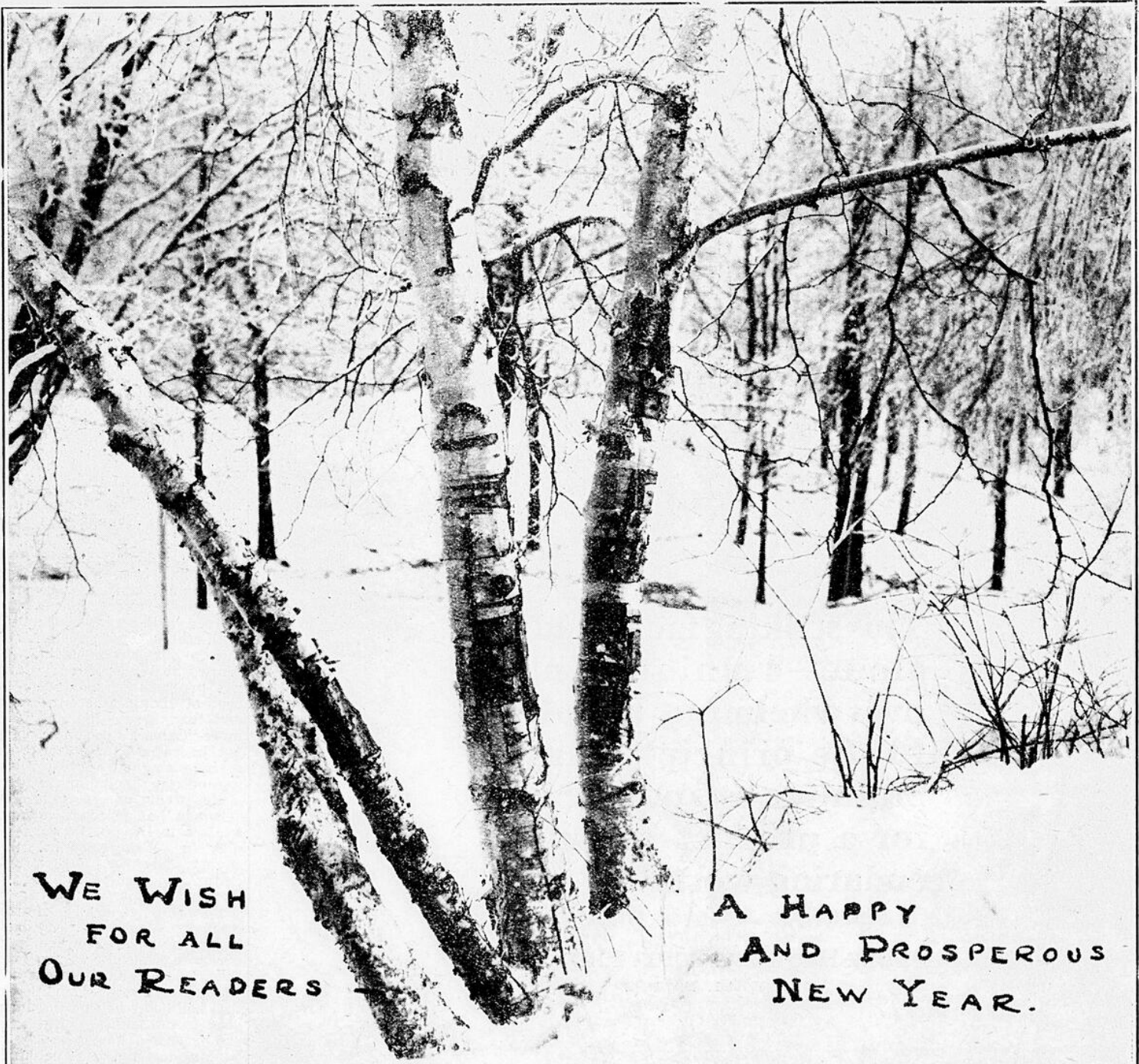


The JOURNAL of AGRICULTURE AND HORTICULTURE

Volume 27

January 1st 1924

Number 7



PUBLISHED BY THE DEPARTMENT OF AGRICULTURE OF
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Bank of Montreal Annual Meeting

Canada's Problems Reviewed.

This year's addresses at the annual meeting of shareholders of the Bank of Montreal by the President, Sir Vincent Meredith, Bart., and the General Manager, Sir Frederick Williams-Taylor, were of exceptional interest in view of the unusual developments which have influenced banking history in the past year. Among these were the revision of the Canadian Bank Act at the last session of Parliament, the extraordinary political developments in Europe and the readjustment which has been going on in the financial and business situation throughout Canada.

Revision of Bank Act

Referring to the revised Bank Act Sir Vincent remarked: "The powers and privileges of the banks remain very much as before; neither enlarged or contracted; but provision has been made in the way of wider authority of auditors and heavier responsibility of directors, by which means it is hoped to strengthen the safeguards for depositors and shareholders." He added that however rigid the law the solvency of banks depend upon the integrity, diligence and perspicacity of the management.

Turning to business conditions Sir Vincent said: "I regard the state of trade in Canada as having improved during the year." After mentioning special features, he added: "When the European field is surveyed, there is indeed cause for congratulation that business in Canada has held up so well."

Burden of Taxation

"It has been a trying year for Canadian bankers," remarked Sir Frederick. "Nevertheless, we are better off in this respect than is the case with others in many countries." Pointing to our economic relation to the United States he noted: "Canada cannot progress as she could until our cost of living and our taxation are less than across the line." Furthermore "Canada's economic position will not be satisfactory until we succeed in balancing our public revenue and expenditure, including railways."

He went on to point out that "Canada has priceless advantages as a place to live in, to work in and to play in. Prosperity in full measure cannot, however, return until agriculture, our chief industry, becomes more profitable."

