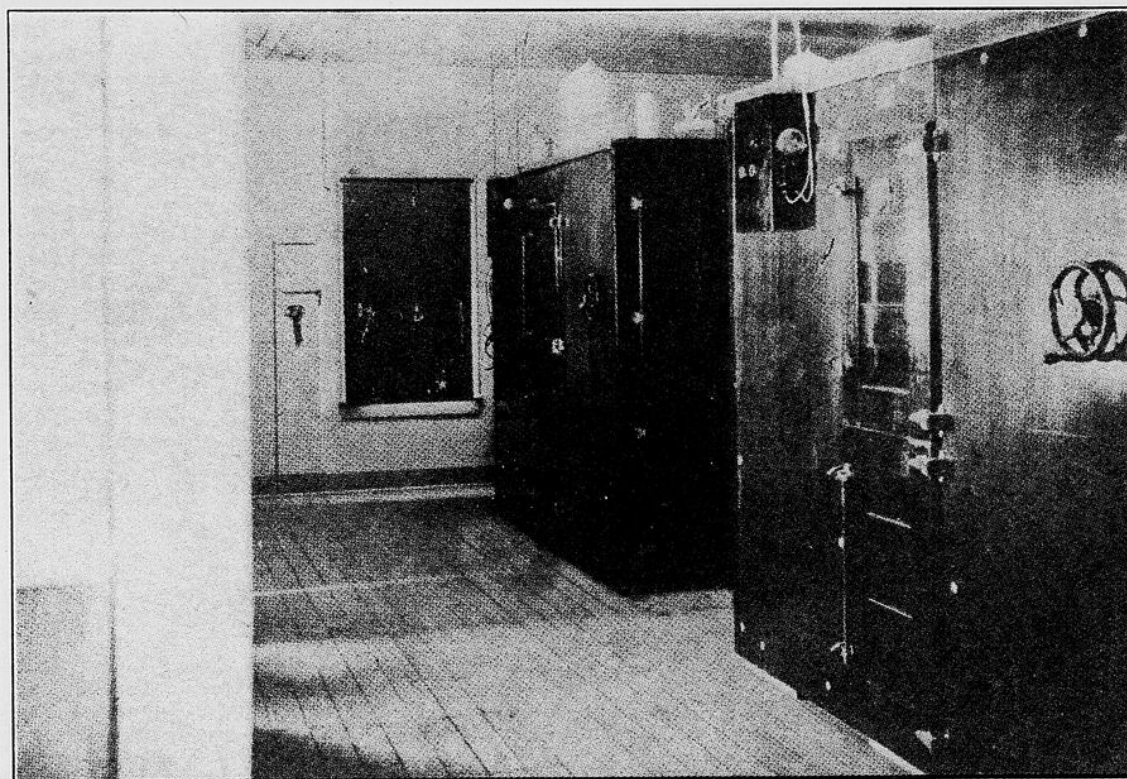
The county of Rouville, where the co-operative is located, belongs to the agronomic district of Waterloo, the regional agronomist of which is Mr. Lucien Therrien. Mr. H. P. Ricard, special poultry promotor, has technical charge of the poultry flocks of the district and supervision of the hatchery at Marieville.

Close to the Montreal market and located near many important smaller towns such as St. Johns, St. Hyacinthe, Cowansville, and Farnham, the county of Rouville enjoys an enviable situation for the disposal of its poultry products. Further, the Marieville hatchery must, to a certain extent, serve the other two counties included in the same district, Brome and Shefford. Upon its existence and its expansion, then, depend the poultry future of a whole district well situated for markets.

* * *

The gypsy moth which has cost the New England States an enormous amount of money in keeping it under control was first found in the State of Massachusetts in 1869 but it was not until 1924 that it gained an entry into Canada in spite of the efforts of the officers of the Dominion Entomological Branch.

In purchasing a fish meal, the guarantee should be carefully read bearing in mind the desirability of a comparatively low fat content, combined with high percentages of protein and bone phosphate. If practicable, a sample should be obtained and examined as to freedom from rancidity.



Top: Interior view of the cooperative hatchery at Marieville. — Centre: Exterior view of hatchery. — Bottom: The members of the executive, left to right, Edgar Standish, director; Georges Gingras, vice-president; H. Charbonneau, director; Roderigue Ruel, secretary-manager; Donat Ostiguy, director; G. Henri Ares, president; H. P. Ricard, poultry promotor.

The Meal Problem

By DOROTHY M. WALSH

AN ever-present problem with all, or at least most, housekeepers is the question of what to eat. Much has been written and more will be written on this interesting subject, and yet there will always be new ideas and suggestions to help the puzzled housekeeper.

Fortunate and infrequent is the woman who has no worry about the cost of the food, no fussiness or illness to cater to, and a hungry family that appreciate every effort made to serve attractive and wholesome food.

Let us consider the problem from two angles: first from the point of view of the woman who has a healthy hungry group to feed on an absolute minimum of cost; second, now that of one who has more to spend, but must cater to poor appetites or more elaborate entertaining. These examples stand at the extremes, and there are all the variations between.

As a rule, those who have not been pampered or otherwise spoiled have healthy appetites. One aim of every mother should be to see that her family has a healthy attitude toward food. Their meals should be neither their chief objective in life, nor yet a thrice-daily battle ground.

Have we any suggestion for our hungry family with a small income? Yes, a lot of them.

If our family lives in the country, the answer to the food problem is simple—produce your own. A cow or two will supply milk, cream, butter and cottage cheese, a good garden will supply abundant vegetables all summer and most of the winter, requiring only an expenditure for vegetables during a few months in the spring. Poultry will provide eggs and table fowl the year round, for eggs may be saved in waterglass or any other good method to tide over the "low production" season. Syrup and honey also are produced on many farms. Fruits such as berries and apples may be used abundantly in season and apples may be kept till spring. If vegetables and fruit are preserved in cans or by drying or salting, there can be enough for the year around. Meat may be produced at home and frozen, canned, or salted so that the meat bill is limited to emergencies or times of low supplies.

It is mainly cereals that we must buy. Flour that makes excellent bread and is also suitable for all baking may be bought at a lower cost by using second patent. Oatmeal may be bought in 20 lb. bags at a saving. Home baking is a necessity if one must cut costs. Bread may be made with skim milk and is much more nourishing than the cheap bakers' loaves. Wholewheat or graham flour should be used freely.

Purchasing can be done much more economically in quantity. Bananas may be bought by the bunch, slightly under-ripe, and are very economical this way, as they keep a long time hung in a cool dark place. Peaches and other expensive fruits should be used only in season and then bought by the basket.

In planning the meals, remember that a lot of food is needed and see that there is plenty of the bulky cheap foods to "fill up on." If the diet contains the foods mentioned above

there need be no fear of shortage of vitamins or minerals as long as there is variety.

If the hungry family on small income lives in the city the problem is more difficult. Milk is one of the first indispensables and it adds a big item to the food bill. Tea and coffee provide no food and in this case should be dispensed with. Home baking is recommended and no money should be spent for pastry or any prepared foods. Greater value may be obtained by buying the materials and doing the cooking at home, except, of course, vegetables out of season. Canned tomatoes are almost a necessity and are very cheap. A grocery list should contain potatoes, turnips, onions, carrots (old), lettuce or celery (while low in price), oatmeal, beans, canned tomatoes, flour, sugar, molasses.

Fruit and vegetables may be bought very often during the summer at ridiculously low prices. If it is possible to take advantage of this by preserving some, it should be done.

The main thing to watch is that for every cent spent, there is definite food value received in return.

On the other hand, if we are considering the family with the larger income and poor appetites everything can be looked at differently. It is true that most of the same foods are desirable, for the simpler foods are healthful; but there may be much more variety. Foods out of season may be used, and fancy canned and packaged goods made use of. We must make sure that in the small meals eaten all the essentials are obtained. Greater care

should be taken to avoid monotony. Bulky foods should be used sparingly, for example white bread and potatoes. New and different foods may be tried.

Care should be taken that rich foods do not replace vegetables and fruit. Green salads have an important place. Several small portions of different foods will tempt the appetite more than a large portion of one food.

Entertaining is a subject by itself. Variety and originality in menus are desirable. Food should be attractively and daintily served. If much entertaining is done, it plays a very important part in the food budget. Many good family meals can be served for the price of one party.

Most of us stand somewhere between the extremes. Perhaps we can find suggestions from both sides to help us in our constant food problem.

Feeding of Milk To Poultry

Skim-milk and buttermilk may be fed to poultry either sweet or sour, but should never be rancid. Keeping it in wooden barrels is much ahead of leaving it in the cans. These barrels should be placed in the shade. The length of time the milk will keep depends on the weather. Before putting fresh milk in a holding container, be sure to remove any milk left over, rinse the container with water, empty it, and you are ready for your new load of milk. Always use up the old milk before starting on the new.

Milk should not be kept in front of the birds all day, but should be given early in the morning and the quantity such that it will be finished up by noon. The man collecting the noon eggs can then hang up the milk fountains, thus keeping them clean and freeing the floor space.

G. S. WALSH.

Milk Publicity

(From HOARD'S DAIRYMAN)

NOT to be outdone by cosmetics, yeast, and other beauty preparations, milk has entered the field of "glamour" advertising in New York State. Milk guarantees, they say, the lovely complexions, smooth skin, and sylph-like form that all women desire for beauty and charm.

Newspaper advertising is being conducted by the Milk Publicity Bureau of the New York State Department of Agriculture and Markets. Each advertisement is accompanied by the picture of an attractive girl. She is told that each glass of milk is a calcium treatment that will make her skin clear and silky. Not only that, but a note is added to write for a booklet on how to reduce safely with milk, —for milk is not fattening.

Milk is also advocated as a "he-man's" drink. Babe Ruth, Jack Dempsey, Frank Buck, and other outstanding men in sports are quoted. Milk is the training-table standby and not a "sissy's drink." The "alkaline effect" of milk is also stressed as the easy, natural way to keep clearheaded.

Gone are the statements as to the nutritive value of milk, its vitamin content, and comparisons with other foods. It is the new approach to the desire of women for beauty and of men and boys for athletic prowess. The following are a few brief extracts from this newer type of advertising:

"Follow the lead of the movie stars. They drink milk because it conserves their energy, gives them sparkle, without affecting their glamorous figures."

"Milk often clears up unsightly and embarrassing skin blemishes when everything else has failed. You get a calcium beauty treatment with every glass of milk you drink."

"Lose weight scientifically this pleasant way that keeps your pep up. Write for the booklet all Hollywood is raving over, 'The Milky Way, Diets of Movie Stars'."

Jack Dempsey: "Sure, I always knew that a fighter couldn't train properly without plenty of milk. I still drink lots of milk to keep me in condition for my present work. It's a drink that contains a punch for everybody."

"Fatigue is a sign of low alkaline reserve. Why dose and drug yourself before you try the natural way to overcome fatigue? Have a glass of fresh, cool milk and build up your alkaline reserve naturally. Send for free booklet, 'Milk—The Alkalizer.'"

"Famous coaches say there is nothing like milk to put a man in championship form. Milk develops a super-abundance of muscular force, makes live, sturdy muscles and good healthy blood, rather than making fat. Boys and girls, send for free book, 'Midshipman Jack'."



Will your face stand a close-up when you're dancing with a boy you like? Read how milk can help.

A Calcium Treatment to clear your Complexion in every glass of milk

If you are embarrassed by tiny pimples, blotches or other unsightly skin blemishes . . . if your complexion is sallow and dull . . . not so clear and radiant as you'd like it . . . try this simple beauty treatment. It may help you where other methods have failed.

Simply drink milk—plain, fresh milk—with at least one meal each day. It sounds too easy, too pleasant, too inexpensive to be true, doesn't it? But here's the way it works: Milk is the richest source of calcium of all foods. And calcium is the first thing skin specialists and high-priced beauty doctors usually prescribe for complexion troubles. You get a calcium treatment for your skin with every glass of fresh milk you drink.

Try it. Consider what the calcium in milk does for a baby's clear, soft skin. Why not let it help you? Simply make milk the "beverage-part" of one of your meals . . . lunch, for example. Do it regularly—and see if you aren't surprised at the results.

Clear up your complexion with milk

REDUCE WITH MILK—If you are interested in reducing safely send for the booklet: "The Milky Way," Diets of the Movie Stars. Send a post card with your name and address. THE STATE OF NEW YORK, Bureau of Milk Publicity, Albany.



MILK FOR HEALTH, MILK FOR BEAUTY!

In the advertisement reproduced herewith, the State of New York is trying out a new form of milk publicity; while three thousand miles away, the British Milk Board is likewise spending money to popularize the drinking of milk — in this case, by making it "smart" to patronize the numerous "milk bars" which have sprung up in most cities in Britain.

Milk Is Essential

Milk is essential

"I don't drink milk; it is distasteful to me." So many people in all sincerity believe they must get along without milk because they don't enjoy drinking it. Fortunately there are many ways of introducing it into the diet besides taking it as a beverage. Some of these milk dishes may be served cold, others hot, and they are all popular. In hot summer weather or cold spring days, milk dishes will fit into the menu.

There are chowders and cream soups; there are scalloped vegetables and meats, creamed fish and vegetables. Milk desserts are legion — rice pudding, custards, tapioca cream, cornstarch blanc mange. Then there are many delicious milk drinks such as malted milk, cocoa, egg-nogs, milk shakes of many flavors. Using these dishes it is easy to incorporate milk into the daily meals.

Casserole of Vegetables

- | | |
|------------------------------|-----------------------------|
| 1 cup cooked vegetable | 2 tablespoons chopped onion |
| 1½ cups scalded milk | 1¼ cups grated cheese |
| 1 cup soft crumbs | ½ teaspoon salt |
| ¼ cup butter | ¼ teaspoon pepper |
| 1 pimiento chopped | 3 eggs |
| 1 tablespoon chopped parsley | dash paprika |

Pour the hot milk over the bread crumbs. Add butter, pimiento, onion, grated cheese, parsley and seasonings. Then add the well beaten eggs. Put the vegetables in a greased loaf pan and pour the milk mixture over them. Bake in a slow oven (350° F) until the loaf is firm, a little less than an hour. Serves six.

Cream Soups

- | | |
|-------------------------|-----------------------|
| 4 tablespoons butter | ½ teaspoon pepper |
| 1 teaspoon grated onion | 3 cups milk |
| 4 tablespoons flour | 1 cup vegetable water |
| 1 teaspoon salt | 1 cup vegetable pulp |

In the top of a double boiler melt the butter, add the onion, flour and seasonings. Stir until well combined. Add the vegetable water and one cup of milk, when smooth and thickened add the rest of the milk. Then add the pulped vegetable. Cook over hot water about half an hour.

Fish Chowder

- | | |
|----------------------------|-----------------------|
| 2 oz. fat pork | 2½ cups boiling water |
| 1½ cups potatoes | 1 qt. milk |
| 2 cups raw fish | ½ teaspoon salt |
| 2 stalks celery | ½ teaspoon pepper |
| 3 tablespoons diced onions | parsley |

Put the diced raw fat pork in a sauce pan and heat them until a golden brown. Add onions and cook until yellow. Add the cubed raw potatoes, the diced celery and boiling water. Cook ten minutes then add the pieces of raw fish. Cook fifteen minutes longer. Heat the milk and add to the first mixture, add chopped parsley. Season well, serve with crackers.

Corn Chowder

Substitute canned corn for the fish in the chowder.

Scalloped Cauliflower

Cook a cauliflower until tender, then place it in a buttered baking dish or casserole. To two cups of medium white sauce add one-half cup of grated cheese, pour this over the cauliflower, sprinkle with buttered crumbs and brown in the oven. Serves six. Two cupfuls of cabbage may be used instead of the cauliflower, or two cups of any cooked vegetable, or any combination of cooked vegetables.

Bread Pudding

- | | |
|---------------------|-----------------|
| 2 cups bread crumbs | ½ teaspoon salt |
| 1 qt. scalded milk | ¼ cup butter |
| 2 eggs | vanilla |
| ¼ cup sugar | |

Soak the bread crumbs in the hot milk fifteen minutes. Add the sugar, and butter so both will melt. Add salt and vanilla and slightly beaten eggs. Pour it into a greased baking dish set in a pan of warm water, and bake in a slow (350° F) oven for an hour and a quarter.

Variations of the bread pudding. (1) Add four ripe bananas sliced. (2) Add two squares of melted chocolate. (3) Add one-half cup of raisins. (4) Make a meringue out of the egg whites and two tablespoons of sugar, spread red jelly over the baked pudding, cover with the meringue and brown in the oven.

Rice Pudding

- | | |
|-----------------|---------------------------|
| ¼ cup rice | 3 tablespoons lemon juice |
| 3 eggs | grated rind of one lemon |
| 2 cups milk | |
| ¼ teaspoon salt | |
| ½ cup sugar | |

Cook the rice in a quart of water, and drain. Make a mixture of the beaten eggs, sugar, salt, milk and rice. Add the lemon rind and juice. Oven poach at 325° F for half an hour.

Variations of Rice Pudding. (1) Add ¾ cup of stoned chopped dates. (2) Add one-half cup of raisins. (3) Add two squares of melted chocolate, but omit the lemon juice and rind, and flavor with vanilla.

Spanish Cream

- | | |
|-------------------------|--------------------|
| 1½ tablespoons gelatine | 2 eggs |
| 1 cup cold water | 1 teaspoon vanilla |
| ¼ cup cold water | ¼ teaspoon salt |
| 2¾ cups milk | ½ cup chopped nuts |

Soak the gelatine in cold water; Add the sugar to the hot milk. Add the salt. Then slowly pour the mixture over the beaten egg yolks, return it to the double boiler and stir it until it thickens. Add the soaked gelatin and stir until completely dissolved. When cold add vanilla, beat the mixture until frothy, add the nuts, and fold in the stiffly beaten egg whites. Pour into cold wet moulds and when firm unmould on dessert dishes and serve with custard sauce.

M. H.

SAVE MONEY MAKE SOAP AT HOME!



MAKE 9 TO 15 LBS. OF SOAP IN LESS THAN HALF AN HOUR

HOMEMADE soap is easy to make—and so economical. Save your waste kitchen grease and fats. Buy a tin of Gillett's Pure Flake Lye. Follow directions on label and you get soap that's unexcelled for laundry and heavy cleaning at a cost of less than a penny a bar!

Use Gillett's Lye for all heavy cleaning tasks—inside the house and around the farm. This powerful cleanser keeps dairy equipment, farm buildings and outside closets clean and sanitary at low cost. It cuts through dirt, sterilizes and destroys unpleasant odors as it cleans. One tin makes 10 gallons of solution.*

*Never dissolve lye in hot water. The action of the lye itself heats the water



HANDY BOOKLET FREE!

The Gillett's Lye Booklet tells how to make good homemade soap. Gives complete directions for using this powerful cleanser on the farm and in the home. Send coupon for free copy.

STANDARD BRANDS LIMITED
Fraser Ave. & Liberty St., Toronto, Ont.
Please send me free Gillett's Lye Booklet. **JA-5**

Name _____
Address _____
Town _____ Prov. _____

Quarantine Regulations for the Corn Borer

The quarantine district for the corn borer in this province covers the lower Ottawa and upper St. Lawrence valleys and is bordered on the east by the western limits of the counties of St. Maurice, Yamaska, Drummond, Richmond, Sherbrooke and Stanstead; and in the west by the eastern boundary of the county of Pontiac.

In this quarantine zone:

I—It is compulsory (before the 20th October in each year, in the district formed by the Island of Montreal and the Islands Jesus and Bizard) and before the 1st of June of each year in the other part of the zone:

1.—To destroy completely all trace of the preceding year's crop (with the exception of the contents of silos); that is to say all corn refuse (sweet corn, seed corn or forage corn), stalks, ears, leaves, litter and all waste in which it is found;

2.—To plough well under the stubble, roots, and all pieces of corn so that the ground is cleared completely of them.

3.—To remove all weeds in the fields, along fences, ditches, roads or about buildings, etc., which may harbour the borer.

II—It is forbidden to ship or send out from the zone of quarantine, for any purpose, any part of the corn plant, without an official permit showing the district in which it was grown to be free from the borer and the measures prescribed above to have been applied there. This permit is issued after an inspection is made, by special demand, by an inspector duly appointed for this purpose.

III—Whoever finds the corn borer in his fields must notify the Department of Agriculture immediately.

IV—The inspectors appointed by the Department of Agriculture as representatives of the Entomologist have full powers to put these regulations into effect.

V—All persons breaking these regulations will be prosecuted under the Law for the Protection of Plants.

Elsewhere in this issue, readers will be interested in an offer made by Canadian Johnson Motor Co. Ltd. This Company are offering some very attractive prizes for a new name for their product which is a power unit for farm use, having a variety of purposes. This offer is only good until June 1st, and anyone interested should send their suggestion as quickly as possible. We are anxious to see this prize come to our own province if possible.

The name of the lucky winner will be announced in the July issue of "The Journal".

"Stelco Fence adds hundreds of dollars to my income every year" says Mr. J. E. Hutchison of Lemesurier, Que.