Speaking generally of trade and commerce he remarked that "while there has been a measure of prosperity in some directions, business on the whole has not been good. This has reacted on the banks with the result that bad debts beyond the normal have been encountered." "But," he added, "no country has escaped post-war banking losses and no banking system has proved invulnerable. The truth indeed is that few countries have come through so well as our own." "Our own bank," he added, "continues in a sound position, with a good earning power and unimpaired standing both in our own country and abroad."

Sir Frederick then dealt in greater detail with the features of the year balance sheet and the business relations of the Bank abroad. Conditions in the various provinces were dealt with in detail.

OVER 90% OF ONE MILLION STILL IN SERVICE

Since delivering their first car, early in December, 1914, Dodge Brothers have manufactured and sold one million motor vehicles.

Over 90% of all these cars are still in active service.

This striking fact stands alone—a unique and overwhelming tribute to the principles and methods responsible for a product of such enduring worth.

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In order to have the help reach Canada in time for the Spring operations farmers needing help should arrange to get their applications in early, the earlier the better, as naturally those applications which are received early will receive first attention.

Blank application forms and full information regarding the service may be obtained from any C.P.R. agent or from any of the officials listed below. THE SERVICE IS ENTIRELY FREE OF CHARGE.

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Department of Colonization and Development

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H. F. Komor, Special Colonization Agent
CALGARY.—T. O. F. Herzer, Asst. to Supt. of Colonization
EDMONTON.—J. Miller, Land Agent
MONTREAL.—J. Dougall, General Agricultural Agent
C. La Due Norwood, Land Agent

E. G. WHITE,
Assistant Commissioner.

J. S. DENNIS,
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"How can I save my chicks from dying in the shell? How can I prevent the frightful mortality due to faulty brooders?" The Buckeye "Reason Why" Catalog answers these vital questions and many more. It tells why Buckeye Incubators hatch every hatchable egg and why Buckeye Brooders raise them all to maturity. Send for it today.

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Wood, Alexander & James, Hamilton, Ont.
The J. H. Ashdown Hdyw. Co., Winnipeg, man.
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You Must Fight Film

No whiter teeth without that

If you want whiter teeth, you must combat the film that clouds them. Millions do that now. Wherever you look you can see the results.

Make this free test and see the results on your own teeth.

The cloud is film

The cloud on teeth is film. At first the film is viscous. You can feel it now. No ordinary tooth paste effectively combats it, so much of the film remains.

Soon it becomes discolored, then forms dingy coats. That's how teeth lose beauty.

Film also causes most tooth troubles. It holds food substance which ferments and forms acid. It holds the acid in contact with the teeth to cause decay. Germs breed by millions in it. They, with tartar, are the chief cause of pyorrhea.

You have little chance to escape such troubles if you do not fight the film.

Dental science has now found two effective film combatants. One dis-



integrates the film, one removes it without harmful scouring.

These methods were proved by many careful tests. A new-type tooth paste has been created to apply them daily. The name is Pepsodent. Now careful people of some 50 nations employ it, largely by dental advice.

See what it does

Pepsodent also multiplies the alkalinity of the saliva. That is there to neutralize mouth acids. It multiplies the starch digestant in the saliva, to digest starch deposits better. These combined results are bringing to millions benefits you want.

Send the coupon for a 10-Day Tube. Note how clean the teeth feel after using. Mark the absence of the viscous film. See how teeth become whiter as the film-coats disappear.

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Siege of Antwerp	68 to 1
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Weaving, Manchester	17 to 1
Saw-making, Sheffield	14 to 1

—From the Morning Chronicle, Quebec.
18th of May 1847.

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AGENTS—Get in a profitable all year commission business of your own. Every property owner needs some of our nine hundred varieties of hardy Red Tag trees and plants. No capital needed. Complete equipment and instructions free. Write DOMINION NURSERIES, Montreal.

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EARN money at home during spare time painting lamp shades, pillow tops for us. No canvassing. Easy and int resting work. Experience unnecessary. NILEART COMPANY, 2279, Ft Wayne, Indiana.

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2

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3

Letters from enthusiastic McCormick-Deering Primrose owners point out easy turning, clean skimming, slow crank speed and long life as results of McCormick-Deering Primrose advanced design.

4

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5

The easy-turning McCormick-Deering Primrose takes the hard work out of an every-day-in-the-year job. It runs easily and skims clean. It makes dairy farming a more profitable and pleasant occupation.



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Sizes: 1½, 3, 6 and 10 h. p.

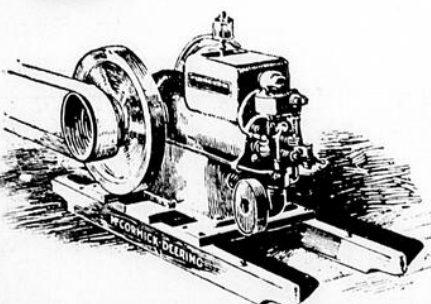
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Musterole is a clean white ointment made of oil of mustard and other home simples. It is recommended by many doctors and nurses. Try Musterole for sore throat, cold on the chest, rheumatism, lumbago, pleurisy, stiff neck, bronchitis, asthma, neuralgia, congestion, pains and aches of the back and joints, sprains, sore muscles, bruises, chilblains, frosted feet—colds of all sorts. Seldom fails to deliver results. 40c and 75c, at all druggists. The Musterole Co. of Canada, Ltd. Montreal.

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EDITORIAL COMMENT

The New Year

THE making of resolutions at this season of the year has become an universal pastime. A few favoured ones there are in our midst who have the opportunity of making resolutions at other times—delegates who represent their locals at Provincial or Dominion Conventions, and who wear badges and sit down to banquets. But for the mass of us the opportunity comes but one in a year—New Year's Day.