Stelco Fence pays for itself many times over. We have letters from hundreds of successful farmers to prove it. Its heavily galvanized Copper Bearing wire gives a lifetime of service. Write for catalogue and name of nearest dealer.

STELCO FENCE

The Steel Company of Canada, Limited
Hamilton, Ont. or Montreal, Que.

ERCO SODIUM CHLORATE

SURE DEATH TO WEEDS

QUICK-SPREADING WEEDS are the farmer's greatest enemy — they rob him of precious time, rob the ground of precious nourishment. Stamp out the weed menace on your property — the quickest, easiest way. Sodium Chlorate is recommended by agricultural authorities as the most effective, most economical of chemical weed killers.

For the best results, insist on ERCO SODIUM CHLORATE — a made-in-Canada product. It is extensively used in destroying the worst types of perennial weeds whose deep roots defy ordinary cultivation.

Write today for complete information and prices.
ELECTRIC REDUCTION SALES CO., LIMITED

Office:
196 Bay Street, Toronto
Plant: Buckingham, Que.



WIB Pure Cane MOLASSES

FREE:
"How To Feed"

Growing importance of molasses in stock feeding makes it necessary for every farmer to know all about it. Mail coupon below for facts and tested, balanced ration for cattle, horses, sheep, pigs, poultry. Learn quantity to use, how to feed it and why molasses safeguards health and increases production of stock.

CANADA WEST INDIES MOLASSES CO., LIMITED
5403 Notre Dame St. East,
MONTREAL

Please send me absolutely free "How to Feed":

Name _____
Address _____

Statistical Year Book Now in Bilingual Form

"The Statistical Year Book" of the Province of Quebec for 1935, laid before the Legislative Assembly by the Honourable T. Damien Bouchard, is the 22nd edition of this volume. Since the inauguration of the Provincial Bureau of Statistics, it has continuously provided most useful information relative to the varying activities of this section of the Dominion. A compendium of the latest available data, it presents a general survey of conditions in the Province; the retrospective tables in each chapter permit of the reader's appreciation of the progress attained or, in some cases, of the losses incurred. All information contained in the Year Book is drawn from official sources.

An important change has been made this year: the volume is issued for the first time in bilingual form, the French and English editions, which were published separately up to 1934, having been united in one. As the Year Book is sent to nearly all the countries of the world, it may well serve as official evidence of the bilingual character of our Province abroad. In the past, we were often constrained to forward one or the other edition to countries where a bilingual volume would have been more fitting. In certain foreign countries, in Czechoslovakia for instance, the impression may have been erroneously received that only one official language was recognized in the Province of Quebec. In future, the possibility of this misconception will be avoided.

Notwithstanding the considerable amount of additional work caused by this change, other important modifications have been made as well to the present edition. In the chapter on Education a retrospective table is given with the annual statistics of special schools. A new text summarizes the recent colonization movement launched by the Government. A study of the pulp and paper production, considered as a single industry, completes the information published to date. The Agricultural Statistics Branch has also altered the method of compiling dairy statistics: figures relating to butter and cheese factories, as well as to combined factories, have been united in one table. Finally, the transactions of the co-operative agricultural societies and those of the Co-operative People's Banks are not given in detail, in the present edition of the Year Book; these statistics now constitute a new report published by the Bureau of Statistics.

"The Statistical Year Book", is divided into 12 chapters: 1.—Historical chronology of the Province from the beginning of the French Regime to the present day; 2.—Physiography of the Province providing a geographical description and a geological sketch; 3.—Climatology (thermometer and barometer readings, precipitation, duration of sunshine, etc.); 4.—Population (classification, density, conjugal condition demography, immigration, etc.); 5.—Education (primary, complementary, primary superior, secondary, superior, special schools, etc.); 6.—Administration of the Province (constitution of the Government, Crown lands, colonization, justice, penal institutions, charitable institutions, liquor commission); 7.—Provincial, municipal and school finances; 8.—Production (agriculture, live-stock, dairying, forestry, mines, fisheries, hydraulic power, fur-bearing animals, manufactures, national wealth); 9.—Communications and transportation (roads, railways, automobiles, telephones, telegraphs, post offices, canals); 10.—Economic activity (trade, tourist traffic, chartered banks, building permits, incorporations, price-indexes, etc.); 11.—Organized labour (strikes, lock-outs, unemployment, labour inspection, employment bureaus); 12.—Provident institutions (insurance, mutual benefit societies, savings banks, people's banks).

These chapters are subdivided into 440 sections and include 21 graphical charts. It will readily be seen that the Year Book constitutes a book of reference of encyclopaedic proportions, in matters pertaining to the Province of Quebec, and may be used with advantage by anyone interested in ascertaining our educational, social, economic or financial position.

These statistics were prepared and compiled by Mr. Gédéas Lemonde, editor of the "Year Book", under the supervision of Mr. Jean-Charles Harvey.

* * *

The first Canadian cheese factory was established in Ontario in 1864 and the first Canadian creamery for butter-making in Quebec in 1873. The first centrifugal cream separator was imported from Denmark in 1882, and the Canadian Government's organization of cold storage services dates from 1895.



In any event...
serve "Christie's"

Christie's Biscuits meet your every need for entertaining or for your family's enjoyment. Ask for them at your grocer's. He has so many different kinds from which to choose, all as pure and fresh and delicious as modern baking methods can make them.

In any event, make it a rule to keep several boxes of Christie's Biscuits on hand. They're the best biscuit value money can buy.

Have you tried Christie's "Ritz"?

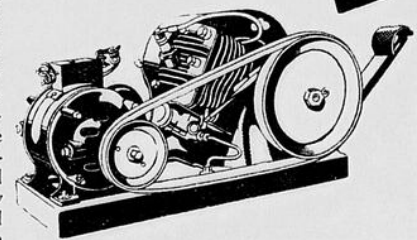
Christie's Biscuits
a Christie Biscuit for every taste

THIS RURAL HOME LIGHT AND POWER PLANT FREE

You can own this wonderful "Johnson" light and power plant WITHOUT IT COSTING YOU A SINGLE PENNY. It's easy to win and think of the many ways in which you can use it -- for lighting -- vacuum cleaner -- churn -- water pump -- radio -- battery charging -- it takes the drudgery out of a hundred-and-one jobs around the house and barn and actually saves many times its low cost. Economical too, for it operates 3 hours on a quart of gas. The unit is a 4 cycle, 5/8 H.P. engine with generator in 6 volt and 32 volt D.C., and 110 volt A.C., and is priced from \$69.50 to \$110.00.

WIN this portable light and power plant FREE -- think of a suitable name, then clip out this advertisement, fill in the coupon with your suggested name, and your complete name and address, and mail it so that it reaches us not later than June 1st.

If YOUR name is selected as best by the judges, you win the light and power plant, selecting



the style you desire. To think of a good name is easy -- here's an example, "UTIL LITE."

The decision of the judges will be final. In the event of duplicate names being suggested, the name first reaching us will be given consideration. The winner will be announced in the July issue of this publication.

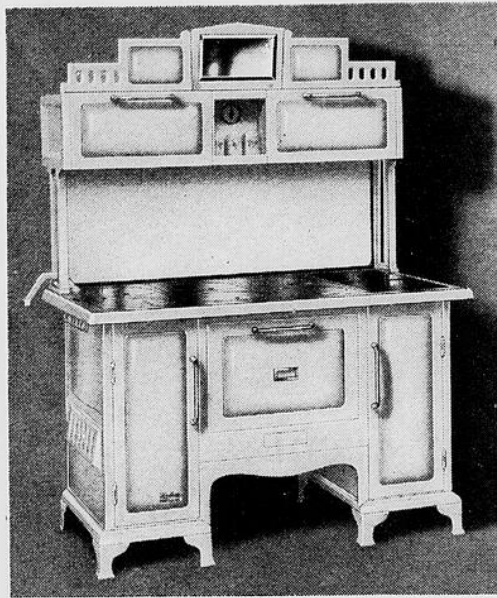
Contest Department,
Canadian Johnson Motor Co. Limited,
Peterboro, Canada.

My suggested name is.....
In the event of it being selected as a winner, I agree that the name suggested above becomes the property of Canadian Johnson Motor Co., Limited.

Name.....
Address.....

CANADIAN JOHNSON MOTOR CO LIMITED PETERBORO CANADA

Here it is at last The CHATELAINÉ



Combines ultra modern beauty and simplicity of design with the large cooking and heating capacity necessary for the rural home. Built entirely of cast iron, except the oven, which is of heavy steel porcelain enamelled on both sides. This construction combines the long life and great heat retaining qualities of the all cast range, with the fast, even heating oven of the steel range.

The purchase of a Chatelaine means life-time satisfaction.

OUTSTANDING FEATURES

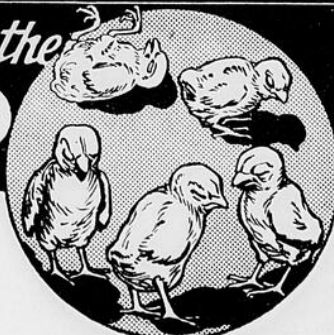
Buffet design, complete porcelain enamel finish in a choice of beautiful colors; large porcelain enamel, easy-to-clean oven; modern chrome fittings; tubular chrome door handles that stay cool; large oval firepot for coal or wood; two position wood grate for either 24" wood or large chunks; completely encased lift out reservoir; extra warming closet space; salt, pepper and flour shakers in colors to match the range; minute minder which warns the housewife when it is time to take a dish out of the oven; gas or electric attachment in place of reservoir.

See the Chatelaine — have it demonstrated, and be convinced that it is truly the finest of fine ranges. Write us for free booklet and the name of your nearest Findlay dealer.

FINDLAYS LIMITED

Carleton Place, - - Ont.

Are you paying the UNSEEN cost of Cheap mashes?



MORTALITY — the dread of every Chick Season may be removed by feeding Pioneer Dated (fresh) Chick Mash.

Dating is your protection against stale mash — protection from the unseen additional cost of cheap mash — from abnormal mortality.

Feed PIONEER for profitable results.

Write for our new 28-page booklet for valuable feeding suggestions.

PIONEER "DATED" CHICK MASH

Our new 28-page booklet entitled "Best Feeding for Laying Pen, Roasting Pan, Hogs and Cattle" contains valuable information and feeding data. Address: Western Canada Flour Mills Co., Limited, Dept. 616, Toronto.

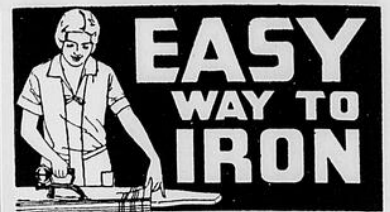


Recommended Varieties of Field Roots

With a good soil type, correct cultural methods, adequate fertility and favourable weather, a root crop may be below average, or even a near failure, as the result of using an unsuitable variety. During the past twenty years, over three hundred, so-called, varieties and strains of field roots have been grown at the Dominion Experimental Station, Lennoxville, Quebec. Many of these have proved to be the same variety under different names. Also very striking differences have been found to exist in the roots of common varieties, our different seed sources. The roots from one seed source have been smooth, uniform and large, and the crop entirely satisfactory. With seed of the same variety from other sources, the roots have been rough, prongy, not uniform and small, and the crop decidedly unsatisfactory. Furthermore, although a variety may normally produce good crops in other parts of Canada or in other countries, it may not be at all suited to the conditions under which it will be grown at Lennoxville.

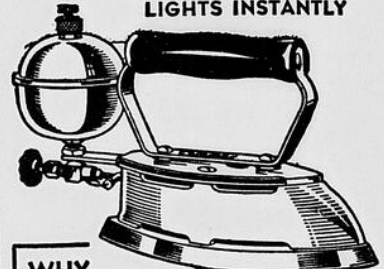
In general, a greater difference in value exists between types than between varieties. This is particularly true with mangels. The globe and tankard types of this species are characterized by smooth, uniform roots of relatively low dry matter content. Roots of well-bred strains, of the intermediate and half-long types are as a rule well-shaped, uniform and high in dry matter. With the long type, dry matter is usually high but the roots for the most part are somewhat rough, prongy and hard to handle. Accordingly most of the better varieties of mangels are of the intermediate and half-long types. Those that have given the best results are reliable strains of the Yellow Intermediate variety, such as those developed at the Central Experimental Farm, Ottawa, or at Macdonald College, Que. The Giant Half Sugar White, or White Half Long, if from a reliable seed source is also a very satisfactory variety.

With swede turnips, varieties of the round globe type are usually superior to those of the tankard, oval and flat globe types. As a rule, oval and tankard roots are inclined to be rough and hard to handle, and the flat globes are low in dry matter. For stock feeding the most satisfactory varieties that have been tested at Lennoxville are: Ditmars Bronze Top, Purple Top Globe and Hall's Westbury. These are all of the round globe type, and if the seed is obtained from reliable sources, the



EASY WAY TO IRON

WITH A
Coleman
SELF-HEATING IRON
LIGHTS INSTANTLY



WHY YOU WILL LIKE IT!

- Heats itself, no waiting.
- Lights instantly, no waiting.
- Makes and Burns its own gas.
- Burns 96% air, only 4% fuel.
- Costs less than 1/2¢ an hour to use.

NEW LOW PRICE \$6.95

Just strike a match—turn a valve—and light your Coleman. In a "jiffy" it's hot—ready to do the quickest, easiest ironing you've ever seen. Does better ironing in 1/2 less time. Puts an end to carrying hot, heavy irons from stove to ironing board.

Get this Coleman Iron at its New Lower Price— from your nearest Coleman dealer. Or, write to us for FREE Folder.

THE COLEMAN LAMP AND STOVE CO., Ltd.
DEPT. J.A.316 TORONTO, CANADA (6516)

Morning "BAD TASTE" is BAD HEALTH!



It's a poisoned system that gives you that listless, sluggish, bad-taste feeling in the morning... Here's an easy way to get rid of it.

Every day thousands of people wake up feeling fresh, healthy and happy. They use Fruit-a-tives. You see, Fruit-a-tive's amazing health-giving properties come from the exclusive formula of a famous Canadian physician. They contain extracts of APPLES, ORANGES, FIGS, PRUNES and HERBS. Fruit-a-tives will cleanse and purify the elimination organs—their tonic effects will help stimulate new energy. Try them today. See for yourself how quickly they will help you.



Save Money —

USE "IDEALE CORRUGATED IRON SHEET." Specially galvanized against rust. Fire and lightning proof by the new process "X-RAY." Lasts longer. — Won't peel. No paint needed.

Write for FREE CIRCULAR

'Tote Gaultree Ideale Enrg.'

R. LASSONDE, Proprietor
ST. HYACINTHE, P.Q.

roots will be smooth, uniform and large. Good strains of the variety Bangholm are also high-yielding, as well as being quite popular for table use.

On My Way

(Continued from page 4)

Tonight, or rather just at evening, I boated along the quiet waters of the sanctuary, across lights and shadows, through hues of colour and tints of flame that came up from the cradle of the sunset and were gathered in reflection on the mirrored canvas of the limpid lake. The russet of the bushes that cover the bogs turned to glowing red, enriching with carpets of priceless worth the scene already beautiful beyond the telling of poet or peasant. Earth-free ducks winged swiftly above, extending their line far out as they wheeled suddenly to new direction, throwing their military-like manoeuvre into confusion for the moment, quickly righting again, dipping to alight, then rising into full flight once more — gay, happy, carefree.

Danny was with me, sitting forward towards the bow. His paddle rose and fell with even, deliberate rhythm, and behind him, taking my time from him, I sat, keeping my stroke in tune as our craft slid silently across the softening sunset shades. We were quiet. It seemed the only way to be here in this rendez-vous of soul and spirit; then too there was in our minds the imaginative picture of the hope and tragedy, the drama of life and death that was at the moment deeply affecting our country. We skirted around the marshy edges that reached far out from shore, skimmed across narrow necks of dividing water and came again, by an encircling route, to our mooring place amongst the cedar piles of the old airport base.

Twilight was deepening into night as we walked upward to our home upon the hill. Chatting a little as we went, Danny remarked, "When we went out it was lovely with colours everywhere, but now, though it is dark, somehow I like it just as much," there by unwittingly supplying an answer to a question that he had asked me during the day. So I helped him to see how light and darkness were inseparable from each other, and how it was the same with living and dying. No matter how colourful life might be, we must remember that it is never very far to that sombre atmosphere that in the distant view is not inviting; but from this world in which we now are we can learn that it is a place of peaceful pleasure that we will like just as much as the brightness of the day.

H. H.



You have *More* room because the V-8 engine takes *Less* room

THERE'S no extra charge for the extra quality that makes the 1936 Ford V-8 unequaled in value for farmers. Ford roominess is a good example.

The short, compact design of the V-8 engine allows more of the car's length to be used for passenger space. There is plenty of shoulder room, elbow room and leg room. That is one way in which this engine from the high-priced class contributes to comfort in the new Ford . . . the only car under \$2500 with a V-8 engine. The V-8 engine operates smoothly and quietly, and the welded steel body is thoroughly insulated for quietness . . .

making the car more comfortable to ride in.

Ford Centre-Poise design cradles all passengers between long, flexible springs. It affords relaxed riding comfort on both rear and front seats, over all kinds of country roads. Seats are wider and roomier than in many cars of higher price. A security feature that goes with Ford V-8 comfort is Safety Glass throughout in all models at no extra cost.

A trial drive is all you need to prove that every feature of the 1936 Ford matches the quality of the V-8 engine. Accept your Ford dealer's invitation to take his car and drive it with your family in the back seat.

FORD V-8 for 1936



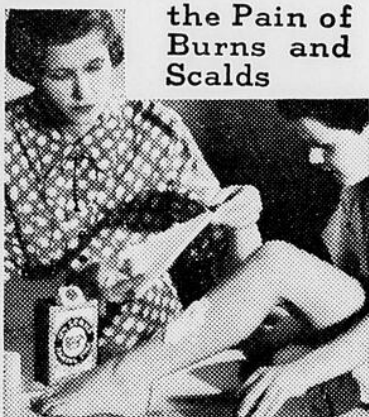
"HONEY BOYS"

4½ cups sifted pastry flour
1 teaspoon Cow Brand Baking Soda
1 teaspoon salt
2 teaspoons cinnamon
½ cup sugar

1 cup strained honey
½ cup milk
3 tablespoons melted shortening
½ teaspoon vinegar
1 egg, well beaten

Sift flour once, measure, add baking soda, salt and cinnamon and sift together, three times. Combine honey, sugar, milk, shortening and vinegar. Cook until hot, stirring constantly. Do not boil. Cool. Add egg. Add flour, a small amount at a time, beating after each addition until smooth. Allow dough to ripen in a cool place overnight. Then turn onto floured board. Knead well. Roll ¼ inch thick. Cut with plain or fancy cutter and decorate with bits of raisin. Bake in hot oven (425° F.) 10 minutes. Makes 3 dozen cookies.

Soda Soothes the Pain of Burns and Scalds



A soothing paste of Cow Brand Baking Soda and water quickly eases the suffering caused by burns and scalds, bringing grateful relief from the pain. Severe burns or scalds should be treated by a physician but, while waiting, a good first-aid treatment is the Baking Soda Paste. Cow Brand Baking Soda has many helpful uses upstairs and down. In original sealed packages — for a few cents — at your grocer's.

Mail this Coupon

CHURCH & DWIGHT LIMITED,
2715 Reading Street, Montreal, Que.

Please send me free booklets on the medicinal and cooking uses of Cow Brand Baking Soda.

Name

Address

Print Name and Address.

XE-20 55

COW BRAND BAKING SODA IS PURE BICARBONATE OF SODA

Certified Seed Potatoes

With the increasing prevalence and number of diseases of potatoes and the greater risk in purchasing seed about which nothing is known by the purchaser, has come the realization that the production of high class seed requires special care. A very satisfactory system of seed potato certification has been developed in Canada by the Division of Botany, Central Experimental Farms Branch, and is based upon two field inspections of the growing crop, and of the tubers after harvest. Only seed potatoes which meet the standard for certification are eligible for sale as Certified Seed, and official tags are supplied for every package of such seed. Therefore, if the Government tag is not on the package, the potatoes are table stock only and seed prices should not be paid. There are two grades only of seed potatoes, "Certified Extra No. 1" and "Certified Small Sized 1½-3 ozs." If the tags do not specify either of these grades, the potatoes are not seed potatoes.

There is definite need of field inspections for seed potatoes as certain virus diseases are not observable in the tubers and can only be identified in the growing plants. Obviously only low yields can be expected from diseased plants. It is a big mistake to conclude that good seed potatoes can be selected by tuber appearance alone.

There are no regulations in effect which prevent anyone from using any kind of potatoes for seed purposes, and some of the stores are selling table potatoes in their seed departments, but it is the purchaser's privilege, if he pays more than regular table stock prices, to demand the official tag; otherwise he may get only table stock.

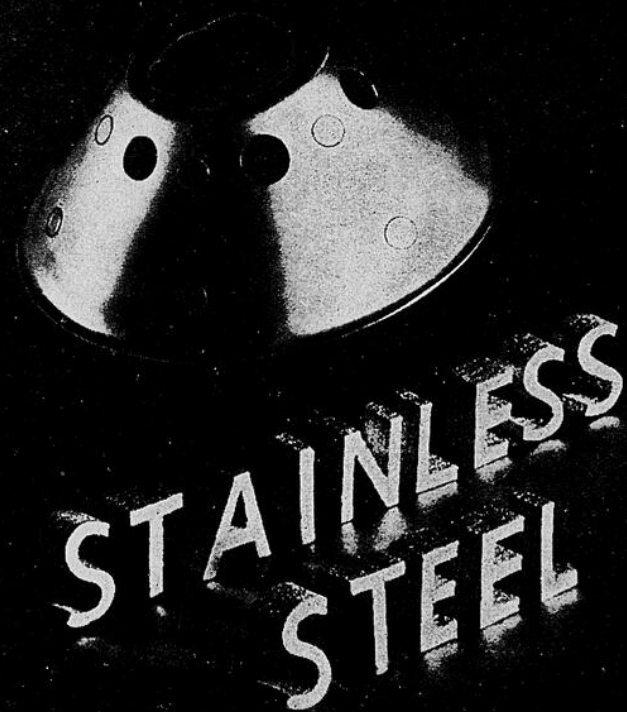
Well over a million bushels of certified seed potatoes have been sold annually for the past nine years. The bulk of the seed produced is exported. The best potato growers in other countries appear to appreciate the value of good seed and in spite of plentiful local supplies will pay the additional freight and tariff charges to secure Canadian Certified Seed potatoes. Growers are advised to secure their supplies immediately as seed stocks are getting very low. Lists of growers having seed for sale are obtainable, free, from the Dominion Botanist, Central Experimental Farm, Ottawa.

The importation of cattle, sheep, swine, beef, pork and bacon into Britain during the time of Charles I was declared by law to be a common nuisance and was forbidden under pain of forfeiture; onehalf to be given to the poor of the parish in which the seizure was made, and the other half to the informer

BUY THE PROVEN CLOSE SKIMMER

The MASSEY-HARRIS No. 7 "FILM-FLOW" CREAM SEPARATOR

- Six point "FILM-FLOW" distribution
- Friction free spindle
- Ball bearings (protected)
- Spiral type gears
- All parts automatically lubricated
- Tested to skim less than .02 of 1%
- Plus the NEW stainless steel discs



NEW LOWER PRICED MODEL

The "ROBIN" Cream Separator

A new lower-priced model of a size suitable for the farmer with 5 to 6 cows. Many of the same features as the No. 7, but simpler construction and heavily tinned carbon steel discs. Ask your local Agent for Details.

MASSEY-HARRIS COMPANY, LIMITED

ESTABLISHED 1847

TORONTO MONTREAL MONCTON WINNIPEG
BRANDON REGINA SASKATOON SWIFT CURRENT
YORKTON CALGARY EDMONTON VANCOUVER

Distributor Wanted

For Province of Quebec to handle Canadian-built high-grade light-weight steel threshing machines manufactured by old established company. Machines suited to Quebec territory. Attractive permanent proposition to responsible party. References exchanged. Address with full particulars. Box 43, JOURNAL OF AGRICULTURE, 33 St. James Street, Montreal, Quebec.

DISEASE LOSSES



greatly reduced!

BY VEGETABLE SEED TREATMENT WITH SEMESAN

Protect your vegetables and flowers when you plant seeds and bulbs! Always treat with SEMESAN! Checks seed decay, reduces seedling blight, often improves yields. 65¢ tin treats 30 to 125 pounds of seeds. Send for free flower and vegetable pamphlets.

CANADIAN INDUSTRIES LIMITED

Fertilizer Division—Montreal, P. Q., Toronto, Ont., Halifax, N. S., New Westminster, B. C.

MORE THAN JUST A LAXATIVE

SEND 3¢ STAMP FOR 4-DAY SAMPLE

Flushes intestines and kidneys — stimulates stomach digestion!

BLISS NATIVE HERBS (TABLETS)

Get back your energy with "triple action" herbs. Take nightly for a few weeks. Dept. J 12, Alonzo O. Bliss Medical Co., Montreal

FOR SALE — Seed potatoes, Certified, Extra No. 1, Dooleys, \$2.00 per 80-lb. bag. WM. P. TURRIFF, Metis Beach, P.Q.

"QUILTING PATCHES, rug strips, all kinds, 15c. lb. Postage extra. Order while assortment large. FAY L. RIEGLER, 282 Armadale, Toronto."

20 Yards Dress Goods \$2.98

Rayon silk, crepe; print; broadcloth; flowered voiles. Manufacturer clearing out. 4-yd. lengths; latest patterns, shades; values to 75 cents a yard. Sale 20 yards \$2.98 sent C.O.D. plus few cents postage. Money-back protection. TEXTILE MILLS, Dept. J.C., Montreal.

If you enjoy reading the Journal of Agriculture, mention it to your neighbours.

GRAIN and VEGETABLE SEEDS

FARMERS. . . .

LE JARDIN CANADIEN ENR.,

4 Victoria Street, -- Levis, Que.

Will furnish you all grain and vegetable seeds, fertilizers and insecticides.

FREE CATALOGUE SENT ON REQUEST

"Something Different", Bright and Clean Attracts Tourists

One of Quebec's leading industries, nowadays, is catering to the tourist trade. Everywhere, along the main highways and increasingly each year along the secondary roads, farmhouses and roadside booths offer shelter, food and refreshment to the traveller.

Attracting and satisfying the tourist is a many-sided undertaking. It is plain that we in Quebec must give him good shelter, good food, good refreshment, at reasonable prices, if we are to hold and increase our share of this profitable business. But there are other things which apparently are not so plain. For example, look at such signs as "New York Cafe"; "Alabama Fried Chicken"; "Boston Restaurant"; etc., etc. The tourist came up here to GET AWAY from New York or Boston. He came over to see what QUEBEC Fried Chicken tastes like. He is seeking something different, not just an imitation of what he gets at home. If Quebec offers him what he can get at home, he might just as well stay at home and save himself the trouble and expense of travelling this far to get it. We have that something different to give him — different ways of life and language — the authentic flavor of the ancient regime — and our attractive, newly painted signs should convey this fact to him.

Paint. Ah yes. That's another thing. If you were a tourist, would you stay at a clean, cheerful, freshly painted place, or one which was shabby and doubtful-looking? When your friends asked you for advice on the trip they were planning, which would you remember and recommend? As a means of attracting the tourist trade, bright clean fresh paint is one of the very best. Every dollar sensibly invested in good paint will pay for itself 10 times over in the course of the season.

Export Cattle and Warble Fly

In order to comply with an order of the British Government all cattle exported from Canada to England, Wales, and Scotland between March 15th to 22nd and June 30th in each year must be treated with a preparation, which will reduce the hazard of introducing the Warble Fly.

Canadian cattle for export to the British Isles will be treated by officials of the Health of Animals Branch, Dominion Department of Agriculture, or under official supervision, at the expense of the Department.

Free

VIKING FARMER'S DAIRY RECORD

The VIKING CREAM SEPARATOR Assures Bigger Profits




New owners say so. Old customers agree. The reason? The "Viking" skims closer, runs easier, gives years of satisfying service, saves time and labour in cleaning.

Our 12-page booklet enables you to keep an accurate record of your milk and cream production, and the revenue produced — by the day — by the week — by the year.

Get your FREE copy today!

Swedish Separator Company, Limited, Montreal, Canada

ASK OUR LOCAL DEALER FOR YOUR COPY



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ehind every branch
—the full resources, organization and experience
of the entire institution.

BANK OF MONTREAL

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MODERN, EFFICIENT BANKING SERVICE
... the outcome of 118 years' successful operation ...

Reed's "Specially Stiffened" Ribbed Roofing



3 Weights
28 Gauge
26 Gauge
Council Standard

Full Weight Sheets

COSTS LESS

Per Year of Service

FREE ESTIMATES AND SAMPLES
State size of roof for free estimate, sample, descriptive folder, and prices.

GEO. W. REED & CO. LTD.

4107 Richelieu Street, Montreal

Please send me prices and descriptive folder on Reed's Ribbed Roofing.

Length of Ridge Rafter

Name

Address

County

BABE RUTH Offers FREE BASEBALL GIFTS with QUAKER CORN FLAKES box tops!

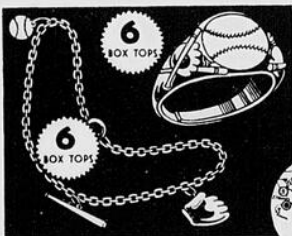
I'VE TEAMED UP WITH QUAKER AGAIN TO MAKE THOUSANDS OF BOYS AND GIRLS HAPPY WITH THE SWELL BASEBALL GIFTS SHOWN HERE, YOU CAN GET THEM FREE WITH BOX TOPS FROM QUAKER CORN FLAKES. SEND ME THE COUPON BELOW, QUICK!



Babe Ruth

● Boy! Are Quaker Corn Flakes good! Believe me, you'll want them for breakfast, for lunch, for supper and every time you can get them. Try some. They taste great! They're full of health-

giving energy that helps to give you strength and stamina you need in baseball and other sports. Take a tip from me and eat Quaker Corn Flakes regularly ... you'll like them.



Gold Plated Baseball Ring or Girl's Bracelet

To delight the hearts of baseball fans, this beautiful ring or bracelet for 6 Quaker Corn Flakes box tops or 2 Quaker Corn Flakes box tops and 10c.



Baseball Cap

Grey wool felt with black and green visor. Sweat band. Sent for 12 Quaker Corn Flakes box tops or 6 Quaker Corn Flakes box tops and 10c.

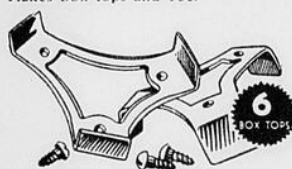
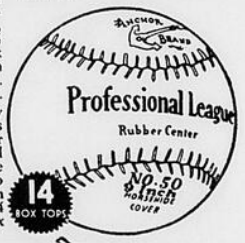
Umpire's Watch Fob Score Indicator

Babe Ruth's picture on one side and a complete score indicator on the other. For 8 box tops or 4 box tops and 5c.

Professional League Baseball — Regulation size and weight. Horsehide cover. Double-sewn rubber centre. For 14 Quaker Corn Flakes box tops or 4 Quaker Corn Flakes box tops and 25c.

Toe or Heel Plates — Made of fine quality stamped steel with screws for attaching firmly to your shoes. Just what you need to travel fast around the bases. Babe Ruth's gift to you for 6 Quaker Corn Flakes box tops or 4 Quaker Corn Flakes box tops and 5c.

Girl's Beret — All wool. One-piece beret, with chic French tip. In white, open blue, red. Sent 12 Quaker Corn Flakes box tops or 6 Quaker Corn Flakes box tops and 10c.



To win thousands of new friends for

QUAKER CORN FLAKES!

Because only Quaker Corn Flakes give you these extra features—they are better value.

- Money-back guarantee of better flavour — printed on every package.
- Freshness and crispness assured by wax-wrapping and triple-sealing.
- Coupon in every package—exchangeable for valuable merchandise.
- Enrichment with health-giving Sunshine Vitamin D.

QUAKER CORN FLAKES

and MOTHERS, don't forget our CONTRACT... Your money back if Quaker Corn Flakes are not the best, most delicious corn flakes you ever tasted.

MAIL THIS NOW

Babe Ruth, c/o The Quaker Oats Company, Dept. CF-6, Peterborough, Ontario.

Dear Babe: I am enclosing..... Quaker Corn Flakes box tops. Please send me your free baseball gift which I have marked on the chart.

Name.....
Address.....
City..... Prov.....

- Gold Plated Baseball Ring
 - Girl's Gold Plated Baseball Bracelet
 - Professional League Baseball
 - Toe Plates
 - Heel Plates
 - Umpire's Watch Fob
 - Baseball Cap
 - Girl's Beret—White.....
 - Red.....
 - Copen Blue.....
- (You can get as many gifts as you want. Simply send the required Quaker Corn Flakes box tops for each one. Or, if you want more than one of the same gift, just send in that many more box tops.) This offer expires June 15th, 1936.
- Check colour wanted

Quebec Women's Institutes

The tie between Macdonald College, the foster mother of Quebec Women's Institutes, and the various branches has again been strengthened by the appointment of a delegate in practically every Institute, to represent her branch at the annual convention to be held on June 16th, 17th and 18th. These annual gatherings are felt by the Institutes to be a great privilege, and are a source of inspiration and an increase of energy and enthusiasm each recurring year.

Publicity

Practically all branches held their annual meetings and elections during the month. Abercorn held a sugar party and social gathering. Ayer's Cliff branch entertained Stanstead County quarterly meeting, at which all branches were represented. Miss McCain's address at this meeting was on "Development of Responsible Government in Canada." Dixville branch held a surprise party for a bride and groom, with gifts. Scotstown had an active Ways and Means committee during the past year, raising about \$232.00. Eardley's annual meeting began as an "indoor picnic," which proved very enjoyable, and at Wakefield plans for the year's programme occupied the time. East Clifton gave a donation of \$5.00 to the local cemetery fund. Sawyerville had a debate: "Resolved that Woman's Place is in the Home." Scotstown branch presented the school library with two books; Canada 1935, and Forestry Lessons. Lennoxville branch sponsored a very successful amateur's night for the benefit of the hockey club. A member of Warden branch, name not given, was awarded at the annual meeting a dainty set of hand-painted linen as a prize for perfect attendance, during the year. This branch closed a very successful and interesting year's work, with enthusiastic plans for the coming year. "The Funniest Thing I Ever Saw" was response to the roll call at South Roxton. All branches in Chateauguay-Huntingdon counties held busy annual meetings, with full report. At Hemmingford, Mrs. C. E. Petch was presented with a silver flower basket, with twelve carnations, in acknowledgment of twelve years of faithful and efficient service as president of the branch. Howick branch celebrated twenty-five years since organization. Ascot made a presentation to Mrs. W. P. Cox, president for nine years, now retired. At Milby a contest roll call was held, the losers to take the winners to the movies.

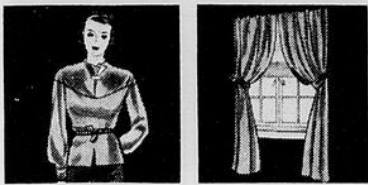
In August a new branch came into being in Compton County, to be known as the South Newport Women's Institute. Meetings have been held regularly since, and the departmental work accomplished appears under the proper headings in this report. We wish this new branch every success, and hope its eleven charter members will be greatly increased during the coming months. Rawdon's meeting was strictly business in character. Argenteuil branches report business concerning the annual meetings and elections for the most part, with increased membership in several branches. Morin Heights planned an amateur night, using local talent. Shipton had a paper on Community Work and a guessing contest with prizes. Richmond Hill planned a contest in programmes, with prizes. The attendance contest was a tie, three ladies being equal.

Canadianization and National Events

Abercorn's roll call asked for names of famous lawyers, and Beebe members heard an interesting account of the new Governor-General. Pontiac County throughout has responded generously towards the Peace Garden fund, also to the Silver Anniversary fund. Bristol Busy Bees had a paper on "Canada's place Among the Nations," and at East Wakefield the roll call was answered with names of Cabinet ministers. Cookshire had a paper on the "League of Nations." Branches in Sherbrooke County commemorated the death of King George V in a two minute silence at their meetings. Granby-Hill's roll call asked for names of Canadian cities, with facts about each. Aubrey-Riverfield has current national events, and Howick renewed the membership in the League of Nations Society in Canada. At Belvedere the plan of the proposed international Peace Garden was discussed. At South Newport a paper on Canadianization and National Events was read. Denison's Mills discussed beauty spots in Quebec, and local history.

Education and Better Schools

Abercorn provided hot school lunches. Way's Mills branch observed education week in the school, with a public debate as a feature. Beebe branch has added many books to the school library, and at Cookshire over four dollars was voted for magazines for the use of the High School. Scotstown



Colour Magic! for your
Clothes and Home Decorations

Do you sometimes get discouraged because you cannot afford new clothes and new furnishings for your home as often as you would like? Don't be! Thousands of women have found the way to have these longed-for things — through the colour magic of Diamond Dyes! Diamond colours have a richness and depth of colour you expect to find only in new materials. This is because they actually contain a greater amount of the finest aniline colouring. Enjoy the colour magic which Diamond Dyes give so easily and at so little cost!

DIAMOND DYES

MADE IN CANADA

better because richer in pure anilines

Read our advertising pages. You may find in them the answer to a long-felt need.

It is not always easy to tell which product it is best to buy, but in spark plugs, it is very easy. Champions, now in their 26th year of world service, continue as outstanding favorites everywhere. They have helped to win practically every racing event throughout the world for twelve straight years.

If engine economy is important
SPARK PLUGS ARE VITALLY IMPORTANT



USE THE
SPARK PLUGS CHAMPIONS
USE

A CANADIAN-MADE PRODUCT

CHAMPION
EXTRA-RANGE SPARK PLUGS

When Your Horse Coughs

Give him "cough preventative" one of the best known remedies for coughs, Laryngitis and pharyngitis, etc.

60c. per box prepaid

Write us for free veterinary advice. Answered in 24 hours.

WATERLOO STOCK FOOD REC'D.
WATERLOO, P.Q.

branch offers two prizes, valued at \$3.00 and \$2.00 respectively for best essays on the Life of King George. At Cookshire Rev. Mr. Carr gave a paper on India; and the poems of Kipling formed programme and roll call. At Milby Adult Education was discussed favorably, and an amateur contest night for three schools was planned. Denison's Mills voted a generous sum of cash for school repairs, and entertained the pupils twice.

Child Welfare and Public Health

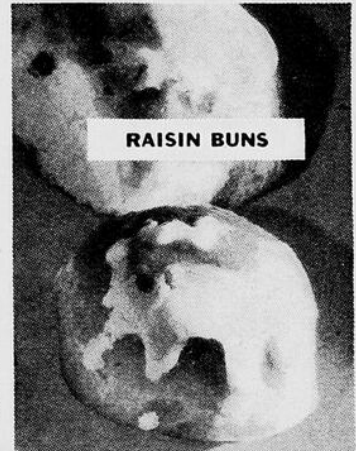
Abercorn sent gifts of fruit and flowers to sick neighbours, and provided a funeral design. Ayer's Cliff sent a gift to a sick member, also one to a new Institute baby. Dixville appointed a committee to visit the sick. North Hatley branch sponsors a splendid work in this department with flowers and fruit to sick ones a feature. Way's Mills sent fruit to shut-ins and food to a needy family. Beebe provides milk for under-nourished school children, and shoes for needy ones, also bedding for a sick person. This branch is raising funds for dental work by means of a social evening. Elmside had a paper on Child Welfare by Mrs. Elliott, with Health Units as roll call. This branch is making quilts for emergency use, and Abbotsford has a sewing group at present busy with another consignment of goods for the Family Welfare, and with bassinets and layettes for expectant mothers. Farm Point and Cascades received acknowledgments from shut-ins to whom gifts had been sent. Scotstown branch serves hot soups to school children who bring their lunches. Papers on "Diets for Children," "Public Enemies," and the "Home vs. the Child" were heard. Cherry River sent fruit to shut-ins, and Orford is providing a layette for a mother in need. At South Newport branch meeting an interesting paper on "Home Nursing" was given by Mrs. Gretchen Elliott, R.N., also a paper on Child Welfare was read by Mrs. Montgomery, and boxes were sent to cheer shut-ins. Jerusalem-Bethany sent a quilt to the Women's Hostel, Montreal, and Lachute voted a sum of money for a needy family. Shipton supplied a needy family with milk for two months, also provided clothing for children to attend school, and Richmond Hill sent two baskets of fruit to convalescents. Denison's Mills discussed School Lunch problems, Home Influences on the Young, Health Hints for Children, and Prevention of Colds. 64 children have been inoculated in this vicinity against diphtheria. Dr. Henry's address on cancer was read.



Keep
ROYAL YEAST CAKES
Full Strength . . .



COFFEE RING



RAISIN BUNS

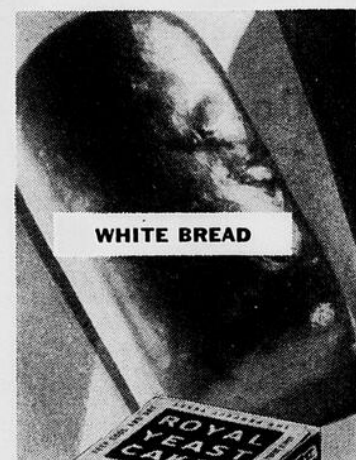
Use these famous dry yeast cakes and Royal Sponge Recipes to make delicious breads . . .

Every Royal Yeast Cake comes to you with the protection of an individual, air-tight wrapper—the only dry yeast with this safeguard! Kept absolutely fresh—they assure full-strength leavening power at all times. The standard for over 50 years—today Royal Yeast Cakes are preferred by 7 out of 8 Canadian housewives who use dry yeast.