♦ ♦ ♦

We have often wondered whether an observer, seated say on Mars, could notice any upward deviation from its normal course through space on the part of the planet Earth on the first day of January. That there is such a distinct uplift amongst its inhabitants on this day cannot be gainsaid. Filled with rich Christmas pastries and with remorse for the many blots upon the pages of the year that has just past, men and women everywhere take a new grip of themselves at this season of the year and resolve to leave a fairer record on the pages that are being unfolded in the New Year. So universal is the decision to be better and to do better that it must, we think, have some effect, even though temporary, upon the earth and its habits. Full of years though it be, and our scientists are ever adding to its burden, the earth cannot be so old as to fail to respond to the exaltation of its peoples on this day. And what matter if it sag a bit on the fifth or sixth of the month? It is a fine thing only to have been exalted.

♦ ♦ ♦

New Year's resolutions fall naturally into two classes—those that are made to be broken, and those that are made to be kept. The first class includes in general all those resolutions that have to do with making us better men and women. Resolutions dealing with the renunciation of the use of tobacco, resolutions that have to do with earlier rising in the mornings, resolutions in such matters as practising on the piano, taking up the study of French, and securing a better grip upon our hasty tongues—these come in the first class. Such resolutions have always been made, and have been broken with almost equal regularity. Yet think not that the making of them is to be counted as time lost. No one but a smoker who has given up for a week or so the use of the "weed" can know the joy there is in returning to his filthy habit like a hog to his wallow. And for the others, the practice of such ideals for even a few days gives a salubrious, though temporary, setback to the enemy of souls and increases the self-respect of the resolver far out of proportion to the actual virtue achieved, for he has proved to himself in his three days of uprightness that he could break his chains, if he really set himself to do so.

Those that might fall into the second class are too apt to be overlooked by most of us. The resolutions that could be kept, and whose keeping would add greatly to our pleasure and profit throughout the year, are of the sort that follow a review of our present activities, domestic, social, professional, and a careful consideration of how these might be broadened or readjusted in such a manner as to give us a fuller experience, a more adequate return for our labors.

♦ ♦ ♦

What we have chiefly in mind at this time is the possibility of living a fuller life. What do we get out of life? What has the past year brought us? These years that slip by so quickly are, after all, not so long in making up the total of our allotted span. And it is a tragedy when men and women live for years without enjoyment, comfort, content-

ment, looking forward to an easeful future—and then fail to realize that future. Not for a moment would we advocate neglect of the future. Yet we would be as loathe to advocate neglect of the present. We owe it to ourselves and to our families to take our share of the good things of life as we go along—and on New Year's Day 1924, we have a splendid opportunity for making a beginning in the gentle art of living. The farmer's life need not necessarily be dull. Without the expenditure of a tremendous amount of money this life may be made vastly richer in so many ways. Books, music—these are keys to dream places. These open to the folks on the farm the avenues of the world—avenues which may be traversed after the day's work is done, and without leaving the homestead.

Of particular interest to those who may resolve upon a fuller life for themselves and their families is the radio. This is an instrument that is destined to play a tremendous part in the lives of men in the future. We have just returned from a visit to a place in the heart of the Laurentians—apparently far enough removed from pulpit and concert hall—yet there, through the magic of this instrument, we listened night after night to the finest concerts provided in the music halls of New York and Pittsburg, and on Sunday evening we worshipped in spirit, if not in carcass, with the parishioners of a large church in Schenectady.

In This Issue

Quebec Live-Stock Fundamentals

Prof. H. Barton
Dominion Dairy Conference Held.
Fundamentals in Stock Feeding... L. H. Hamilton
Notice of Subsidies in Bacon Hog Work.
Underdrainage at Stanbridge East... C. S. Moore
New Farm Power Short Course... L. G. Heimpe
Quebec Pomological Society Meets.
The Insecticide Guarantee... E. A. McMahon
For Whom Are You Growing Your Onions
T. A. Armstrong
Fertilizing The Orchard... M. B. Davis
Housing The Poultry Flock... W. A. Maw
My New Year's Resolutions... Our Young Folks
Pies and Steamed Puddings... M. Chute Maw
Home and School Cooperation... E. M. Tilton
Womens' Institute Activities.

And for those who have learned to read there are endless possibilities for recreation offered by a well-stocked shelf of good books. Fiction, travel, adventure, fun—all await the reader's pleasure who chooses to take down and delve into the books that should be found in every farm home. Books are to the poor man what ships and uniformed officials and tourist agencies are to the well-to-do—they are his opportunity for seeing the world. And from an evening's voyage of discovery, pursued within the cheery sound of the roaring of one's own fire, the traveller may return refreshed and fortified for the tasks of the morrow.

Books, music—what place will they occupy in the life of our home during this year of 1924? Here is an opportunity for a real New Year's resolution, and one that is vastly more easily kept than that beginning with the throwing away of our faithful old briar on the first of the month and its retrieving on the tenth.

There are also opportunities at this time for thoughtful resolutions in connection with our farm practice, resolutions necessitated by changing conditions in production and in marketing—but that's another matter.

Farm Management

POSSIBLY the greatest handicap to successful agriculture at the present time is lack of care on the part of the individual farmer in the management and direction of his farm project. The farmer is faced with two problems—what to grow, and how to keep up the fertility of his farm. Both of these are problems of farm management, and when they have been solved it will be found that most of the factors delaying success have been removed.

Perhaps instead of saying "what to grow" we should have said what to produce. How many of us have given this problem very serious consideration? By serious consideration we mean a careful study of market requirements, and the shaping of our plans in such a manner that we shall produce only those products that are wanted, and the varieties or types that are most in demand. After all it is not the producer that decides what is most profitable to grow. It is the consumer. The man who buys the stuff sets the fashion. And if our customers insist on Golden Bantam corn, McIntosh apples, bacon type hogs, it is folly for us to produce corn, apples or hogs of different variety or type to satisfy this demand—and still hope to get profitable prices for these.