Helpful Booklet—FREE

"The Royal Yeast Bake Book" gives tested Royal Sponge Recipes for the breads pictured here and many others.

BUY MADE-IN-CANADA GOODS



WHITE BREAD

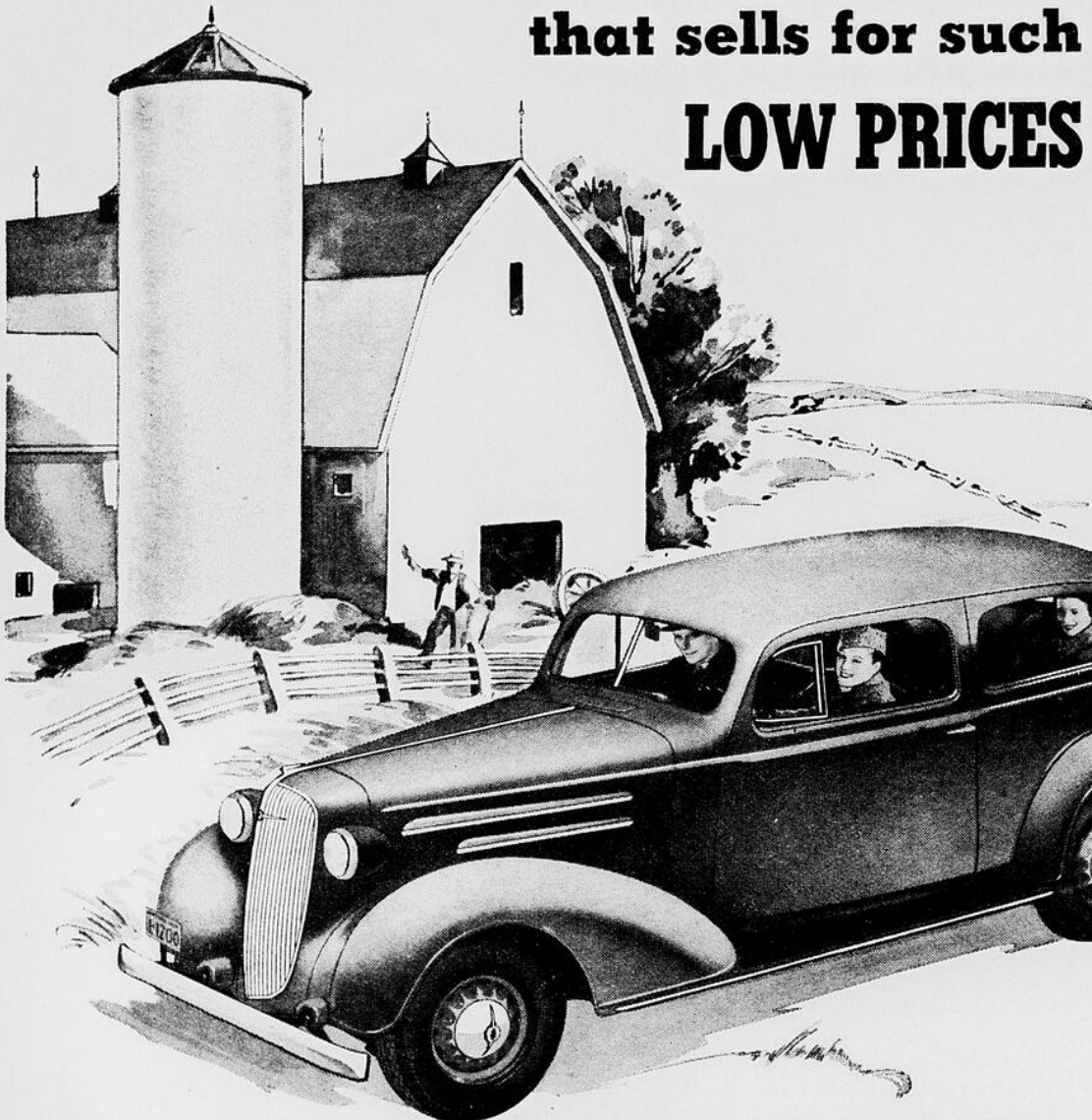
STANDARD BRANDS, LTD. J.A.-5
Fraser Ave. and Liberty St.,
Toronto, Ont.

Please send me the free
Royal Yeast Bake Book.

Name _____
Street _____
Town _____ Prov. _____



The only COMPLETELY MODERN CAR that sells for such LOW PRICES



Costs you less for GAS, OIL and UPKEEP

• Think of all the good things you get in the new Chevrolet, and *don't* get in any other car at Chevrolet's low prices, and you will readily understand why people call this The Only Complete Low-Priced Car.

It's the only low-priced car that combines Swerveless Hydraulic Brakes with a solid steel Turret Top and Safety glass equipment throughout—all three of which are essential to maximum driving safety!

It's the only low-priced car with Bodies by Fisher, the world's high standard of style leadership, quality of construction and solid comfort!

It's the only low-priced car with a high-compression Valve-in-Head engine, which gives a better combination of performance and economy—and with Fisher No-Draft Ventilation, for more healthful, all-weather motoring.

Bear in mind, too, that Chevrolet offers you all these features in the lowest-priced Standard Series Chevrolet—as well as in the popular new Master De Luxe Chevrolet with Knee-Action front wheels.

All the facts say, Buy a new 1936 Chevrolet—The Only Complete Low-Priced Car. Drive it today—and be sure to compare Chevrolet's low delivered prices and greatly reduced 1% GMAC time payment plan terms.



CHEVROLET

F36-C4

Home Economics

North Hatley responded to the roll call with a parade of old-fashioned hats, with prizes, followed by a Valentine tea. Exhibits of the work of the weaving classes were shown. Way's Mills response to the roll call was: "Favorite supper dishes." Hatley enjoyed a paper on the "History of Tea," dealing with varieties, growth and preparation. Wyman had an exhibit of thrift articles, and Lemesurier a demonstration on Bread Making. Eardley held a competition in small cakes, Mrs. Cooligan taking the prize. Aylmer East planned its exhibit for Fair time, and at East Clifton a demonstration on Cheese Making was given. Ascot had papers with time-saving suggestions, and ideas on modernizing rural homes. Granby-Hill served a dinner at the meeting, and disposed of a quilt. Aubrey-Riverfield heard warnings on the Danger of Keeping Certain Liquids in Iron Vessels, and had a demonstration on the Making of Table Mats. Howick's roll call was on Hot Supper Dishes, followed by practical suggestions on mending granite ware. A demonstration of hand made work, and a paper on Home Economics were given at South Newport, with Mrs. Lafleur as speaker. Upper Lachute held a novelty sale at the close of its annual meeting. Richmond Hill planned a cookie contest, the results to be auctioned. Denison's Mills discussed vegetable salads in the diet, and heard a paper on Home-Making by Mrs. Heney. Roll calls on Practical Kitchen Hints were used.

Agriculture

The branch at Beebe distributed bulbs, Boothgrove branch donated the sum of \$50.00 towards the building fund of an Exhibition Hall at Quyon. Clarendon branch held a food sale in aid of the local cemetery improvement fund. At Lemesurier an exchange of seeds, bulbs and slips took place. Milby branch is planning to plant a perennial border in the local cemetery, and at Belvedere Mr. Norman Beach gave a talk on Home Beautifying. In South Newport branch, an instructive paper on Home Gardening and School Fair work was given by Mr. Rousseau, County Agronomist, Cookshire. Cleveland planned a flower contest, and Denison's Mills had a paper on Storing Winter Vegetables, with discussions on Improvement of Home Grounds, Winter Care of Bulbs and Plants.

Canadian Industries

Sawyerville had a paper dealing with Muskrat Farming, and another on Forestry. At Scotstown

BABY WAS FEVERISH WHILE TEETHING

Baby's Own Tablets brought her through marvelously!

"Baby started teething early," writes a London mother, "and two eye teeth came together making her very feverish and fretful. We gave her Baby's Own Tablets and they brought her through marvelously. When she was constipated we used the same remedy with the same success. Now we have a bonnie baby who has 6 teeth and is in the pink of condition."

Mrs. W. Kemp, London, Ont.

For over 40 years, mothers by the thousand have found Baby's Own Tablets wonderfully effective during teething. They are soothing because they reduce fever, aid in settling an upset stomach, and help relieve the inflammation in the gums. After a dose or two the child usually drops off to sleep and wakes feeling much better. These sure-acting tablets were originated by a physician, and are certified safe even for the most delicate child.

Besides being an excellent corrective for teething troubles, Baby's Own Tablets are equally effective in relieving simple fever, constipation, colic, upset stomach, colds, diarrhoea, indigestion and fretfulness; price 25c.

• Try them at our risk. Buy a package today and, if you do not find them as good as we claim, return the partially-used box to us and we will refund your money.

Dr. Williams'

Baby's Own Tablets



Safe. Convenient. Payable at Par Everywhere
For Sale at all
CANADIAN NATIONAL RAILWAYS
STATIONS and EXPRESS OFFICES



FORGET THE BARGAIN COUNTER

Buy the best roofing. Council Standard is by far the cheapest in the long run.

COUNCIL STANDARD GALVANIZED ROOFING

the roll call asked for Canadian Exports, with papers on Forest Preservation and the Mineral Industries of Canada Talks on Congoleum, Tanning and Glove Industries followed. Lennoxville had a paper on Cheese and its Uses. Dundee named County Industries as roll call, and heard an article on the Paper Manufacture Industry. Sipton had a paper on Cellulose and its Uses, and Denison's Mills a discussion on Canadian Textiles, with papers on Cellophane and the Salt Industry.

Legislation

Beebe and Dixville both enjoyed excellent papers on Legislation, and Dixville had as roll call the names of Cabinet ministers. The Bristol Busy Bees has as roll call "School Laws in Quebec," and a paper on Dominion and Provincial laws, with a question box. Women's Institute officers and members figured in the fiftieth anniversary celebration of Elmside Intermediate school. Wyman members are enjoying a McGill Travelling library. Milby had a paper on Legislation, and Ascot had as roll call Names of Noted Lawyers, past and present. Aubrey-Riverfield had a short paper on Legislation, and Dundee heard an address by the local mayor on Municipal Law. Howick had a humorous sketch on Laws Restricting Dress in the Eighteenth Century. Legislation was the subject of a paper at South Newport meeting, followed by discussion on women's rights in Quebec province. At Morin Heights extracts from the Municipal Code dealing with the holding of municipal offices were read and discussed. Richmond Hill's roll call asked for names of famous lawyers, with a paper following, giving the history of Laura Secord. Denison's Mills' roll call asked for interesting facts about Lord Tweedsmuir, and heard a paper on The League of Nations, followed by a discussion on Traffic Regulations.

Immigration

North Hatley gave gifts of blankets to New Canadian brides, also to babies of newcomers. Aubrey-Riverfield had current news read, and Howick branch listened to a story of the influence of the Women's Institute on lonely newcomers.

City Girl: "And I suppose at dusk, when the sun is stealing over the Rockies in purple splendor, you cowboys, are huddled around the campfire broiling venison and listening to the weird, eerie, unnatural howlings of the coyotes."

Rattlesnake Gus: "Well, ma'am, not ezzactly. Usually we go inside and listen to Amos and Andy."

IS YOUR SEPARATOR A MONEY SIEVE?

There are thousands and thousands of cream separators in daily use that are the finest kind of "money sieves," separating their owners from good, hard earned money. Every time they are used they waste valuable butterfat, because they are badly worn or were improperly designed and poorly constructed to begin with.

De Laval the World's Best

For 58 years De Laval Separators have been the standard of the world; the cleanest skimming, easiest running, most durable, and in every way the best. De Laval Separators of today give their users greater value than ever before.

You can prove to your own satisfaction whether or not your separator is losing money for you by a free trial demonstration that your De Laval dealer will arrange for you. Then you can actually compare a new De Laval side-by-side with your present separator, and can tell exactly how much more it will earn for you.

Pays for Itself

Thousands of dairy farmers have tried this plan during the past year and found that a new De Laval would earn its own payments.

There are two complete series of De Laval Cream Separators, providing a size and style for every need and purse.

Get in touch with your De Laval dealer; he can save you money. Or write to nearest office below.

THE DE LAVAL COMPANY, Ltd.

PETERBOROUGH
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DE LAVAL

THE STANDARD OF THE WORLD

DE LAVAL MILKERS: Faster, Cleaner, Safer and Cheaper than any other method of milking. More in use the world over than any other make. Hundreds of production records have been made with De Laval milking. Used in the best dairies of the country for producing quality milk. Experienced dairymen call them the world's best milkers. Nothing will add greater satisfaction and profit to your business.

If you enjoy reading the Journal of Agriculture, mention it to your neighbours.

KING BUG KILLER

A DRY AND SAFE DEATH DESTROYER. PREVENTS AND FLIES GROUNDWATER. KING CALCIUM PRODUCTS. CAMPBELLVILLE, ONT. CANADA.

Special

DOES
3 THINGS

Kills insects
Prevents blights
Conditions soils and plants.

HIGHEST TEST — BEST AT ANY PRICE

King Bug Killer is a dry, fluffy, bulky powder, ready to use. Covers more per pound and therefore economical. Improves leaf growth, increases production. King Bug Killer is well above Government standard chemical analysis — surest and most profitable to use. Value beyond price. Proven by thousands of potato, vegetable and flower growers.

Stocked by your seedsman or merchant. If not available, we will supply direct.

KING CALCIUM PRODUCTS,
CAMPBELLVILLE, ONT.

GUARANTEED EFFECTIVE

Use Dr. J. Woodbury's Horse Liniment and Dr. J. Woodbury's Condition Powders for Complaints and Diseases of Your Horses and Cattle

DR. J. WOODBURY'S CONDITION POWDERS FOR HORSES AND CATTLE Will purify the blood, carry off gross humors, kill bots and worms and give the animal's coat a fine glossy appearance - - - .35 per package
DR. J. WOODBURY'S HORSE LINIMENT FOR HORSES AND CATTLE A remedy unequalled for all kinds of coughs, enlarged glands and joints, kidney trouble, bruises, sores, colic, contracted and cracked hoofs - - - .35 per bottle

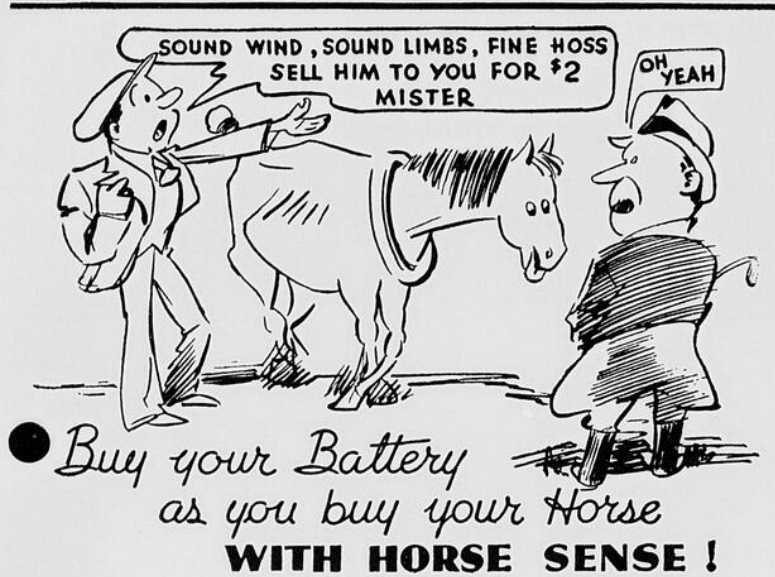


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Before using

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Manufacturers
FRASIER, THORNTON & CO. LIMITED
Cookshire, Quebec, Canada



Buy your Battery as you buy your Horse WITH HORSE SENSE!

"What? Team THAT horse up with my gray mare—no deal, brother!" Don't be fooled when you buy a storage battery—use the same judgment which you would use when buying a horse! Your car is no more reliable than the battery you team it up to.

Prest-O-Lite Batteries give you true economy. You do not pay too much or too little. Each battery is worked out to suit the engineers who built your car—men who know batteries as you know horses. You get the right weight—the right power—at a price that is low for good quality.



More Prest-O-Lite Storage Batteries are used as standard equipment by Canadian Car Manufacturers than all other brands combined.

Prest-O-Lite
Storage Battery

Our Agricultural Societies

(Continued from page 9)

chard, M.P. was right when he said that it is customary to get into debt during prosperous years so that we can pay them off in times of economic depression.

We invite the reader to study the following comparative financial statement:

INITIATIVES ENCOURAGED

- 1 society encourages the production of seed grain.
- 2 — the production of wheat.
 - 1 — good farming spirit.
 - 1 — summer work.
- 1 — the production of Cartier oats.

Financial Statement of the Agricultural Societies.

Comparison of the years	1929	1934	1935
Number of societies	90	91	92
Number of members	23,213	26,243	27,154
Balance in the bank	\$20,953	\$30,963	\$33,896
Deficit	6,841	7,962	4,209
Value of assets	549,996	608,889	618,067
Debits	185,372	174,903	143,211
Allocation regularly part		59,042	59,854

N.B.—Fourteen reports of societies for 1935 were either not at hand or were incomplete. For these we used the figures of the preceding year.

Such an interesting statement of account led us to examine more closely the report of activities of each of the ninety-two active agricultural societies in the province. We have prepared a table of the projects which they intend to follow in 1936, and from which we may be better able to judge the full farm life of our province.

Here are different undertakings which our agricultural societies are organizing, encouraging or bonusing.

LIVE STOCK INDUSTRY

Horse section

- 26 societies bonus good stallions.
- 3—the purchase of foals.
- 2—bonus foals.
- 1—holds a foal competition.
- 1 gives special encouragement to horse-raising.
- 1 encourages the building of good stables.

Cattle section

- 4 societies bonus the purchase of good animals.
- 3—the purchase of good bulls.
- 3—the encouragement of cow-testing.
- 2—the encouragement of record of performance.
- 3—organize competitions for dairy herds.
- 1—encourages the feeding of veal calves.
- 1—encourages live-stock shows.
- 1—bonuses herd testing.
- 1—encourages young judges competitions.
- 1—encourages competitions for farmers.

Swine section

- 1—bonuses the purchase of boars.
- 1—a competition for old boars.
- 1—a competition for pork production.
- 1—a competition for the building of piggeries.
- 2—bonus good boars.

Sheep section

- 1—bonuses the showing of lamb.
- 1—organizes a sheep show.

Poultry

- 2—encourage poultry raising by grants.
- 4—organize competitions for the use of poultry yards.
- 2—for the construction of poultry houses.
- 1—encourages the co-operative marketing of poultry.

RURAL ECONOMY

Competitions organized

Twenty-eight for drainage; 8 parish contests for farm improvement; 7 for alfalfa; one for good fencing; 4 for green forage, of which two are combined with competitions for turnips; 4 for pasture improvement; 4 for clearing land of stones; one for new land; 2 for mixed-grain growing; one for silage corn growing; one for Swede-turnips; 4 for farm management; 10 for standing crops; one for seed production:

- 3 competitions for the clubs of wives of farmers.
- 3 competitions for the growing of oats.
- 2 competitions for ornamentation and beautifying.
- 1 competition for fallow ground.
- 6 competitions for worked land.
- 2 competitions for barley production.
- 1 competition for seed grain.
- 1 competition for root crops.
- 1 competition for clover.
- 1 competition for clover seed production.
- 1 competition seed grain exposition.
- Seven societies bonus the purchase of chemical fertilizers.
- 3 purchase of grain.
- 3 transport of lime.
- 1 purchase of lime.
- 1 growing of forage crops.

TRUE SAFETY

IS NEVER BOUGHT PRICE FIRST

Rosco Galvanized Roofing is not made down to a price, but up to a rigid standard. Its mission in life is to protect your barn, stock, crops and equipment against



SNOW, RAIN, RUST, ROT, FIRE and LIGHTNING

It is built to give lifetime service; 7-ribbed and lying a full 32 inches. Write for FREE SAMPLE and ESTIMATES.



ROSCO 7 RIBBED ROOFING

ROOFERS' SUPPLY CO., LIMITED
Montreal and Quebec

OLD CHUM!
THIS POCKET POUCH
IS A GREAT IDEA—



YOU SAID A PIPEFUL!
THIS POUCH ALWAYS
KEEPS ME FRESH,
SPILL-PROOF AND
GOOD TO MY
LAST TINY SHRED.

LARGE
SEAL-TIGHT
POUCH
25¢

OLD CHUM
PIPE
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Read our advertising pages.
You may find in them the
answer to a long-felt need.

JUTRAS



Jutras Manure Spreader
is the pioneer of the lightest manure Spreader in the country. Since near 40 consecutive years, thousand of customers use it with the most entire satisfaction.
"Get Your Own Spreader This Year."



If you build or remodel a barn this year write now for more particulars on our complete line of stalls, stanchions water bowls, manure carriers, hay forks, etc. The only ones made in Quebec. Our prices will surely interest you.

• Free Catalogue — Write for Prices and Terms.

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Victoriaville, Que. Dept. J.A.5

Other encouragements

- 2—for stock-raising.
- 1—bonus for the construction of manure sheds.
- 2—are organizing expositions of animals.
- 2—are encouraging the construction of farm buildings.
- 2—are encouraging the repair of farm buildings.
- 1—bonus for the construction of silos.
- 1—bonus for the construction of barns.

HORTICULTURE

- 11 societies are organizing family garden competitions.
- 3 are distributing garden seed.
- 3—potato competitions.
- 2—are encouraging the co-operative buying of garden seeds.
- 4—vegetable competitions.
- 2—small fruits competitions.
- 2—are organizing strictly horticultural shows.
- 1—a potato show.
- 1—a bonus for kitchen garden vegetables.
- 1—certified potatoes.
- 1—encourages the purchase of apple trees.

OTHER PROJECTS

- Fifty expositions will be held.
- 1 society is constructing a poultry pavillon.
- 2—are improving exposition buildings.
- 1—a parish exposition.
- 1 has formed a committee to promote agriculture in the county.
- 1—a school exposition.
- 1—a recreative evening party.
- 1—is working to pay off its debt.

We cannot hope to give all particulars in this report. Perhaps these statistics will be useful to the committee formed at the last meeting of the Council of Agriculture to prepare the programme for the coming meeting which will be held in Quebec in a few weeks.

In fact, a project of renovation of the Council of Agriculture which a special committee named last year had been asked to prepare was adopted at the meeting on the 18th April. It was presented by Mr. G. Bouchard and was explained by Professor Gustave Toupin. By virtue of this new project, the Council of Agriculture will retain the number of its members, but it must be more representative of the different branches of our national economy. The executive of the Council will be composed of nine members. Committees, six in number, will be formed to study closely the different specializations of Agriculture. These committees will be permanent.

The officers and members of these committees will be elected at a meeting that will be held soon.

COOKERY EXPERT
SHARES FAVORITE RECIPE

Miss Ann Adam, Cooking Authority of Canadian Home Journal, shows how she makes Spanish Cake

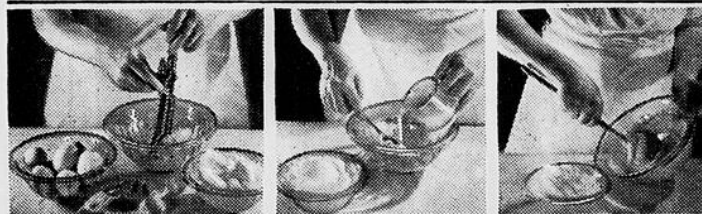


WHEN YOU BAKE AT HOME
these pictures show just how Miss Adam makes the tempting Spanish Cake shown above

"It doesn't pay to take chances with doubtful baking powder," she says. "I always use MAGIC. It never fails."



- 1. Sift 1 3/4 cups sifted flour with 1 cup sugar, 2 1/2 teaspoons Magic Baking Powder, 1 1/2 teaspoons cinnamon, 1/3 teaspoon salt, 1/4 teaspoon mace, 1/8 teaspoon each nutmeg, cloves, allspice, ginger.
- 2. Measure 1/2 cup butter or other shortening. Melt over hot water or low heat—do not cook.



- 3. Separate 2 eggs. Beat whites until stiff, then beat yolks without washing beater.
- 4. Add melted butter to 1/2 cup milk, mix well with beaten egg yolks.
- 5. Pour liquid into dry ingredients. Beat with "up, over, under" motion.

- 6. Now add the beaten egg whites to the batter, "cut and fold" them in lightly. Mix them in well without beating.
- 7. Next turn this mixture into a tube or loaf pan which has already been greased and lightly dusted with flour.



- 8. Bake in moderate oven 350° F. for about 50 minutes. Cake is baked when it begins to shrink from side of pan.
- 9. Turn out on cake cooler. Leave upside down. When cool, cover with Sea Foam Frosting (page 16, Magic Cook Book).



IT TAKES LESS THAN 1¢ WORTH OF MAGIC for this delicious cake . . .

Magic Baking Powder safeguards your cakes. Assures fine, fluffy texture, delicious flavor—every time. That's why Canada's leading cookery experts use it. Inferior baking powder too often results in failures—wastes ingredients. Don't take chances. Use Magic and be sure. Less than 1¢ worth makes a perfect cake!



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Please send me free copy of the Magic Cook Book.

Name _____

Address _____

CONTAINS NO ALUM—This statement on every tin is your guarantee that Magic Baking Powder is free from alum or any harmful ingredient.

FAGGED?

Don't expect to 'Warm up' on INFERIOR Coffee



Only RICH, FULL-FLAVORED COFFEE can speed up your circulation . . . bring new life to brain and muscles

TRY *fine, full-flavored coffee* when you feel "dead on your feet." You'll notice a difference inside of six minutes!

Science says that's because *your circulation speeds up twice as fast* after you drink rich, full-flavored coffee. More blood goes to the brain and all the tissues. Your mind is twice as alert. Muscular fatigue is relieved.

But if your coffee is *inferior*, science says it won't work this way. Weak, flat coffee does not stimulate your circulation.

You can be sure of getting plenty of stimulation from Chase & Sanborn Coffee—because it's made from the choicest coffees in the world—skilfully blended and roasted. That means you can count on it, day after day, for richer, fuller flavor.



If you want to get going faster, mornings and afternoons, stick to fine, full-flavored Chase & Sanborn Coffee. It's priced so reasonably that everyone can afford it. Buy a tin tomorrow! In pound and half-pound vacuum tins.

Roasted and packed in Canada

The Home Garden

(Continued from page 11)

destroy weed growth. The soil should be cultivated after each rain as soon as it is dry enough to work. This is to disturb germinating weed seeds and to prevent the formation of a crust or surface baking. Cultivation may be done by horse drawn implements in the farm garden and by wheel or hand hoes in the urban or city garden.

A number of insects and diseases attack garden crops. Since, a rule, the injury is not noticed until it is too late, a careful inspection should be made from time to time. Preventive measures, such as spraying and dusting are important, Bordeaux dusts and sprays are the most generally used controls for plant diseases and when necessary should be carefully applied. If insects attack the leaves, arsenical dusts or sprays should be applied. Combination sprays and dusts are often used for the control at the same time of both insects and diseases. Sucking insects such as green flies or aphids are controlled by spraying or dusting with nicotine compounds.

The time to harvest vegetables in order to have the highest quality is largely determined by their stage of growth. Quality in vegetables is of great importance to the home gardeners and it varies widely according to the kind of crop grown, weather conditions, and cultural care given during the growth of the particular crop.

Peas, sweet corn and snap beans lose their quality very rapidly after harvesting and should be prepared for the table as soon as possible after removal from the plants. High temperatures hasten the ripening processes and also the processes responsible for deterioration. Harvesting should not be delayed until they have reached full maturity, as there is a considerable lowering of the quality by this delay. Unfortunately with these vegetables there is no definite rule to follow in harvesting for the highest stage of table excellence. Experience is of most value in this connection.

The root crops, such as radishes, carrots, beets and turnips, should be harvested when comparatively small for the best quality. There is a definite relationship between size and quality; the smaller the roots (within reason) the higher the quality.

During periods of hot or wet weather, head lettuce will become worthless in a short time and it should be harvested as soon as heads are firm and compact. Cauliflower will also deteriorate rapidly and the heads should be cut as

RHEUMATISM



75¢ Box Free to Any Sufferer

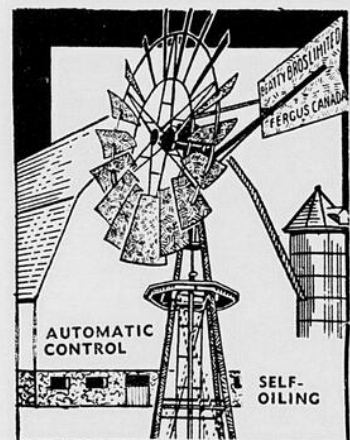
Over in Syracuse, New York, a treatment has been found that hundreds of users say "brings splendid results." Many instances have been reported where only a few days' treatment brought quick relief where everything else had failed.

It helps to drive off the poisonous clogging waste matter from the system by acting on the liver and stimulating the flow of bile, thus promoting regular and effective bowel evacuation and seems to neutralize the uric acid and lime salts deposits which clog the blood, embarrass the kidneys and cause stiffness, swelling, etc. Pain and soreness often seem to melt away and vanish.

The treatment, first introduced by Mr. Delano, is so good that his son has opened an office in Canada and wants every Canadian who suffers from Rheumatism or has a friend so afflicted to get a 75c package—just to prove what it will do—before a penny is spent. Mr. Delano says: "To relieve Rheumatism no matter how severe, stubborn or long standing the case, and even after everything else has failed, I will, if you have never previously used the treatment, send you a full size 75c package, if you will cut out this notice and send it with your name and address. If you wish you may send 10 cents in stamps to help pay postage and distribution."

Address: F. H. Delano, 1878R Mutual Life Bldg., 455 Craig St. W., Montreal, Canada. I can only send one package to an address.

FREE DELANO'S RHEUMATIC CONQUEROR



DON'T DISCARD YOUR WINDMILL

No matter what make your old mill may be, we can fit it with a new Brantford Self-Oiling, Self-Regulating head. Brantford Windmills are now made by

Beatty
BROS. LIMITED

Let us put your windmill in working order again the cheapest way.

BEATTY BROS. LIMITED,
6465 Durocher St., Montreal.

Send me your free Windmill Catalogue.

Name.....

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soon as they are of good size and well blanched.

Fall cabbage and celery will stand light frost but should be harvested before severe weather sets in. Potatoes should be dug before the rainy days of autumn. A few of the parsnips may be left in the ground all winter and harvested in the spring, although it is advisable to have a small quantity in storage for use during the winter.

In conclusion. The successful garden is well planned. It is heavily fertilized, fall plowed or dug and worked into a fine seed bed before planting.

It includes a large variety of vegetables.

It furnishes by succession plantings an adequate supply of vegetables in the best eating stage from early spring until frost.

It produces sufficient quantities of high quality crops for canning and storage.

It furnishes not less than two vegetables, and potatoes every day during the entire year.

It gives returns for labour far greater than any similar area not in garden.

It is kept free of weeds by shallow cultivation, just as they are coming through the ground, using horse drawn tools where possible to reduce hand labour.

Rearing the Chicks

(Continued on page 15)

allowing them to begin laying under the bushes nearby. The late hatched pullets are put into winter quarters by September 30th, even though they have not started to lay.

The houses containing the cockerels are handled the same as those containing pullets (except for the nest). The cockerels can be pen-fattened in their colony houses, or crate-fattened.

All houses are now clear of birds and are cleaned, scraped and sprayed thoroughly ready for next season's chicks. But first they must be moved to a new location where there have been no birds for at least two seasons. We find the best time to move them is after the ground freezes and we have about 2 inches of snow. We level them as soon as we move them.

I have touched on the important points to be watched in rearing and have left the colony houses ready for us in the spring. Here's hoping for a good fall and winter production!

Rastus and Miranda were strolling through the cemetery, when Miranda called to Rastus, "Oh Lordy! come here see what that says! 'Not dead, but sleeping.'"

Rastus: "Sleep on, big boy, you ain't fooling nobody but yourself."

Get behind the wheel— AND PROVE THESE FACTS YOURSELF!

FORD V-8 Trucks have been PROVED BY THE PAST on all kinds of farm hauling jobs. The 90-h.p. V-8 engine in the 2-ton and 80-h.p. in the 1½-ton give the farmer the power he needs for heavier loads and the speed he needs for faster, longer trips. Full-floating rear axle and full torque-tube and radius-rod drive stand the strain and wear of your heavy farm duty. Quick-action safety brakes assure smooth, safe stops from high speeds with heavy loads. These and many other quality features make Ford V-8 Trucks ideal farm units . . . economical, reliable, simple, safe and great performers.

This year, Ford V-8 Trucks are IMPROVED FOR THE FUTURE. They are now the most economical, most reliable and best performing farm trucks Ford has ever built. Try one on your own farm. Your Ford dealer invites you to make an "on-the-job" test without obligation. Make this test and see what a 1936 Ford V-8 Truck will do with your own loads, on your own farm.

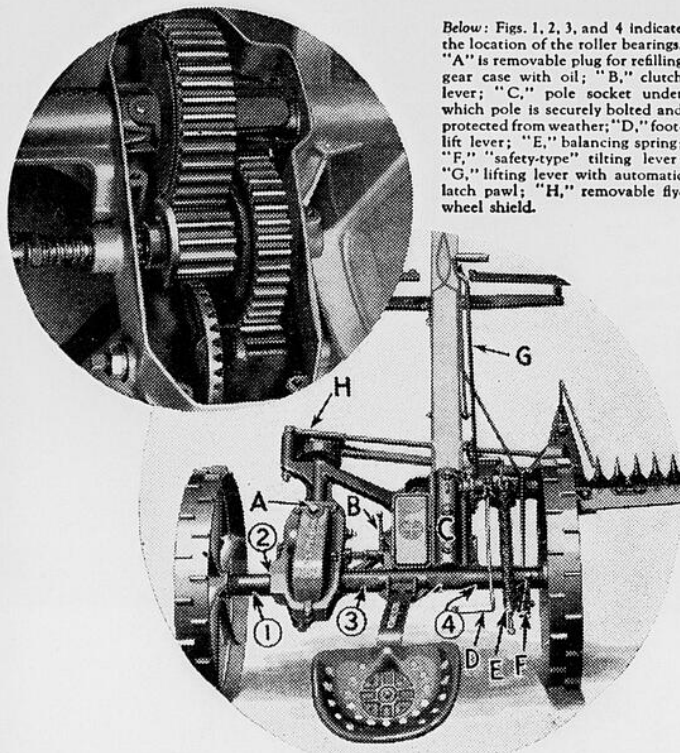
New models for 1936 are the 2-ton and 1½-ton Ford V-8 De Luxe Trucks. They have a chromium-plated radiator shell, grille and windshield frame, and two horns. Also dome light, sun visor, cigar lighter and ash tray, ventilating rear window, and twin windshield wipers. See them and the 1936 Ford V-8 Commercial Models at your Ford dealer's.



FORD V-8

2-ton and 1½-ton TRUCKS and Commercial Models

The Perfectly Balanced McCORMICK-DEERING No 7 ENCLOSED-GEAR MOWER Offers You Perfect Cutting Qualities



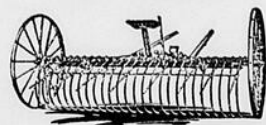
Below: Figs. 1, 2, 3, and 4 indicate the location of the roller bearings. "A" is removable plug for refilling gear case with oil; "B," clutch lever; "C," pole socket under which pole is securely bolted and protected from weather; "D," foot-lift lever; "E," balancing spring; "F," "safety-type" tilting lever; "G," lifting lever with automatic latch pawl; "H," removable fly-wheel shield.

WHEN International Harvester engineers set out to build the McCormick-Deering No. 7 Enclosed-Gear Mower they built a new mower from the ground up. They designed an automotive-type transmission with smooth, hard, broad-faced gears; a transmission case; an automatic lubricating system; a roller-bearing main axle; and rawhide oil seals to keep all the oil in and all the dirt out. These features were combined with time-proved McCormick-Deering construction, and built into a perfectly-balanced, silent-operating, light-draft mower that will last longer than most men will need it.

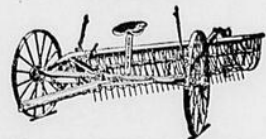
When you look into the McCormick-Deering Mower gear case you will begin to realize just how different this mower is. You won't find an old-style set of gears with a cover over them—the No. 7 mower transmission is all new. In fact, in this mower, even the ratchets and clutch are enclosed and run in oil. Backlash and lost motion are eliminated by keying the mower wheels securely on the axle shafts. Every detail of design is worked out to produce not only the longest-lived and quietest mower on the market, but one with the most perfect cutting qualities.

The nearby McCormick-Deering dealer will show you the new No. 7 and give you an opportunity to check every feature. Or we will send you complete information on request. You will enjoy reading about this modern McCormick-Deering Enclosed-Gear Mower. Sizes range from 4½ to 7-foot cut.

McCORMICK-DEERING HAY TOOLS



The old reliable McCormick-Deering Self-Dump Rake.



The McCormick-Deering Side Rake. Makes loose, fluffy windrows that air-cure the hay. Regularly equipped with two caster wheels. Available in two types, for hay or beans.

INTERNATIONAL HARVESTER COMPANY
HAMILTON of Canada, Ltd. CANADA

Federal Assistance for Fairs

(From "The Canadian Ayrshire Review")

Grants will be made to a limited number of exhibitions in Canada subject to conditions as hereunder specified and provided the following suggestions and recommendations are applied in principle and practice.

(1) Basis of Grants:—

(a) To earn maximum general grant of \$3,000 in the case of class "A" fairs and \$4,000 in the case of winter and spring shows, a minimum expenditure of \$6,000 and \$5,000 respectively is required covering the utility classes of live stock and poultry, seed grain, fruits, vegetables, dairy, honey and maple products, where competition is offered.

Note:— In arriving at expenditure, the following are to be excluded:— Classes for horse races, sporting events of all kinds, amusements, and all expenditures for such purpose; dogs, cats, rabbits, canines and pet stock of any kind; pigeons, bantams, and other so-called fancy breeds of birds and poultry where the utilitarian aspect is secondary.

(b) In addition, each fair will be eligible for a further grant up to \$500 to be applied specifically to the support of boys' and girls' club work and junior activities generally, the basis of such support to be arrived at by each agricultural society or board in consultation with a representative of the Dominion Department of Agriculture and a representative of the Provincial Department or extension service responsible for the administration of club work in the Province.

(c) A further grant of \$500 will be made towards the cost of providing satisfactory judges.

(2) Payment of Grants.

(a) Fifty per cent of the maximum general grant will be paid just previous to the opening date of the fair. At the completion of show, a return, certified by the Fair Secretary and the Auditor of Exhibition Accounts, shall be made to the Department, of the expenditure in prize money in the classes specified in 1 (a). In the case of those fairs which fail to expend in prize money the minimum stipulated, the balance of the grant will be determined on a percentage of expenditure basis. The final payment of the general grant will be made only after the Live Stock Commissioner is satisfied that the various regulations have been complied with.

(b) The grant for the support of boys' and girls' club work and junior activities generally will be made after the receipt by the Live Stock Commissioner of a statement of the amount earned.

(c) The grant to assist in providing judges will be paid before the opening date of the exhibition. After the exhibition has been held a certified statement is required giving the names and addresses of the judges who officiated, together with a statement of cost to the exhibition of remuneration and expenses.

(3) Range of Competition.

A fair may be open to competition by exhibitors in Canada and other countries desiring to compete, or if indicated by Provincial policy, competition may be limited to an area acceptable to the Federal Department.

(4) Age Limits for Cattle.

It is felt that the continuous showing of a high class individual year after year in the breeding classes is ultimately a detriment to the breed, the individual animal, and the owner. Therefore, the individual in the pure bred cattle classes six years of age or over, shall be represented in competition by his or her progeny only with the following exceptions:

(a) Dairy females and (b) Dual purpose females (as specified in section 9 and sub section 3).

(c) Bulls when three of their progeny under two years of age are on exhibit.

(d) R.O.P. bulls in the case of dairy and dual purpose breeds.

(5) Championship Awards — Horses and Cattle.

Any animal which is eligible to show in the individual classes shall be eligible to win a grand championship.

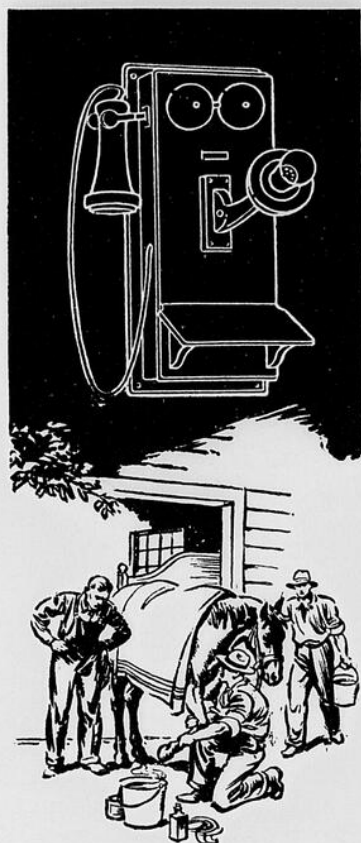
Article 6 of these regulations concern Horses and have not been reproduced here. — The Editor.

(7) Group Classes, Dairy Cattle (unsexed animals not eligible):—

(a) Senior Get of Sire — Three animals, previously shown in individual classes, two years of age and over (subject to age limit specifications — see sections 4) not more than one of which may be a male, not necessarily bred or owned by exhibitor.

Junior Get of Sire — Three animals, previously shown in individual classes, under two years of age, not more than one of which may be a male, all bred and owned by exhibitor.