We have in the province of Quebec many men who are complaining of lack of profit in farming. We have at the same time many products coming onto the markets of our towns and cities from outside points and selling at prices that would admit of substantial profits over cost of production to our growers, if they would consider supplying these demands. We do not pretend to advocate that all farmers go forthwith into the business of supplying small fruits and truck crops to these markets, but we do believe that many farmers might find greater possibilities of success through slightly adjusted plans of production to meet the new market demands—and that all producers might with profit make their season's plans fit in with these market requirements.

This is a work that might well be undertaken now. We are all now in a position to review our 1923 operations. We have, at this time, some leisure for analysing our situation and our relation to our markets. This is our opportunity for planning our practice for 1924. And in doing this we should rid ourselves as much as possible of the type of mental inertia that would keep us doing the same thing, growing the same crops, using the same systems, year after year. The world moves on. Market conditions and demands change. And if we are to be successful we also must keep up-to-date.

The keeping of farm accounts, the planning of our production, whether of livestock or livestock products, field crops, or orchard crops, as referred to in the foregoing paragraphs, the arrangement of our cropping, fertilizing and liming plans so as to ensure the upkeep of the fertility of our farms—these are all problems of a very practical nature that might well occupy the attention of rural resolution-makers at this season of the year. A little reviewing of the work and the results of the past season or seasons, a little studying of today's market preferences, and of the probable preferences of tomorrow—with always the question of soil fertility kept prominently in the background—and the progressive farmer is in a position to make a few worthwhile resolutions, resolutions that will be easily kept and that will add to the satisfaction that we shall have in the entire year's work in 1924, and to the profit of the year's undertakings.

The JOURNAL of AGRICULTURE

AND HORTICULTURE

ISSUED MONTHLY BY

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NOTICE TO SUBSCRIBERS

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

Canada Grows Good Seed

CANADIAN seed growers have again demonstrated their ability to produce wheat of outstanding merit by the many winnings made at the recent Hay and Grain Show at the Twenty-fourth Annual International Live Stock Exposition recently held at Chicago.

In the class of hard red spring wheat, open to all of North America, Canada succeeded, from a field of 91 exhibits, in winning 15 out of 25 prizes, including the grand championship which went to Major Strange of Fenn, Alberta with Marquis variety. Major Strange, a prominent and successful member of the Canadian Seed Growers' Association, also won first prize in white field peas. Second prize for hard wheat went to a Montana grower who had obtained his seed from Indian Head, Sask. Third to twelfth prizes inclusive were awarded to Canadian seed growers with the exception only of the sixth and eighth (which Montana claimed). All but two of the prize winning samples including the first and second, were of the Marquis variety; the exceptions were Ruby and Kitchen. At least the first three prize winning samples at the International Hay and Grain Show, since, and including its inception in 1919, have been of the Marquis variety.

Repeating his victory of 1922, Mr. Biglands of Lacombe, Alberta, won the championship for white oats against all North America. In the regional contest 28 out of the 35 prizes offered for that section comprising Canada and the oat growing states west of Chicago were won by Canadian seed growers located chiefly in Alberta.

Among the various winnings for barley exhibits was that of Geo. Avery of Kelso, Sask., who captured first in the two-rowed class. In the six-rowed class, Mr. Avery took a second prize. In the Trebi, which included the large kernelled barleys grown under irrigation, Canadian growers took third, fifth and tenth prizes.

Only three exhibits from Canada competed in the white field pea division and they stood first, third and fourth.

Among other winnings were first and eighth places for red clover seed; second, sixth and tenth for Alsike seed; second, fourth and fifth for sweet clover seed; fourth and sixth for alsike; eighth and twelfth for Timothy; second place for rye; first eight, and 11th, and 13th, prizes for flint corn, all grown in south-western Ontario.

Much attention was attracted by the exhibit put on by the Provincial Department of Agriculture of Alberta which consisted of a collection of very creditable ears of perfectly matured corn. It was a decided revelation to the many Americans who have long been under the impression that Western Canada was well beyond the northern limit of the corn belt.

CITIZENSHIP

By Dr. H. D. Brunt.

WHETHER with or without the urge of a creed, all men have an ambition to preach.

One may be warned of the foolishness of preaching — one may dislike exceedingly to be the preached-at or against — yet lay and cleric mount the pulpit, actually or metaphorically, to preach — even Huxley utters his "Lay Sermons" and Stevenson writes his "Christmas Sermon".

And so, in this January issue, we purpose to interrupt our matter of fact prosing on Civics and preach awhile on the same topic.

What was the most notable thing I saw in London? The Tower—Parliament Buildings—National Gallery of Art—Westminster Abbey, "the Hall of a thousand years"? It was the sight of a Hyde Park soap-box orator, pouring out his dislike of kingship, denouncing not only the government of the day but all such constituted government, and with a uniformed policeman, symbol of law, order, settled government, to protect him while thus employed. That sight is the ultimate achievement of British political sagacity. One ventures to doubt whether the country gains, even in the stress and strain of war, by departing from that salutary and healthy political principle — the principle of individual political liberty in expressing one's ideals and ideas of law and government.

The policy of repression entered upon by European countries after 1815 resulted in the great revolutionary year of 1848 and delayed general political progress in Europe for many decades. It gave an opportunity for the rise of the Prussian ideal of the "State", as something greater than and apart from the people, drawing its authority from the top of the pyramid and not from a solid base. The people, untrained in political procedure, ideals, ideas, were helpless when the "State" thus constituted was overturned — hence much of the confusion, frequent change of government, lack of continuity and consistency in policy. The people, in whom the authority of the German Republic now resides, are bewildered in spite of the high average of education and intelligence — trained to obey, they have no political history, no past on which to build the present and the future.