Note:—If deemed advisable by the Fair Board to have only one Get of Sire class, this must consist of three animals (subject to age limit specifications — see section 4) not more than one male, not necessarily bred or owned by exhibitor.



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(b) Progeny of Dam — Two animals, previously shown in individual classes, either sex, (subject to age limit specifications — see section 4) not necessarily bred or owned by exhibitor.

(c) Junior or Breeder's Herd — Provision shall be made for a Junior or Breeder's herd as follows: one bull and at least three females, previously shown in individual classes, all to be under two years of age, females to be bred and owned by exhibitor.

(d) Two Heifers (optional class) — Two years of age and under, previously shown in individual classes, bred and owned by exhibitor.

Note:—At least 25% of the total money available to each breed must be offered in classes (a), (b) and (c). At the option of each fair directorate a class for two heifers may be added, in which case at least 30% of the prize money available to each breed must be offered in classes (a), (b), (c) and (d).

(Article 8 — Concerns Beef cattle — The Editor).

(9) Production Qualifications (Individual Dairy or Dual Purpose Classes):—

(1) Any female under four years of age having none of the undermentioned qualifications shall be awarded only 80% of the prize money won:—

(a) From an R.O.P. qualified dam.

(b) By an advanced registry or selective registration bull.

(c) By an R.O.P. sire.

(d) Which has herself qualified in the R.O.P.

(2) Any female four years and under six years of age not having an R.O.P. record to her credit shall be awarded only 80% of the prize money won.

(3) No female six years of age and over shall be eligible to show unless she has at least one R.O.P. record to her credit. If she has less than two records, she is eligible only for 80% of the prize money won.

(4) Any bull having none of the undermentioned qualifications shall be awarded only 80% of the prize money won:—

(a) From an R.O.P. qualified dam.

(b) By an advanced registry or selective registration bull.

(c) By an R.O.P. sire.

(d) Which has himself qualified.

Note:—An affidavit is required from the secretary declaring that prize money in excess of 80% of the amount won has not been paid on account of any animal which is ineligible for 100% of the prize money.

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Rare opportunities for buyers of high class chicks, sired by second generation R.O.P. Government approved cockerels from 200 egg or over hens. Sexing by experts. Rush your orders to avoid disappointment.

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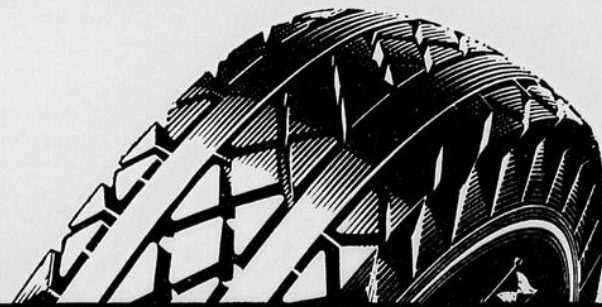


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The Kind That Pay

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The Ayrshire's claim to efficient production is the result of years of careful effort on the part of her breeders who have been largely practical farmers not concerned with outstanding individual accomplishments so much as with a uniformly high level of production for their entire herd. Cows that will produce 10,000 lbs. or more of 4% milk per year on twice-a-day milking schedule over a long period of time have been the result. Many of these cows are piling up lifetime production records of 100,000 lbs. of milk, producing a calf each year, and returning a considerable profit to their owners.

Breeders of Ayrshires have been leaders in R.O.P. testing and accreditation of tuberculosis free herds, now followed by blood-testing for Bang's disease. You can depend on getting clean, hardy cattle of proven producing blood lines when you purchase Ayrshires.

AYRSHIRE BULLS

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The uniformity of type and productivity that has been bred into Ayrshires for generations makes them very desirable for crossing on grade cattle. On hundreds of farms, the purchase of Ayrshire bulls has been followed by herds of straight backed, deep bodied, capacious heifers — the kind that grow into heavy producing cows with well attached, well balanced udders that stand up to many years of steady work. The fact that owners of grade Ayrshires have been able to get the highest prices for their cattle and have found their cows capable of producing the best quality milk are undoubtedly reasons why so many have reported success through using a pure bred Ayrshire bull.

Improvement Begins With the Purchase of an Ayrshire Bull.

Before you buy write for a free copy of the Canadian Ayrshire Review and study the facts about Ayrshires.

Address:

CANADIAN AYRSHIRE BREEDERS' ASSOCIATION

18 Rideau St.

Ottawa, Ontario

The management must acquire on its entry sheet or otherwise for identification purposes:—

- (a) Name of animal.
- (b) Registration number.
- (c) Date of birth.
- (d) Names and registration numbers of sire and dam.
- (e) Class and section.

For individuals in dairy or dual purpose classes for which production of credentials is required, the following additional information must be acquired and checked by the management:—

- (f) Production credentials possessed by sire.
- (g) Record credited to dam, if any.
- (h) If entry a female, details as to records credited to her, if any.

Only such entries as the management is unable to check are to be referred to the Live Stock Branch for verification of records. In each case, the name of animal, registration number, date of birth and names and registration numbers of sire and dam must be supplied.

(10) Closing Date for Receiving Entries.

Fair Boards must arrange to set the date for closing of entries at least twenty-one days prior to opening date of show to allow for necessary clerical work in their office and the forwarding of entries to the Canadian National Live Stock Records for checking and the return thereof.

(11) Checking of Entries and Awards.

(1) Entries. All entries for horses, cattle, sheep and swine shall be submitted by the fair management of Accountant, Canadian National Live Stock Records, Department of Agriculture, Ottawa, for checking as set forth in clause (a) hereunder.

(a) The fair management shall make a carbon copy of all entry ledger sheets, by classes, on a form similar to the form approved by the Department, a sample of which is being supplied to all fair managements. These entry ledger sheets shall be forwarded to the Accountant, Canadian National Live Stock Records allowing sufficient time to permit checking to be done and report made to the fair management prior to opening date of the show.

In addition to sample entry ledger sheet, a sample entry form is being supplied each fair management.

Note:—You will observe space has been provided for A.R. and R.O.P. qualifications for cattle and identification for all breeds where such is in force. Fair managements should instruct exhibitors to give this information when making entries.

(b) Each fair management shall forward to Accountant, Canadian National Live Stock Records, a

copy of their prize list at time of forwarding entry ledger sheets for checking.

(c) Each fair management shall instruct prospective exhibitors to have all pure bred animals registered and transferred to their ownership on the records of each particular breed organization previous to making of entries.

*Exception:—*Entries for foals of the current calendar year shall include date of birth and sex of foal and names and registration numbers of sire and dam. The dams of all such foals must be registered in name of exhibitor at date of birth of foal. If, however, any foal for which entry is made was not born the property of the exhibitor, then such foal must be registered and transferred to the ownership of exhibitor.

(d) Fair managements are requested to carefully study the sample entry ledger sheet and arrange that the entry ledger sheets as used by them shall supply all information called for on the sample entry sheet.

(e) The Canadian National Live Stock Records will make notations on entry ledger sheets submitted and will return same to the fair management. Each fair management shall immediately proceed to take the necessary steps to have the entry or entries affected corrected. No change or alteration shall be made in the notations as placed on entry sheets by Canadian National Live Stock Records.

(2) Awards:—

(a) Each fair management will be supplied by the Canadian National Live Stock Records with sufficient forms on which to make returns of awards. These returns must be typewritten and made, in duplicate, as soon after the close of the show as possible. The amounts of prize monies won by each entry, in each class, must be shown. Each class must be indicated by a heading worded similar to wording as in prize list, such as "Bull, three years or over;" "Bull, two years old and under three;" "Cow, three years, dry," etcetera.

(b) Names and registration numbers must be given for animals comprising get of sire, progeny of dam, herds, groups or pens. In the get of sire classes the name and registration number of sire must be given and in progeny of dam classes name and registration number of dam. Geldings shown as get of sire in breeding classes need not be registered.

(c) Make return in triplicate in cases where a breed organization makes a grant whether or not the grant is applied towards the total prize money offered for the breed or for one or more specials. The triplicate will be forwarded by the Canadian National Live Stock Re-

Be sure OF THE REPUTATION OF *your* SEPARATOR

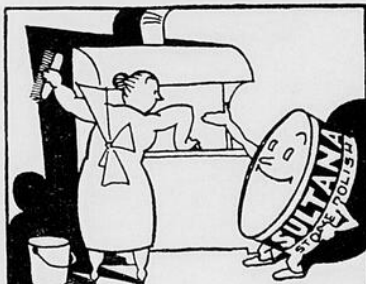
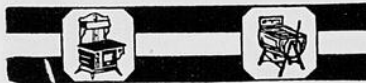
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records to the Secretary of the breed organization and will be the basis on which the Secretary will forward payment on such grant.

(d) For Holstein cattle, make all returns to Mr. G. M. Clemons, Secretary, Holstein-Friesian Association of Canada, Brantford, Ont.

(3) Checking of Animals for Identification:—

Each fair management shall provide necessary assistance to check each and every animal as it enters the ring in each class for those breeds where the respective breed organization regulations have provided for some definite form of identification. Such checking shall determine that the identification of the animal shall correspond to such markings as are shown on the certificate of registration or as advised by the Canadian National Live Stock Records.

In get of sire and progeny of dam classes, the certificates, of registration should be produced in the ring to establish that the animals exhibited are by the same sire or out of the same dam.

(4) Substitutions:—

Fair managements may permit substitutions if the animal entered has died or becomes sick before opening date of show or if an exhibitor has brought an animal other than the one entered and his reason for such substitution is satisfactory to the fair management but in all cases the fair management must immediately notify the Canadian National Live Stock Records of the substitution and withhold prize money until confirmation is received as to ownership and identification. This is very essential to avoid double checking by Canadian National Live Stock Records thereby causing delay in their certification to the Department for payment of grants.

(5) Sheep and Swine Groups and Pens:—

In those exhibitions where awards are limited and where regulations do not require all animals to be shown in group or pen classes to be also shown in individual classes, then the fair management should provide in their regulations that exhibitors, at time of making entry, give the names and registration numbers of animals to be shown in groups or pens so that these may be checked by the Canadian National Live Stock Records and reported upon as to ownership and identification.

(12) Boys' and Girls' Club Work and Junior Farmer Activities:—

(a) The exhibition society shall place the management of this junior section in the hands of a committee that must include in its membership at least one representative of the Provincial Department and at least one representative of

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This wonderful insecticide will keep your cattle and barn free from flies. It kills. — It is efficient — and LOW in PRICE.

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FOR CATTLE AND POULTRY

Your costs will be lowered by feeding Blatchford's Chick Mash Vi-tal-ized with **Y-O**

1. By reducing chick losses. Dead chicks add to the cost of living chicks.
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Your chicks NEED ALL 4 VITAMINS — A. B. D. and G.

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the Dominion Department of Agriculture named by the respective Departments.

(b) A fair may qualify for an amount up to \$500—

1. To supplement and encourage junior activities as organized by departmental officers in the area served by the fair.

2. To improve the educational value of the fair.

3. To develop new exhibitors for the future.

4. To stimulate the interest of young people in the fair and through them to interest a greater number of adults.

(c) The committee shall exercise its best judgment in reference to the effective expenditure of this money and the plans for the junior section and the proportion of the grant that shall be expended shall be subject to the approval of the representatives of the Provincial and Dominion Departments of Agriculture.

(d) Ways in which grant may be expended: —

1. It is recommended that as far as possible the junior sections be linked up with organized junior activities.

2. Transportation of club exhibits and feed for club exhibits; accommodation and meals for contestants.

3. Maintenance of boys' and girls' camps on exhibition grounds at time of exhibition, exclusive of items relating to capital expenditure, such as erection of buildings or purchase of tents, cots, bedding, etc.

4. Payment for services of a superintendent or help required to supervise contestants during period of show.

5. Prize ribbons, trophies and prize money.

Note:—Money awards may be confined to moderate prizes for showmanship and judging contest in both open and club divisions.

(13) Health and Evidence of Breeding Capability:—

(a) Tuberculin Test—Cattle will only be admitted from fully accredited herds, or from herds dealt with under the supervision of the Health of Animals Branch, which have passed a satisfactory tuberculin test, and those which have passed a satisfactory tuberculin test within sixty days of the opening of the exhibition. Cattle for slaughter after the close of the exhibition and untested calves entered in junior competitions may be admitted without the tuberculin test if properly aggregated.

(b) Tampering with Cattle — Unnatural practices in fitting will not be tolerated, and all cattle entered for competition shall be presented in the judging ring in their natural conformation and natural physical condition.

(c) Breeding Capability — In cases where doubt exists in the mind of the judge or official as to the breeding capability of an animal, the exhibitor thereof may be required to furnish evidence to the satisfaction of the official concerned.

Note:—Blood Test for Bang's disease:—

The Department suggests to fair boards that their cattle committees consider the matter of segregating animals blood tested for Bang's disease, if not for the year then to lay plans for such action to come into force in the near future. This question is considered of extreme importance and the Department is prepared to give counsel and advice to fair boards to assist them in meeting the situation.

(14) Breed Representation.

The Department is not attempting to stipulate the breeds of live stock, other than swine, nor the varieties of poultry that shall be included in a prize list, but prize money paid out by an exhibition for distinct breeds, (or varieties in the case of poultry), in excess of the number shown below will not be considered by the Department in determining the eligibility of an exhibition for a grant:—

Heavy Horses — 3 breeds — (Grade, draft and commercial classes for horses may also be included).

Light Horses — (No stipulation other than as mentioned in section 1).

Cattle—8 breeds (Grade female and market classes for cattle may also be included).

Sheep—6 breeds.

Swine—3 breeds (bacon breeds only). (Grade and market classes for sheep and swine may also be included).

Poultry—20 varieties, exclusive of geese, ducks, and turkeys.

The choice of the breeds should be governed by their importance from a commercial standpoint in the district served by a fair.

(15) Selection of Judges:—

Judges should be selected by the live stock committee of the fair board, preferably from lists of judges as approved by the various breed associations, or as named specifically by the associations for the particular show in question.

(16) Documents Required by the Live Stock Branch, Department of Agriculture, Ottawa.

Before exhibition is held—

(a) Draft of prize list in duplicate, at least two months before the opening date of the show.

(b) Three copies of prize list as soon as available.

After exhibition is held—

(c) Affidavit, as required under section 9.

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Few cents more than regular Tweddle stock but well worth it. Bred by the pick of our mating birds, birds that stand out for size, shape, vigour, color; and hatched from extra size eggs. These are going so fast, we doubt if we can fill late orders — so send your order in SOON. Hundreds of letters from Tweddle customers showing splendid performance of Tweddle chicks; take them for granted. Buy Tweddle Chicks and make the EXTRA money.

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Potato News

The release of April 1st, storage holdings revealed shorter supplies than anticipated. The market has risen rapidly and prices are firm:—

Prince-Edward Island	\$1.50/90 lbs
New-Brunswick	\$1.25/80 lbs
Quebec No. 1	\$1.20/80 lbs
Quebec No. 2	\$1.10/80 lbs
Certified Cobblers	\$1.45/90 lbs
Certified Green Mountains	\$1.60/90 lbs.

Montreal received this week: 9 Quebec, 58 New-Brunswick, 1 Prince-Edward Island; total 68, Last year 63.

Maine growers holding for higher prices. Good wire inquiry, demand active, market strong. Warehouse cash to growers, bulk per barrel \$2.65-\$2.75, few fine quality \$2.90-\$3.00 or \$1.41 to \$1.45 per 80 lbs at shipping point.

APRIL-MAY chicks for Oct.-Nov. and later profitable markets, cockerels and pullets, both jump into their markets with the real goods, if they are Owen Sound chicks. Buy chicks now that need no pampering, that grow quickly. Sired by second generation R.O.P. Government Approved cockerels from 200 egg and over hens. Exceptional prices for splendid stock. Order now, to avoid disappointment. Price-list folder. Sexed chicks. OWEN SOUND CHICK HATCHERY, Box 6, Owen Sound, Ont.

(d) Certified statement of prize money paid out in live stock and other agricultural classe, as referred to in section (a).

(e) Certified statement of money paid in connection with boys' and girls' club work and junior activities. See section 2 (b).

(f) Certified statement of names and addresses of judges showing cost of remunerations and expenses. See section 2 (c).

(g) Financial statement, as presented to the annual meeting of the association for the completed year.

Note:—Forms for submitting information required under subsections (c), (d), (e) and (f) will be supplied.

Quebec Potato Record

(Continued from page 5)

ination of the returns per acre in recent years.

Returns per Acre

We have already noted that while acreage may vary only slightly, total production might reveal wider fluctuations. Returns per acre, however, make the figures for total production look fairly uniform. This is on account of the great fluctuations in price.

Fluctuations in price are supposed to promote careful use of a small crop and expanded consumption of a large crop. Lower prices per unit are expected to go with plenty, and high prices per unit provide some compensation for a small crop. Just the extent that this is accomplished in this particular crop in this province in this period is shown in the table and chart.

Probably the year 1925 should be excluded from this record as this clearly reveals an abnormal situation. In that year a local scarcity was not made up for by available supplies from other convenient sources. Also, it is necessary to point out that figures for 1935 are only preliminary and in the light of recent higher prices they may have to be revised upwards.

Even with these modifications it is clear that in returns per acre there is a great variation from year to year. Returns from this crop must be considered over a period of years to be of much value. There is small prospect of levelling out returns per acre from year to year. Therefore it is essential that some of the profits from a profitable season should be set aside to draw on in less fortunate seasons. The great need for this is made plain by the record of the past twelve years.

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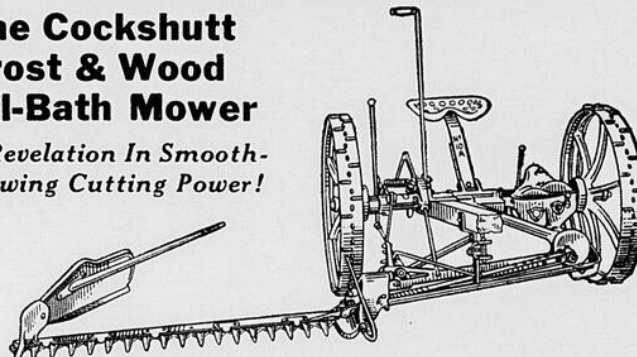
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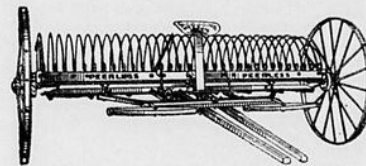
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Flowing Cutting Power!



Because the gears actually run in oil this mower performs with a smoothness you never dreamed possible. The instantaneous pick-up and the positive action will be a pleasant surprise to you. See how evenly it cuts without that waste so noticeable after a poorly cutting mower has been over the land. Features that make this mower a treat to operate are one-piece axle, generous use of ball and roller bearings, high track board, extra high lift operated by foot and comfort for the rider such as you have never known on a mower. Send the coupon.

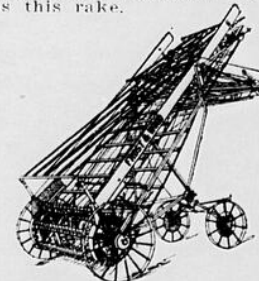
For clean, quick, easy raking get a
Cockshutt-Frost & Wood 'Peerless'

Strongly appealing to practical farmers is this rake with its many quality features. Look it over — judge for yourself. Note the reversible features which provide double wear. A special descriptive folder illustrates and explains this rake.



Put profits in place of drudgery with a Cockshutt-Frost & Wood Hay Loader

One man with a fair-sized boy or girl and a No. 2 Cylinder Hayloader will bring in more hay in a day than three men in the old fashioned way — and in better condition — a saving to you on every ton. This implement is a money maker. It gets your hay in while the sun shines.



Fill in and send this coupon for full particulars.

FROST & WOOD QUEBEC LIMITED, MONTREAL
Harvester Division of Cockshutt Plow Co. Limited, Brantford, Ont.

Dear Sirs: — Please send me information about Cockshutt-Frost & Wood Mowers (); Hay Rakes (); and Hay Loaders ().

NAME
ADDRESS E363JA

"COOPERATIVE ACTIVITIES"

THIS week, I believe, will bring us excellent news concerning the formation of the Sherrington Co-Operative, also that of Frelighsburg, whose affiliation was signed yesterday. We hope to hear that the Agricultural Co-Operative Society at Magog has definitely purchased the local creamery of which I spoke sometime ago. I hope this information will be an encouragement to those who guide themselves on the experience of others before launching into similar activities. Another co-operative society is being organized at Barnston, and it is no doubt on account of the activity of Coaticook and Compton that at various places nearby, more or less extensive steps are being taken in the same direction. We are anxious to place these facts before our readers so as to warn them against the prose of a certain group, personally interested in running down the Cooperative Fédérée.

During the course of the past week, I had the pleasure of meeting the co-operators of St. Jean Baptiste de Rouville, St. Henri de Mascouche and Ste. Theodosie. At these three meetings which were very large ones, if the weather and the roads are taken into account, an exchange of ideas took place that will, I am sure, prove of considerable benefit to all the farmers who feel the need of co-operative

organizations as a means of improving the marketing of their agricultural products.