But in 1832, in England, came the first great Reform Act, which broadened out the basis of government by extending the voting power. Archimedes, the great Greek mathematician and engineer, said that he could move the world with a lever if he had a *pou sto* (a place whereon to stand). The act of 1832 became a *pou sto* upon which the people stood in their attempt to move the world of political action. So England had no revolutionary year of 1848; and other Reform Acts still further broadened that basis of power. We may see a Labor Government in England very soon, without disturbing a single constitutional practice or endangering a single valuable achievement of the past.

Thus development comes by making one concession and privilege and duty a basis, a claim, a precedent, for another; evolution rather than revolution. The great political thought of some genius or thinker slowly permeates society, diffusing itself in the thoughts of men, until it becomes the common place idea of a future time. What one generation looks at askance and fearfully, the new generation accepts as an everyday principle of government.

This freedom of the individual to speak and teach the thing he will — this slowly developing political life — this is the real contribution of Britain to the political life of the world — not wealth, not imperialism, the talk of "far-flung battle-lines".

If you read the following poem by Tennyson, you will discover that what I have written is merely a somewhat prosy explanation of the ideas of the poem.

You ask me why, tho' ill at ease,
Within this region I subsist,
Whose spirits falter in the mist,
And languish for the purple seas.

It is the land that freemen till,
That sober-suited Freedom chose,
The land, where girt with friends or foes
A man may speak the thing he will;

A land of settled government,
A land of just and old renown,
Where Freedom slowly broadens down
From precedent to precedent:

Where faction seldom gathers head,
But by degrees to fullness wrought,
The strength of some diffusive thought
Hath time and space to work and spread.

Should banded unions persecute
Opinion, and induce a time
When single thought is civil crime,
And individual freedom mute;

Tho' Power should make from land to land
The name of Britain trebly great—
Tho' every channel of the State
Should fill and choke with golden sand—

Yet waft me from the harbour-mouth,
Wild wind! I seek a warmer sky,
And I will see before I die
The palms and temples of the South.

The Value of a Good Stallion

A few years ago, one could read fairy tales in newspapers about the horse being doomed to extinction within a short while. But the extremists who wrote such nonsense simply did not know what they were writing about, and very few people took them seriously. For short hauls on congested city streets, for small and hilly farms, for countries where snow precludes the use of motors during a fairly long period, the horse is and will continue to be indispensable. The best men in the automotive industry no doubt admit this readily.

Horses getting scarce.—That automobiles, trucks and tractors have replaced a large number of horses cannot, on the other hand, be denied. The supply of horses has temporarily been too great, so that prices went down. As soon as this happened, farmers practically stopped breeding mares, with the result that weanlings, yearlings, two and three year olds are now scarce all over North America. This is a fact which everybody has noticed and the inevitable result will be that prices will go up and now would seem to be a favourable time to resume the breeding of horses.

One might say that if everybody goes into horse breeding, prices will soon come down again. But this need not be feared as only a limited number will, probably, start operations. Those who do start, however, should be reminded that one of the causes of failure, in the past, to raise animals of good value was due to the fact that most farmers seemed, to believe that the matter of blood lines did not apply in horse breeding with the same force as in cattle breeding. This is far from being the case.

Good stallions invaluable. — There are unfortunately very few of the male colts born each year which rise to the highest class as individuals and especially as reproducers. When Jules Hazard bought the Belgian Orange I, lame and fourteen years old, he was laughed at, but this horse was invaluable as a breeder. When E. B. White took the Percheron stallion Séducteur from a livery stable, people thought he was crazy, but this sire produced Laet, the best breeder in America. When the French Canadian stallion Albert de Cap Rouge was born, very few indeed thought that he would practically regenerate the breed.

The French Canadian mare "Corneille de Bagot" was in foal to Don Juan when bought during 1919 for the Cap Rouge Experimental Station, and produced on May 1, 1920 a colt which was castrated as a yearling because a cull. The same mare was served in 1920 by Albert de Cap Rouge, the well known head of the St. Joachim stud, and dropped on April 29, 1921 a colt which was first as a weanling, as a yearling, and as a two year old at some of the largest exhibitions in the Province of Quebec. Could anything show more clearly the value of a good stallion?

GUS. LANGELIER,

Superintendent, Experimental Station,

Cap Rouge, Que.

Quebec Live Stock Fundamentals

A Reflective New Year's Message to Quebec Farmers.

By Prof. H. Barton, Animal Husbandry Dept., McDonald College.

THE subject of this article carries a provincial implication but it should be understood at the outset that while the province of Quebec may be considered separately there is no monopoly of live stock enterprise. The same classes of live stock represented by the same breeds are to be found in every other province. Similar problems of breeding, production, and disease are present in other provinces; markets open to Quebec are in some form and in some measure open to other provinces. What is true of Canada as a whole is also true of other countries. The factor of competition therefore is ever present and cannot be overlooked in viewing the status of things livestock in Quebec. Neither should it be overlooked in shaping live stock policies nor in choosing live stock objectives, for while general similarity of conditions prevails there are differences in degree, differences that make for some advantage or some disadvantage. An analysis of our situation should give us a clearer perspective and to some extent indicate our relative position.

Dairy cattle occupy the leading position in Quebec. Farm practice would seem to indicate that dairying is almost indispensable in this province. It varies in intensity with the value of land, the farm acreage, the local market, and the labor available. It affords an opportunity for yearly employment and a source of continuous revenue. It is handicapped by climate; our long winters present a problem in production that must be met intelligently if success is to be attained. Housing is expensive, an overhead burden that makes efficient production imperative. Feeds and feeding constitute the biggest cost factor in winter dairying in Quebec, provision through crop practice, knowledge, skill and carefulness are the paramount factors in profit and loss. Quebec enjoys a special advantage in market outlet for milk and cream products, a situation that makes the business attractive and, comparatively speaking, easy of success. Dairying is justified in Quebec therefore on the grounds that general farming is impossible without livestock; dairy cattle offer the surest and biggest return as a major enterprise on much of the land that is valuable and where operations are necessarily expensive, the local market affords a special opportunity. And yet there are many who are not successful. Financial obligations, poor farms, bad locations and inability to work are the stumbling blocks of some. Poor cows, bad crop practice, underfeeding, disease, poor products, and unwillingness to work are the pitfalls of many. The stumbling blocks may mean a struggle but the pitfalls have all been lighted for those who will avoid them and they all have avenues of escape for

those who will take them. Quebec is well provided with sources of improved stock in every important dairy breed. There is no excuse for the use of a poor bull, and there is no escape for the man who uses him; no bull and no cows can rescue a poor farmer, or a poor feeder. Disease is a puzzling and discouraging barrier but it can be broken down by intelligence and determination. Poor products deserve the market they receive; quality is the latch key to demand and price. The lazy man is always tired; tired cows and a tired farm are the only associates he can expect.

One hears general complaints from those who might be placed in the category of the successful. Economic conditions have made it hard for the best but there are signs of progress and hope. Purebred breeding in Quebec is forging ahead, breeders are multiplying, new laurels are being won in the show ring and in production records, better bulls are being used in increased numbers, purebred cattle of quality command a market, and a creditable dairy cow brings a respectable price. Rapid strides are being made in the eradication of disease in Quebec; more records of cows in commercial herds are being kept in Quebec than in any other province; the American market for milk and cream is inviting increased production and prepared to pay a premium for a quality product.

Beef cattle have been losing in Quebec. There is still a place for them but they must be properly adjusted to farms and farm practice. They can be produced more cheaply in other provinces and the cost of transportation, high as it is, is not sufficient to eliminate the production margin. There is still a place for them where land is cheap, where a simple farm practice seems desirable and where they can be managed on a fairly large scale. Good pasture conditions are a prerequisite. Quality in the cattle, economical feeding and management are the touchstones of success. Quebec still has a nucleus of good beef cattle, but too many of them are found where the economic adjustment is wrong and where quality of product is overlooked. The solution for much of the stagnation in beef cattle practice in Quebec would seem to lie in the development of dairying as an additional feature. Combination practice with combination cattle without too much intensifying of either has been demonstrated in other provinces and in other countries as safe and profitable. Prevailing prizes for beef cattle are low, but the market will always take good ones. Production cost can be minimized by giving the mother of the steer a chance to earn her keep in milk production.

"Quebec lamb" has been given a new standing. Ten years ago it signified inferiority, to-day it can command the top price in Boston or Toronto. Quebec has everything in her favor as a sheep province—except dogs. They are common to all and in no case should they be allowed to menace an important industry. There is an abundance of land all through the province that can support sheep to better advantage than anything else. Sheep have increased in numbers and marked improvement has been registered in quality. Market facilities for mutton and wool have developed and markets are on a par with those for special dairy products. There is a tendency to overdo the big lamb idea; market saturation will bring sharp discrimination in favor of the well finished lamb of medium size. Parasites are menacing some flocks. Close culling, change of pasture, specific treatment and more liberal feeding are the weapons of remedy. Sheep are a little troublesome on some farms but most things are and many are less worth while. Quebec sheepmen may feel that they have a sound business, one that they can afford to look after. Prices for lamb and wool, may vary as they will for most things but no products have better assurance of future market. Sheep breeding is just getting to its feet in Quebec. Ordinary purebred flocks given ordinary care have no claim to purebred sales, ordinary market lamb is the product they may expect. The demand for purebred ram lambs is bound to expand, but it will also become more exacting. Nothing short of good breeding and good shepherding will satisfy it.

Quebec has displayed the Bacon Hog signboard at all the cross roads. It seems a settled matter that Quebec should produce hogs and that they should be bacon hogs. The conditions that justify this decision are that hogs blend well with dairy cattle when by-product is available, that they form a desirable feature in mixed farm practice, that Quebec has the inner circle of Canada's best market. The wisdom of the bacon hog objective lies in the fact that only a limited local market is available for any other kind, that the bacon hog costs no more to produce, and that invariably he will command a premium. Prices will rise and fall, hogs can be multiplied quickly. The man who makes money out of hogs is the man who doesn't overdo it at any one time but who fits the hog feature into his practice, and continues to raise and finish the hog the market wants, making the most of his home feed possibilities, and taking the best the market offers.

What about horses? To many the horse business seems dead. They argue that the motor, the tractor and business depression have killed it. Certainly



PICTURESQUE QUEBEC — The one-horse vehicle is still very popular in some of the older districts of Quebec. The above illustration shows a number of farmers on their way across the St. Lawrence to the Montreal market with their hay. (Photo Notman).

the effect of these on the horse market must be admitted. But where can the Quebec farmer buy the horses he still must have for less than he can raise them for? Besides, thousands of horses are still passing through the sales stables of Montreal alone and business surely has activity before it. Those who have access to a good stallion and who have a creditable mare should keep on raising the odd good colt. It is at least one good means of saving money, and no method of horse production is any more economical. Quebec cities offer a special market for saddle horses, but only a high

class product will do. The horse man might find his interest there.

Quebec with good reason can claim progress in live stock development during the past fifteen years, but she has only stepped over the threshold. No province has more advantages economically, therefore no province has greater opportunities. There are dark spots here and there but the light is shining through if we only see it. Knowledge, courage, determination and effort will go as far with live stock in Quebec as anywhere else.

Dominion Dairy Conference Held

Many Matters Dealt with of National Interest, and Greater Uniformity in Provincial Policies Arranged for.