At St. Henri de Mascouche particularly, the co-operative creamery which has been in existence for two years now, has shown splendid results of which the farmers are all proud. At St. Jean Baptiste de Rouville, there is already a co-operative cheese, factory not affiliated to ours, but functioning well and giving the farmers such excellent returns, that it is contemplated adding to this chief source of revenue in order to increase the volume of business transacted. It is often sufficient to add two or three new sources of activity to secure what is necessary to pay a decent salary to the manager, and give the farmers a service they require.

This meeting which was largely attended was mostly composed of members of the U. C. C. Agricultural Circle and reflected in a true manner the unanimous feeling of all the parishioners many of whom still remembered the work accomplished by the late Father Allaire of St. Hyacinthe, who taught the principles of co-operation all over the district at a time when very few places in our province knew anything about it. Some of the oldest members present told most interesting things on the subject, that was news to me, thereby proving that sowing good seed is al-

ways profitable and that the teachings of this pioneer of co-operation in our province have borne fruit.

I had the privilege of meeting one of my old college chums at St. Henri de Mascouche, Reverend Father Poirier who is the parish priest, and I was given the opportunity to talk freely to a large audience. The district agronome, Mr. Anthime Charbonneau and Mr. Martin were present. The satisfaction derived from largely attended meetings is an inducement to multiply them and we have several booked for next week. The idea of having two or three speakers at a meeting in order to discuss different subjects is one worth trying, because it seems too bad to ask people to come and listen to one question being discussed, when after having come out for the evening they can just as easily listen to at least three different speakers and the meeting held at St. Jean Baptiste was certainly an ideal one.

At Ste. Théodosie, the meeting I attended with Mr. Ferron, through the courtesy of the agronome, Mr. Auger, dealt chiefly with the preliminary steps to be taken in order to form a co-operative society for a creamery, and right on the spot several farmers signed up for the formation of this co-operative.

L. P. D.

"HERE AND THERE"

WE think it advisable to draw the attention of some of our readers who have not yet purchased their seed, to certain circulars that have been distributed, offering fertilizers and seed for sale at prices which will make their delivery impossible. In this regard, we may say that we were offered an order, from a certain district, at the price quoted by Messrs. XXX who were asking 25 cents per ton less than we were. We refused it but were very much surprised to receive this same order eight days later, with a note explaining that the firm in question was unable to secure the necessary ingredients with which to manufacture these fertilizers. One thing must be realized, and that is, fertilizers manufactured in the last minute rush, even if the manufacturers have at their disposal the necessary ingredients, cannot but represent fertilizers whose value is more than doubtful from the standpoint of purchase and more particularly so from the standpoint of harvest. The Canadian Industries Limited who manufacture our chemical fertilizers prepare them so long beforehand that after having been left in a heap they become solid and have to be ground and sifted over again, thereby removing all possibility of moisture. As we say in French, the effort is made, and

when after having gone through the final process of sifting these fertilizers are bagged, they are so dry that they flow like the finest of sand.

What can a farmer expect from fertilizers that are not prepared in a similar manner and for which he may perhaps pay 25 to 50 cents per ton less, but which may contain from \$1.00 to \$1.50 more of moisture? On this score, we have not the slightest reason to complain because our orders this year are far in excess of those for the corresponding period last year. But how many times has it been necessary to broach the subject, and if I am giving these details to the public, it is in the hope of avoiding considerable correspondence from people eager to secure information but apt to get caught by salesmen who are more clever than honest.

The same thing applies to seed. At the present time, we know of several places right in this province, where huge quantities of seed are offered for sale, the quality of which could hardly be graded as No. 2, but will be offered as No. 1. There are so many ways and means by which to escape the close and rigid supervision of the Federal Seed Board. The co-operation of people who are eager to keep

our soil free from the infection of poor quality seed is needed, and we know there are large quantities of such seed being shipped in.

The initiative we have taken in regard to fertilizers and seed is a continuation of the educational work of the agronomes. Up to the present time, it has meant keeping in this province a large share of the money that formerly went to other provinces for the purchase of seed the quality of which was inferior to ours. Let us, therefore, continue to encourage our co-operative societies who produce choice seed under the close supervision of the federal government, and we will thus accomplish a task that is both educational and profitable.

Those of St. Philippe, L'Acadie and Verchères who have commenced to produce high quality seed, have contributed through their sacrifice to purify our Quebec seed. Let us remember it and in preference, buy their high quality products, through our Fédérée. We will thus keep in our midst, for the benefit of the people who work in the best interest of the agricultural population, huge sums of money which during too long a period served to enrich strangers.

L. P. D.

FARM PRODUCE MARKETS

Summary On Market Conditions Issued By The

Coopérative Fédérée de Québec

Receipts on the Montreal Live Stock Market,
May 4th, 1936:—

Cattle	1.250
Calves	989
Hogs	1.806
Sheep	86

CATTLE

Cattle receipts were rather heavier than usual but prices held their own and were about on the same levels as those brought the preceding week. Most of the run was made up of fair to medium steers and the average price paid was from 4¢ to 5¢ with a range extending from 3¢ to 6¢. Cows and bulls were selling at steady prices, but rather slowly. Little change is expected on this market during the present week or even during the few weeks to come. Cows brought from 1.75 for canners up to 4¢ for the best, while bulls were selling from 3¢ to 4¢. It should be remembered that heavy bulls are rather hard to place at this time of the year.

CALVES

The demand for real good veal calves was good and prices were slightly better than what they have been in the past. What hurts this market very much is that far too many low quality calves are brought in when underweight and the presence of this class of calves has as an effect to force down the price on even the better grades. The range of prices extended from 3½¢ to 7¢ with a very keen demand for top quality calves which were very scarce. No great change is expected although there is no doubts that we may expect to see real good veals sell at a higher level than that at which they are now being sold.

LAMBS AND SHEEP

Spring lambs are in favor and still bring around \$6 per head for good quality. These have to weigh at least 50 pounds and should be fat. Light lambs are not wanted and shippers would be better off to hold them back until they are of convenient weight and finish. Sheep were still selling from 3¢ to 4½¢, but we may expect them to ease off in price during the few weeks to follow.

HOGS

Although receipts were rather heavier than usual, it was possible to secure 9¼¢ per pound for bacons. Favorable reports received from the export market were in good part responsible for this advance in price, as were also reports from the West indicating a healthier feeling out there. The usual premiums and cuts were effective on all grades. Light feeder hogs of good quality were selling at a premium and are in good demand. We feel that present favorable conditions should hold good for some time to come. It should be remembered that sows are not selling so well of late and bring only from 6¢ to 6.75¢ per pound. It may be unnecessary to stress the

A Word About Lambs

The weight and quality of lambs produced is important in encouraging the consumption of lamb meat. Consumers are showing their appreciation of the better quality by buying and consuming more lamb meat.

Lamb is a meat that depends to a great extent on its flavor and quality for popularity. Progressive producers of lambs have a special interest in maintaining the quality of lamb meat so as to secure the full benefit of the market for this appetizing product.

Buck lambs do not please consumers and discourage buying of lamb meat by consumers. To encourage Canadian farmers to market only wether and ewe lambs, buyers will discriminate in price between these and buck lambs. Buyers will cut the price of buck lambs two cents per pound.

Light and thin lambs do not produce good quality lamb meat. Heavy lambs are also undesirable for the market.

Lambs which yield a dressed carcass from thirty-eight to forty-two pounds are most desirable. The limit of acceptable weight is forty-five pounds. The corresponding weights are from seventy-five to eighty-five pounds (live weights), with ninety pounds as the top limit at the market.

To encourage farmers to market lambs of desired weight and quality, buyers will discriminate in price in favor of finished lambs up to ninety pounds weights at the market.

Heavy lambs over ninety and up to one hundred and ten pounds will be cut one cent per pound, and lambs over 110 lb., two cents per pound.

There is no need for any producer to suffer loss. The remedy is simple. Castrate all male lambs and market at the proper weights and finish. Not a dollar should be lost by producers.

MAKE MONEY BY:—

1.—Docking all lambs in the flock early in the spring.

2.—Castrating all male lambs when from ten days to three weeks old.

3.—Feeding all lambs so that they will finish at weights from seventy-five to eighty-five pounds, not to exceed ninety pounds.

4.—Picking out of the flock the earliest and fastest growing lambs and marketing them.

5.—Marketing lambs as soon as they are ready, because prices will probably be higher early in the season than in the late fall.

6.—Avoiding all loss from discounts on buck lambs and light and heavy lambs.

A. S.

importance of finishing hogs properly before shipping them on market. The present favorable prices that prevail should be an inducement to farmers not to sell their hogs before they have reached the 200 pounds when they would bring the highest returns to feeders.

BUTTER

We have to report a very quiet market. Demand has been very light and with difficulty to dispose of stored butter and current receipts which are now increasing rapidly, prices are tending to a lower level.

Monday afternoon, May 4th, wholesale prices for No. 1 pasteurized, were ranging from 19¼¢ to 19¾¢ per lb.

CHEESE

Current arrivals of colored cheese are well taken at 10¢ to 10½¢ per lb.

There is practically no demand for white cheese.

POTATO NEWS

Supplies have been heavy due to dealers buying for delivery after April 15th., and farmers are anxious to sell at the present high prices before they start farm work on the land. The present prices can be maintained if shippers reduce their offering to the current demand as the supplies left to ship will not be able to carry as large stocks if the weather continues warm, as they sprout too fast. The first steamer from P.E.I. the Cape Gaspé arrived Friday with 2301 / 80's, 2000 / 90's.

Montreal received this week 4 Que. 72 N. B., 6 P.E.I. total 82 cars, last year 66. NEW POTATOES 3 Florida 1 Texas.

The new budget has provided for the same duty on imported potatoes as the U.S. charge on Canadian Potatoes. The American market is slightly weaker this week on old and new potatoes, but with this new provision in the tariff, the market here will be governed by the supplies in Canada.

Market prices P.E.I. Gr. Mts. \$1.65-1.70, Cobblers \$1.60 N.B. Gr. Mts. \$1.45-1.50, Cobblers \$1.40, Que. \$1.00, \$1.45, \$2.00, \$1.45. 80 lbs. delivered in Montreal in carlots.

EGGS

Montreal & Quebec: Current arrivals have been easily cleared for immediate requirements. Consequently offerings for storage purposes have been limited and with present conditions, prices are well maintained to a slightly higher tendency.

LIVE POULTRY

Live fowls and broilers: There is no important change to note in prices; arrivals are light and easily cleared.

DRESSED POULTRY

Although the local demand is limited, there is a fair activity for exportation and prices are maintained steady.

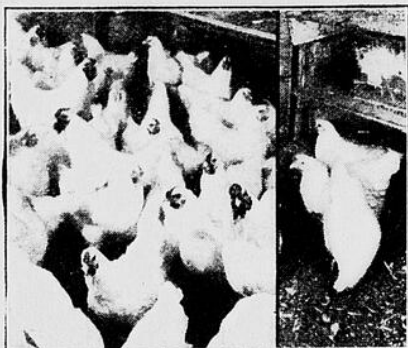
DRESSED PORK

Montreal & Quebec: Market firm and have to report a slight advance in prices.

DRESSED CALVES

Montreal & Quebec: With a better demand and limited offerings, owing to lighter arrivals, prices have advanced ½¢ per lb.

Left; Part of a Bray breeding flock which has passed the 6 tests required of every Bray breeding bird. Right; Good looking birds, but not good enough to stay in a Bray breeding flock. They were culled out of the flock at the left!



Customer Says Bray Chicks Are Better Birds Than We Advertise

D. R. DUCHEMIN, Ridgeview Poultry Farm, Myrtle, Ont., bought two lots of chicks last year — one lot of Bray chicks and one lot from another source. Of the latter — well, "the less said the better," says Mr. Duchemin. But the BRAY chicks, he says, were "BETTER BIRDS THAN YOU ADVERTISED."

Such a statement means a lot to us, but we believe it means just as much to every chick buyer in the country. We advertise Bray chicks strongly because we know the kind of stuff they're made of. Some people feel that our chicks can't possibly be as good as we claim. But here's a customer who says we could advertise them more strongly than we do and still be on the safe side.

This year, naturally, Mr. Duchemin came back for more. He got 405 on February 4th. Five weeks later, he still had 399. Just 1 1/2 per cent. loss.

Quebec Customer Says: "Best Chicks Ever Received from Ontario."

Last month (March) we shipped 700 day-old Leghorn chicks to a customer at Chateauguay Basin, Que. On March 23rd, he wrote us the following letter:

"I received the shipment of 700 Leghorn baby chicks on March 20th, and wish to state they are the best looking lot of chicks I have ever received from any shipper in Ontario. They arrived in perfect shape and I am very well pleased.

"Have you 300 New Hampshire pullets, as I want them just as soon as I can get them.

"Please put me on your mailing list for next year, as I will be requiring 2,000 to 3,000 chicks early in March, 1937."

— E. W.

Send for Catalogue and Price List

Send for our catalogue and price list today. In the catalogue, you will find a full description of Bray methods of selecting breeding stock, selecting hatching eggs, blood-testing and incubating — all the things we do to MAKE Bray chicks "better than we advertise," or to make them "the best chicks ever received from Ontario," as the above customers have put it.

And you will find our chicks very reasonably priced, considering their quality. We believe it will pay you to investigate, before placing your order for your 1936 flock.

The coupon below is for your convenience. Mail it either to our head office at St. Catharines, Ont., or to the Bray Hatchery at Sherbrooke, Que. You will receive the catalogue by return mail.

MAIL THIS COUPON

FRED. W. BRAY, LIMITED,
44 Clayburn Avenue, St. Catharines, Ontario,
or Sherbrooke, Que.

Please send me your 1936 Catalogue and price list.
I usually keep..... hens. I have.....
brooder houses and.....brooder stoves.

NAME.....

ADDRESS.....

FREE FEED

We offer you the choice of Two Week's FREE FEED or a substantial CASH DISCOUNT if you "book" your order for Bray Chicks 30 days in advance!

Two important diseases of ducks in Quebec

(Continued from page 13)

as the supply house used by the black-fly. These birds should be taken as far from the running water as possible for the duration of the black-fly season, or until the ducklings are well grown. Where removal is not possible they may be kept in a shed and the entrance and windows should be screened by a double layer of cheese-cloth. Another method which is practical, but which is not so certain of success, is to oil the heads, necks and other parts not thickly feathered with a mixture of

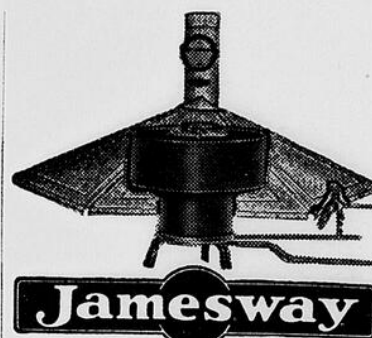
Oil of Citronella 1 part
Liquid Petrolatum 5 parts
Some owners claim success in preventing attack by smearing butter on the birds' heads.

The above methods would have to be modified in places where other flocks are present on nearby farms, or where wild ducks are present in the vicinity. Then the ducklings must be kept in screened pens (preferably cool and dark) during the last part of May and throughout June and July. It appears that very young ducklings are much more susceptible than are well grown birds, so that a good rule is to have the ducklings well-grown before the end of May. If any duckling shows symptoms of disease it must be promptly removed and kept away from black-flies; this is a point which may be overlooked but which is extremely important because of the immense number of parasites in a recently infected duckling's blood. If a duckling is found dead, cover it quickly so as to prevent the escape of the engorged flies which will still be numerous among the feathers; alternatively, throw some boiling water or fly-spray over the carcass.

It is difficult to make general recommendations for prevention, but each owner must take some steps to protect his young stock according to his individual circumstances. That practical control is possible has been well proved in the United States, and it is hoped that a consideration of the life-cycle of the parasite and the black-fly will be a guide to each and every owner of ducks. An interesting fact is that certain areas are comparatively free from the black-fly, *S. venustum*, and that the largest duck farm in Quebec is purposely located in such an area and has met with complete success.

The Stomach Worm of Ducks

Another parasite of ducks in this province is a small round-worm or



Jamesway POULTRY EQUIPMENT

The reliability of Jamesway poultry equipment has become so well known that "Jamesway Hatched" is equivalent to a guarantee of quality.

The Jamesway Oil Heated Brooder sets the pace because it has everything a good brooder should have . . . an eight gallon oil tank on sturdy, high legs . . . raised strainer . . . automotive type filter . . . oil pipe clean-out . . . overflow pipe . . . thermostat assembly of die cast and machined parts . . . air intake regulator . . . draft equalizer . . . roof pipe ventilator . . . cast iron base, burner, lid and pipe collar . . . radiator type heat drum . . . galvanized hover and many other features that make it the ideal brooder and outstanding buy of the season.

Canada's leading poultrymen use Jamesway equipment throughout. Incubators, oil and coal burning Brooders (now reduced in price) Battery Brooders, Feeders and Waters of all kinds, steel nests, laying cages, oat sprouters, oat germinators and brooder houses.

Manufacturers of all kinds of sheet metal building materials.

Buy from your local Jamesway dealer or write direct to



Factories also at Montreal and Toronto

LOOK, CHICK BUYERS. — On all orders for Tweddle chicks to the end of the season, we will give you a discount of 10% off regular prices providing you order your chicks 3 weeks in advance of shipment date. Think what that means. Tweddle chicks, sired by R.O.P. Government Approved second generation cockerels from 200 egg or over hens, breeders blood-tested. Get new pricelist effective at once, size up your requirements, order now for May-June delivery and make yourself a present from us of 10% of your order. Act quickly. Our capacity is large, but we expect it to be worked over time. So if you want your chicks when you want them, order now. Sexed chicks (done by experts). TWEDDLE CHICK HATCHERY LIMITED, Box 6, Fergus, Ont. Eastern Branch: Montreal, 403 Notre Dame East. (Correspondence to Fergus.)

A SPECIAL SALE OF HEAVY BREED COCKERELS. We happen to have a surplus due to heavy buying on sexed pullets. They will develop quickly for the broiler and later dressed poultry markets which are becoming so profitable. Write for prices. Regular Tweddle quality, sired by second generation Government Approved R.O.P. cockerels, heavy weight birds. Write at once, they will go quickly. Other regular stock of course, and sexed chicks. Poultry Book and pricelist. (French and English.) TWEDDLE CHICK HATCHERY LIMITED, Box 6, Fergus, Ont. Eastern Branch, Montreal, 403 Notre Dame Street East. Correspondence to Fergus. Send in your orders for May at once to avoid disappointment.

When writing to advertisers, mention the Journal of Agriculture.

WINDMILLS AND PUMPS

We have taken over the patterns and equipment of Ontario Wind Engine and Pump Co. and are in a position to supply repairs for same. McINTYRE & TAYLOR INC., 360 Recollet Street, Montreal.

FOR SALE — Certified Potatoes Seed, Green Mountains. La COOPERATIVE AGRICOLE DE LAURIERVILLE.

ONE 8 years experience buttermaker wants to work. Entire satisfaction guaranteed, first class reference furnished. Apply M. F., 77 d'Artigny, Quebec.

RABBITS—RABBITS—RABBITS

I'LL buy and pay the highest price of the market for immediate delivery 10,000 living rabbit, weighing from 5 pounds and over. Write to Mr. M. LEGRAND, suite 107, 460 St-Catherine St. W., Montreal who calls at your place.

FOR SALE — White Chester young pigs farrowed March 12th, from old sow. Ayrshires, all ages. OLERY LALANNE, Mont St. Gregoire, Iberville City., P.Q.

CERTIFIED Cooperative Hatchery, Department of Agriculture offer B.P.R. one day old chicks, mention the quantity, will quote may price. CAIUS LACROIX, sec. Chick Hatchery, St. Michael, Bellechasse City., Que.

MUSICAL INSTRUMENTS — Specials this week, send today. Hawaiian or Spanish Guitar, with Case, Picks and Instruction Book, \$9.65 complete Violon with Case and Bow, \$6.75. Accordeons, \$4.50. Shipped prepaid. Deposit will reserve any instrument. MUSICAL MAIL ORDER HOUSE, Box 3, Station "B", Montreal.

FOR SALE — Fine certified raspberry plants, Newman at \$3.00 per hundred or \$25.00 per thousand. Senator Dunlop Strawberry plants at 0.75 per hundred or \$5.00 per thousand. Apply at ALFRED ALLARD, St-Francois du Lac, Yamaska City., P.Q.

FOR SALE — Registered Ayrshires: 1 bull, 17 month old; spring calves. Sire class A, dam registered at R.O.P. Leicester Sheep, Yorkshire pigs. Address ZENON BERUBE, St-Donat, Rimouski City., Que.

EARLIEST Tomatoes, our list describes better vegetable seeds, raspberries, strawberries, etc. (We correspond in English only.) EDWARD LOWDEN, Hamilton, Ontario.