AT the Dominion Dairy Conference, held in Ottawa the beginning of last month, were brought together sixty-four delegates, drawn from representative dairy interests of all provinces of Canada, to discuss Canada's dairy problems with particular reference to recent developments in dairy product markets and in market requirements. Those amongst our readers who have studied our dairy situation as set forth by Dairy Commissioner Ruddick's address, given in last month's issue of *The Journal of Agriculture*, will be acquainted with the facts that made desirable the holding of such a conference at this time—the struggle that is now going on for supremacy on the world's greatest market for dairy products, the British market, the keen competition from comparatively new exporting countries, such as New Zealand in both butter and cheese and the Argentine in butter, the necessity for uniformly good quality in our products if we are to hold and develop our markets.

We do not therefore intend to give anything of the discussions that took place on the various subjects dealt with by the conference. What we are doing, rather, is to sum up the work done. We are therefore giving the resolutions and reports of committee that were presented and adopted, as given in the official dairy news letter published by the Dairy Commissioner himself. These are as follows:

UNIFORM DAIRY PROVINCIAL LEGISLATION

The question of uniform Provincial dairy legislation was brought up and after much discussion the following resolution was moved by Mr. F. M. Logan, seconded by Mr. N. S. Smith, M. L. A., and unanimously carried:—

"Whereas it would appear that uniform dairy legislation throughout the Provinces of Canada would be of great benefit to the industry:

And whereas this Conference hereby approves of the principle as far as the same is practicable:

Therefore be it resolved that a committee be appointed to prepare a model Dairy Bill and Regulations, and that the following constitute such a committee.—The Federal Dairy and Cold Storage Commissioner, the Dairy Commissioners or the heads of the dairy division for each province, with power to add to their numbers.

Furthermore the Federal Dairy and Cold Storage Commissioner is hereby requested to provide a secretary for the committee and to report as soon as possible."

CREAM GRADING—REPORT OF SPECIAL COMMITTEE

The expressed opinion of the Conference was unanimously in favour of the grading of cream. The following report was presented by Mr. Joseph Caulder, Saskatchewan, seconded by Mr. E. H. Stonehouse, Ontario, and unanimously concurred in by all present:—

"That this Conference is in favor of and recommends compulsory grading of cream. The Conference also recommends the adoption by all the provinces of the following cream grading standards, which are now in effect and have been in effect for some time in several of our provinces, and are as follows.

(A) TABLE CREAM

This grade shall include any lot of sweet, clean-flavoured, non-frozen cream bought for re-sale for household use and which is produced under conditions that comply with the special requirements of the municipality in which it is to be sold for consumption. The acidity of cream in this grade shall not be more than twenty one-hundredths of one per cent (.20%) at the time of grading. The term "Table Cream" may be supplemented by the trade terms "Inspected" or "Extra Special" as the initial purchaser may in each case uniformly adopt.

(B) SPECIAL GRADE

This grade shall include any lot of cream which

is clean in flavour, of uniform consistency and fit for making into Special grade butter. The acidity of cream in this grade shall not be more than thirty one-hundredths of one percent (.30%) at the time of being graded at the creamery where it is manufactured into butter.

(C) FIRST GRADE

This grade shall include any lot of cream which is reasonably clean in flavour, of uniform consistency and fit for making into butter of this grade. The acidity of cream in this grade shall not be more than sixty one-hundredths of one percent (.60%) at the time of being graded at the creamery where it is to be manufactured into butter.

(D) SECOND GRADE

This grade shall include any lot of cream that does not meet the requirements specified for the next higher grade, such as cream which is buttery, stale, musty, metallic, or otherwise unclean in flavour.

(E) OFF GRADE

This grade shall include any lot of cream with a very objectionable odour or flavour, such as kerosene, gasoline, stinkweed, onions or such other flavours as may render cream unfit for making into second grade butter.

That to ensure the safe-guarding of the reputation of Canadian butter on the markets of the United Kingdom, in case all provinces do not find it feasible to adopt compulsory cream grading and the standards hereinbefore set forth, this Conference further recommends that the Federal department put into effect as soon as possible the following export regulations regarding butter, viz.

1. That federal grade certificates shall not be issued on any butter which does not score first or better at the time of export.

2. That no certificates shall be issued for butter made from cream which has not been properly pasteurized."

THE SIZE OF DAIRY FACTORIES

The size of dairy factories was a matter very fully discussed, and while it was generally conceded by those present that the increasing number of small factories was a menace to the dairy industry, it was also felt that at present nothing definite could be done to overcome this drawback, but the

following resolution was moved by Professor Leitch, seconded by Mr. L. A. Gibson, and unanimously carried:—

"That whereas the perpetuation and continuance of the small cheese factory and creamery is a decided menace to the industry as well as a source of much financial loss;

That it is neither feasible nor advisable to regulate the size of any such manufacturing plant by any form of Government action.

That the only possible method of control of this important factor is the spreading of knowledge of the certain financial outcome of the operation of minimum-sized factories,

That whereas this knowledge can come only from a study of the business operations of representative factories now in operation.

Be it resolved that the Federal Department of Agriculture be urged to take such steps in co-operation with the Provincial Departments of Agriculture as will make this needed information available to those whose duties and responsibilities are therewith concerned."

GUARANTEE OF QUALITY BY CHEESE AND BUTTER MAKERS

The question of cheese and butter makers being required to guarantee a No. 1 cheese or butter having been duly discussed, the following resolution was moved by Mr. A. E. McGruer, seconded by Mr. W. W. Moore, and unanimously carried:—

"Be it resolved that while this Conference recognizes that there should be some safe-guard against carelessness or inefficiency on the part of the cheese or butter maker, it is the opinion of this Conference that the existing custom of requiring cheese and butter makers to guarantee a No. 1 product is not in the best interests of the dairying industry, in as much as it opens the way to improper practices, and often makes it more difficult to effect an improvement in quality in the individual factories."