ORDER YOUR Twedde White Leghorn Chicks

Soon For May-June Delivery

The pullets come into laying season quickly with those large, chalk-white eggs of uniform size your customers like, and keep up the performance consistently. They will enable you to make money on the early-high-priced-egg markets in the late summer. The cockerels are fine, fattened for the tourist or small-family broiler trade good right through the season.

Order soon as we anticipate a late rush on these.

All Twedde chicks grow into producers on egg or dressed poultry markets. Sexed chicks also.

Sexing by Experts

Use this coupon NOW, get pricelist and timely bulletins on subjects of interest and value. (Recipes for chicken and egg dishes.)

SPECIAL!! Good All Season — 10% discount on all orders given 3 weeks in advance of shipment.

Twedde Chick Hatchery, Limited, Box 6, Fergus, Ont.

Please send me pricelist, Poultry Book, and other data.

Name and address in full.
Number of hens usually kept.

nematode which inhabits the glands of the true stomach or proventriculus. This parasite does not cause such losses as does the preceding one, but nevertheless is important under certain circumstances.

The parasite was first found by the author in a duck from the vicinity of Ottawa in 1933. It was then described under the name *Tetrameres crami*, new species. Since that time it has been found to be a common and widespread parasite of both wild and domestic ducks in Canada. Recent studies in this Institute have shown that the parasite is carried by two tiny fresh-water "shrimps," "scuds" or amphipods which are common inhabitants of rivers, creeks and lakes in North America. These amphipods, now known as the intermediate hosts of the parasite, are known by their scientific names of *Gammarus fasciatus* and *Hyaella knickerbockeri*. The first is a shrimp-like animal also called a "sand-flea." It is a little more than a quarter of an inch in length and, as the common name implies, inhabits sandy shores of lakes. It may be found clinging to plants in from one to two feet of water. The second one is very much smaller, being about an eighth of an inch in length. It inhabits still bays, rivers and even small creeks which contain an abundance of dead leaves and green algae. It is generally green in colour and is very active. It is probably the most suitable carrier for the parasite on the average farm.

The nematodes of the genus *Tetrameres* are very peculiar in that the adult female loses its worm-like shape and becomes globular, and is bright red in colour. It grows to a size of one-eighth inch in length by one-tenth inch in width. The male remains in the stomach cavity as a tiny colourless worm, and is not easily seen even by careful observers. The bulk and colour of the female's body makes it quite easily seen as a dark object on the wall of the stomach. Harmful infestations are readily seen on post-mortem examination when the stomach is slit open and held up against a source of light. (See illustration.)

The entrance of the female into the glandular cavity causes a process of inflammation; this, however, is quickly overcome when few worms are present. When many females infest the stomach the normal digestion is retarded and the bird does not gain weight normally. The result is that losses occur in market birds due to poor condition.

A consideration of the newly discovered life-history shows means of combatting this parasite. The worms mate in the stomach

SEILING'S Hi-Quality **CHICKS**
Government Approved All Breeding Stock Blood Tested
Barred Rocks, White Rocks, White Leghorns

Whether you want day-old chicks, day-old cockerels for roasters or broilers, or pullets any age from day-old to ready-to-lay — now is the time to place your order. It will pay you to get our terms and prices before placing your order anywhere. Our free catalogue gives you all the facts.

SEILING FARMS AND HATCHERY
ELMIRA Box 370J ONTARIO

BELGIANS

We have just received the finest selection of stallions and mares that has ever been imported into Canada. After several months of travel by our representative throughout Belgium, this shipment has been chosen from hundreds of the best horses in that country, and includes animals representing the leading blood lines, as well as progeny of last year's grand champion of Belgium.

This stock can be seen at Jersey Health Farms Reg'd., Isle Bizard, near Montreal, where several last year's champions at Canadian shows also can be inspected and purchased. This wonderful selection is for sale. Be sure to see our complete stock of horses before you buy.

Mares ranging from \$350.00 up. Stallions from \$600.00 up.
JERSEY HEALTH FARMS REG'D.
Isle Bizard, Que. Near Montreal

WELL! WELL! HERE'S THAT NEW FEED!

THEY SAY IT'S JUST THE THING FOR DEVELOPING SOUND PULLETS WITH ITS LOW PROTEIN AND HIGH FIBER

THAT'S A BREAK FOR US. WE'LL GROW BIGGER, LIVE LONGER AND LAY MORE BIG EGGS

WON'T THE BOSS BE HAPPY WITH A FINE BUNCH OF BIG, STRONG PULLETS THAT WILL MAKE HIM A PROFIT ALL THROUGH THE YEAR

PRICE TAGS DON'T MEAN A THING!

Determine the Cost of YOUR Mash by the Number of Eggs and Pounds of Meat it Produces

• If you want a uniform, well developed flock of smoothly feathered, capable pullets next fall begin now with your baby chicks.

Feed them Ful-O-Pep Chick Starter — the Ful-O-Pep Way — for the first six weeks. They will surprise you with their husky, uniform growth and feathering.

When you put the pullet chicks on range, feed them Ful-O-Pep Developer with lots of Ful-O-Pep Coarse Chick Feed and oats. This low protein, high fiber feed develops good chicks into big, sound bodied birds with the constitutional vigour to sustain heavy egg production — and live longer. It costs less to feed the Ful-O-Pep Way. The pullets reach complete maturity — the big, sound type of bird that can pay profits in the laying houses.

Follow successful poultrymen who use Ful-O-Pep Feeds. Read how they do it — in the new book "Ful-O-Pep for Better Chicks and Laying Hens," sent free for coupon or postcard.

THE QUAKER OATS COMPANY

Dept. Q.J.A.-2 - - PETERBOROUGH, ONT.



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FOR THIS NEW 46 PAGE BOOK.

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130 ST. PAUL ST. EAST, MONTREAL

LIVE FOWLS		"Red"		LIVE DUCKS		EGGS	
A—	22c	A—2½ lbs. and over	26c	A—	24c	A (large)	21c
B—	20c	B—2 lbs. up to 2½ lbs.	23c	B—	22c	A (medium)	19c
C—	17c	C—1½ lb. up to 2 lbs.	20c	C—	19c	B—	18c
Roosters	14c					C—	17c
LIVE BROILERS		"White" (Leghorn)		LIVE TURKEYS (female)		PORK (dressed)	
Must weigh at least 1½ lb. each, at Montreal.		A—2½ lbs. and over	26c	A—	25c	Good	12c per lb.
A—2½ lbs. and over	33c	B—2 lbs. up to 2½ lbs.	24c	B—	23c	Medium	11½c per lb.
B—2 lbs. up to 2½ lbs.	30c	C—1½ lb. up to 2 lbs.	20c			Common	10½c per lb.
C—1½ lb. up to 2 lbs.	26c						
"Grey"		LIVE RABBITS		MILK FED CALVES (dressed)			
A—2½ lbs. and over	33c	Must weight at least 5 lbs. each, per pound		Good	8½c per lb.		
B—2 lbs. up to 2½ lbs.	30c	Live Pigeons, per pair		Medium	6½c per lb.		
C—1½ lb. up to 2 lbs.	26c			Common	4½c per lb.		

From the above prices, we deduct a commission of 5% to our affiliated cooperatives and 8% to individual shippers.

LIVE STOCK — PRICES OBTAINED ON THE MONTREAL STOCKYARD

By The Canadian Livestock Co-operative of Quebec, Ltd. MONDAY, MAY 4th, 1936

HOGS		COWS		LAMBS		HEIFERS	
Select bacon	190 to 230 lbs \$9.25	Choice	4c to 4¼c	Choice spring lamb	\$6 to \$7 per head	Choice	4½c to 4¾c
Premium per head	\$1.00	Good	3½c to 3¾c			Good	4c to 4¼c
Bacon	180 to 230 lbs \$9.25	Medium	3c to 3¼c	SHEEP		Medium	3½c to 4c
Butchers	160 to 240 lbs \$8.75	Common	2½c to 2¾c	Good	4c to 4½c	Common	2½c to 3c
Lights	120 to 160 lbs \$8.75	Very Common	1¾c to 2c	Common	3c to 3½c		
Heavies	240 to 270 lbs \$8.75	MILK FED CALVES		STEERS		BULLS	
Extra Heavies	270 lbs or more \$8.25	Choice	6c to 6½c	Choice	5½c to 6c	Choice	3¾c to 4c
Sows	\$6.00 to \$6.75	Good	5c to 5½c	Good	4¾c to 5c	Good	3½c to 3¾c
		Medium	4½c to 5c	Medium	4¼c to 4¾c	Medium	3c to 3¼c
		Common	4c to 3½c	Common	3½c to 4c	Common	2½c to 3c
		GRASSER CALVES		Common (light)	2½c to 3c		
		Good	3c to 3½c				
		Common	2½c to 3c				

COMMISSIONS: — Per car — Cattle, \$17 a car; calves, \$12; sheeps or hogs, \$10. Per truck — Cattle, 75c per head; calves, hogs or sheeps, 20c.

PRICES RETURNED BY THE COOPERATIVE FEDEREE — AT QUEBEC

FOR WEEK ENDING MAY 2nd, 1936

EGGS		DRESSED LAMBS		DRESSED CHICKENS (Milk fed)		DRESSED CHICKENS (Selected)	
A (large)	19c	No. 1 35 to 45 lbs.	13c	A—6 lbs. and up	26c	A—6 lbs. and up	21c
A (medium)	18c	No. 2 30 to 35 lbs.	11c	A—5 lbs. to 6 lbs.	24c	A—5 lbs. to 6 lbs.	20c
A (pullets)	17c	No. 3 25 to 30 lbs.	9c	B—6 lbs. and up	24c	A—4 lbs. to 5 lbs.	19c
B—	16c			B—5 lbs. to 6 lbs.	22c	B—6 lbs. and up	19c
C—	16c			B—4 lbs. to 5 lbs.	21c	B—5 lbs. to 6 lbs.	18c
DRESSED CALVES (Milk fed)		DRESSED PORK		DRESSED FOWLS (Selected)			
Choice—90 lbs. and up	8½c	A—Bacon-choice, 135 lbs. to 160 lbs.	12½c	A—6 lbs. and up	24c	B—6 lbs. and up	18c
Good—80 lbs. up to 89 lbs.	7½c	B—Bacon, 110 lbs. to 160 lbs.	12c	A—5 lbs. to 6 lbs.	23c	B—5 lbs. to 6 lbs.	17c
Medium—70 lbs. up to 79 lbs.	6½c	Butcher—110 lbs. to 160 lbs.	11¾c	A—4 lbs. to 5 lbs.	22c	B—4 lbs. to 5 lbs.	17c
Common—60 lbs. up to 69 lbs.	5c	Heavy—160 lbs. to 200 lbs.	10½c	B—6 lbs. and up	22c	C—6 lbs. and up	16c
		Extra heavy, 200 lbs. to 250 lbs.	9½c	B—5 lbs. to 6 lbs.	21c	C—5 lbs. to 6 lbs.	15c
				C—6 lbs. and up	19c	C—4 lbs. to 5 lbs.	14c
				C—5 lbs. to 6 lbs.	17c	Roosters	12c
				C—4 lbs. to 5 lbs.	16c		

We do not handle live poultry at our Quebec Branch. See above for prices paid in Montreal.
From the above prices, we deduct a commission of 5% to our affiliated cooperatives and 8% to individual shippers.

Returned Prices for Week Ending April 28th, 1936 inclusively — Montreal and Quebec

Fresh Butter—No. 1 Pasteurized	19½c	No. 1 Unpasteurized	19¾c	No. 2	18¾c
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VERY IMPORTANT: No commission or warehouse charges are deducted from our prices of butter.

Fertilizers

F.O.B. MONTREAL, BELOEIL, QUEBEC or LEVIS

FERTILIZER MATERIALS

	Nit	Phos. Acid	Pot.	Weight per sack	Cash Price	Credit Price
Superphosphate (Granular)		20%		125 lbs	\$19.00	\$20.50
Superphosphate		16%		125 lbs	16.50	18.00
Muriate of Potash			50%	200 lbs	38.00	40.00
Sulphate de Potash			48%	200 lbs	50.00	52.00
Sulphate of Ammonia	20%			200 lbs	35.00	37.00
Nitrate de Soda	15%			100 lbs	46.00	48.00
Stable-Phos.		20%		125 lbs	20.50	22.00

MIXED FERTILIZERS

Nitro-gen	Phosphoric Acid	Potash	Weight per sack	Cash Price	Credit Price
2	12	6	125 lbs	\$23.00	\$25.00
2	12	10	125 lbs	26.00	28.00
4	8	10	125 lbs	25.50	27.50
6	8	10	125 lbs	29.00	31.00
9	5	7	125 lbs	30.00	32.00
6	16	6	125 lbs	23.50	25.50
5	8	7 (Special for Tobacco)	125 lbs	30.00	32.00

Special prices for straight 20 tons cars of Sulphate of Ammonia or Nitrate of Soda on application.

For any term payments, apply to the Coopérative Fédérée de Québec.

Recommendations

GRAIN CROPS
2-12-6 300 to 600 lbs. per acre on heavy soils;
2-12-10 300 to 600 lbs. per acre on very light soils.
For heavy soils the Fertilizer Board recommends 20% Superphosphate at 500 lbs. per acre.

EARLY POTATOES
4- 8-10 800 to 1200 lbs. per acre with manure.

LATE POTATOES
2-12-10 800 to 1200 lbs. per acre with manure;
4- 8-10 1000 to 1800 lbs. per acre without manure.

CORN (ensilage)
2-12- 6 500 lbs. per acre on heavy soils with manure
2-12-10 500 lbs. per acre on light soils with 12 tons manure.

SWEET CORN
2-12- 6 600 to 1200 lbs. per acre with manure, or
4-8- 10 800 to 1400 lbs. per acre without manure.

TOMATOES
2-12-10 600 to 1200 lbs. per acre on light soils with 8 tons manure
2-12- 6 600 to 1200 lbs. per acre on rather heavy soils with 8 tons manure.

PEAS AND BEANS (In Pod)
2-12-10 600 lbs. per acre on light soils without manure.
600 lbs. per acre on heavy soils without manure.

CABBAGE, CAULIFLOWER and CUCUMBERS
4- 8-10 800 to 1200 lbs. per acre with manure and top dressing with quick acting nitrogen; 100 lbs. per acre at a time.

TOBACCO (General)
5- 8- 7 1500 to 1800 lbs. per acre without manure and 1000 to 1500 lbs. with manure.

PASTURES and HAY
0-16- 6 300 to 500 lbs. per acre (In Fall)
2-12- 6 500 lbs. per acre (In Early Spring)
It may be sometimes advantageous to add a nitrogen fertilizer in Spring.
Fertilized Pastures are more palatable, more nutritious and, when properly grazed, have twice the stock-carrying capacity of unfertilized.

COOPÉRATIVE FÉDÉRÉE DE QUÉBEC

130 St. Paul St., East

Tel. HArbour 4111

Montreal

and the female becomes engorged with eggs, thus becoming imprisoned in the gland cavity. The eggs are laid into the stomach cavity when they contain active immature worms. They pass out with the droppings and if they fall into water containing the amphipods they may be swallowed by these creatures. The eggs hatch in the intestine of the amphipod, penetrate the wall and crawl into the body cavity. Here they moult and grow; in twenty days they become fixed in a cyst in some part of the body and again moult. In about thirty days they are able to infect a duck, and owing to the fact that infested amphipods are sluggish and rise to the surface of the water, they are easily caught and eaten by ducks. Thus the worm again reaches the stomach; here it moults again and remains in the mucous lining for some days. Once more it moults, this time into the adult parasite which penetrates the gland cavity, mates, and again commences the cycle. Owing to the inaccessible position of the worms in the stomach, medicinal treatment would not be satisfactory. Prevention of harmful infestations is practical if means can be employed to prevent ducks from infesting and later eating the amphipods.

Attempts to destroy the amphipods in the water by means of chemicals have not proved satisfactory. Hence it remains for the owner to watch for harmful infestations, and if they occur in his flock, to keep the ducks away from the water when they are very young or when they are being kept for breeding stock.

As a rule, worm parasites only cause disease when the balance of life is upset, and prevention of parasite disease is merely a process of readjustment. In the case under consideration, it is not easy to imagine that a flock of domestic ducks on a body of water represents abnormal conditions, since we know that huge flocks of wild ducks inhabited small bodies of water in the past. We must then consider that the other hosts, the amphipods, are now more numerous than they were in uncivilized times. We find strength for this argument in the fact that amphipods are an important part of the diet of many fishes, and everybody knows that our fish populations have been reduced to an alarming extent. Is this not a case where the natural enemies of the amphipods have been destroyed so that the amphipods have increased to such an extent that they are always present in numbers to become carriers of the *Tetrameres* parasite?

The above thought may lead to a natural way of control of this parasitic disease. Introduce and protect a number of fish in the

water used by the farm ducks and perhaps the life-cycle of the worm will be so weakened that heavy infestations, and hence disease, will not occur.

In controlling malaria by keeping the adult "carrier" ducks away from the water in the early summer, the infestation by this worm parasite will also be reduced, because again the adult duck is the carrier.

Farms that produce ducks on a large scale need not hesitate to place their birds on water for a period of two weeks before marketing for slaughter in order to improve their feathering.

Note: — This Institute will welcome enquiries relative to parasitic diseases of poultry or other live-stock.

If any owner of ducks desires to have his adult birds blood-tested this month, in order to eliminate or isolate the "malaria carriers", he is invited to write to this Institute for instructions and material. Applications should only be made by those whose ducks have been infected during previous years. This service will be rendered free of charge.

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WE used to enjoy the visits of friends and relatives from the city. But there was one thing about them that puzzled us. They'd take little side glances at the mouldings or window frames on the house—or at the weather-beaten sides of the barn—and then say, "Well, times are pretty tough, I guess". Finally it dawned on us that during those lean years, we had let the place run down till it was no wonder people thought we were having a tough time of it. Times are not exactly "good", even yet, but they're lots better than they were, so we got busy and painted every building on the place. And I don't know of a thing we have done on the farm in years, that has given us more happiness, or a greater feeling of contentment. And, while I don't think our visitors realize it, they stay longer than they used to. So it must be that the pleasant surroundings help us enjoy, all the more, the peace and quiet of the countryside.

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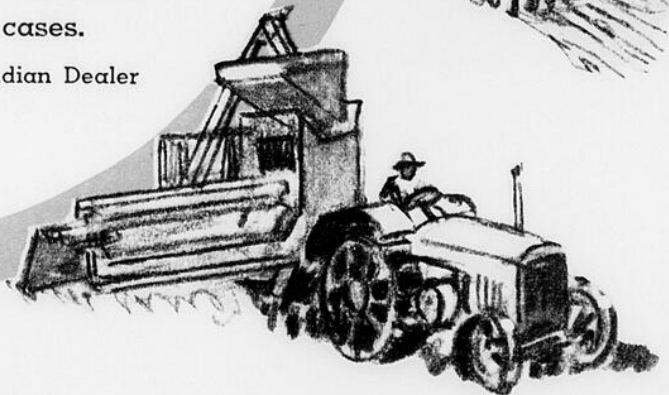
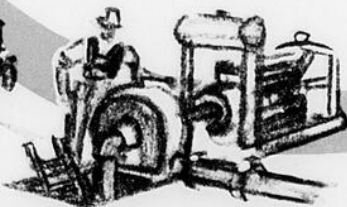
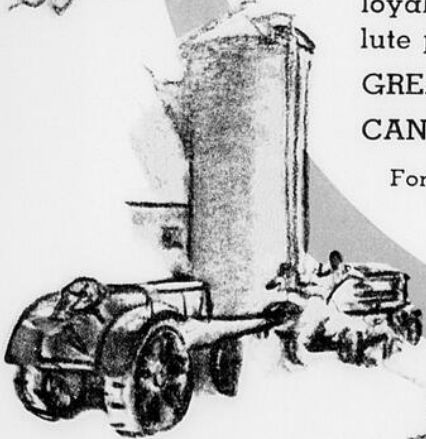
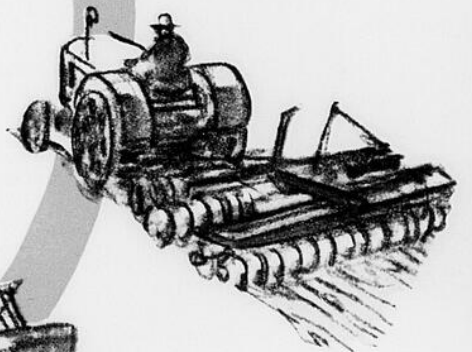
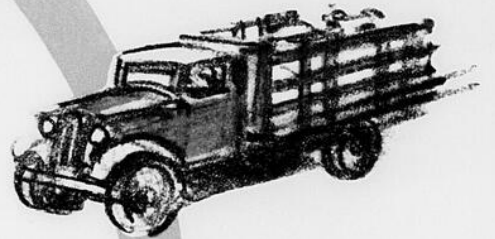
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