SHIPMENT OF GREEN CHEESE

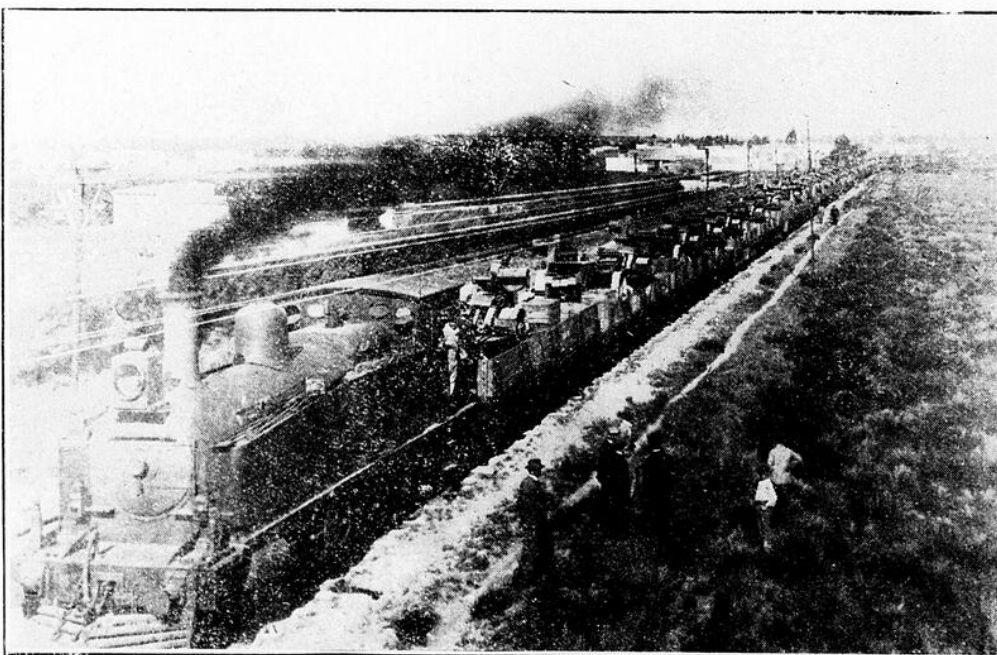
The shipping of green cheese and the injury which results therefrom to the Canadian cheese trade, was fully discussed and comparisons made with the practice in other countries. It was shown that our chief competitor requires by law that cheese shall be fourteen days old before they are graded, notwithstanding the fact that three months must elapse before they can be placed on the market.

While no resolution was submitted to the Conference on this subject, the consensus of opinion was in favour of more time being given for the cheese to mature before they are shipped overseas.

Regulation No. 12 under the Dairy Produce Act provides that no cheese will be graded until it is sufficiently matured in the judgment of the grader to permit the quality being properly determined. It seemed to be the general opinion of the Conference that the enforcement of this section of the regulations would tend to correct the abuse of shipping green cheese.

LOADING WARM BUTTER INTO SHIPS' REFRIGERATORS

The injurious practice of loading warm butter into refrigerated space on steamers along with butter which has been thoroughly chilled or frozen,



The growth of agriculture in the Argentine Republic, a country that has recently become quite important as an exporter of butter, may be gathered from a glance at this train load of threshers leaving Buenos Aires for the interior.

was one of the important subjects brought under discussion. Representatives of the railways and steamship companies were present and explained their side of the case to the Conference. Mr. J. F. Singleton, Chief of the Extension of Markets Divisions in this Branch, produced a large number of figures giving the temperatures of butter as

loaded on stemers, and thermograph records showing the temperatures maintained in the ships' refrigerators during the voyage to the United Kingdom. The following resolution was moved by Mr. F. M. Logan of the Saskatchewan Co-op. Creameries, Regina, and seconded by Mr. Alex. McKay

of Winnipeg, and unanimously carried:—

"That it is advisable for this Conference to go on record as recommending that all butter for export shall register 25 deg. F. or lower before it goes on board the steamer, and that some regulation be passed to that effect."

Fundamentals in Stock Feeding

The First of a Series of Articles on Feeds and Feeding,

By L. H. Hamilton, Animal Husbandry Dept., Macdonald College.

MANY farmers at this season of the year are asking themselves, their neighbors and friends, what kind of feed shall I buy to supplement my present mixture in order that I may have sufficient to last me through the winter and that I may get the greatest possible returns for my labor. In view of this fact and the many recent discoveries in stock feeding about which a great many people are unfamiliar, the articles following are written.

A few years ago we would have thought a feed mixture perfect when it had the proper proportions of proteins, carbohydrates, and fats, provided it had bulk, succulence, etc., but to-day we know that this is not sufficient and that we must have a great deal more to make an animal grow normally, reproduce normally, gain and produce milk as economically as possible. A few years ago a comparatively large amount of protein was included in the ration; to-day we know much less is needed and that not quantity but quality of protein is what counts.

What we should know about Feeds

In analyzing our feeding practice it is necessary that we know certain primary essentials. We know that a certain percentage of all foods passes through the animal undigested. This percentage depends upon the kind of feed, the mixture in which it is fed, and to some extent on several other minor factors such as amount, crude fibre content, etc. We know that of the constituents of the feeds fed in the Province of Quebec the proteins are the most expensive, while the carbohydrates and fats are relatively inexpensive.

Since our protein requirements are the most expensive part of our ration it is necessary that we know something about these substances in order to economize in their use. In the first place they are the nitrogen-containing compounds and as such are the body builders or flesh formers, or in other words if an animal gets no protein it cannot build body flesh or lean meat.

Proteins for Muscle and Meat

These proteins are made up of several building stones called by chemists "Amino acids", just in the same way as a carpenter speaks of the different materials in a house as studs, joists, rafters, shingles, nails, etc. It is unfortunate that animals cannot manufacture these amino acids in the body, with one exception, (glycine). If they could do so we would simply supply enough protein and our requirements would be fulfilled. We find also that the proteins of different feeds contain different amino acids and for this reason it is necessary to supply variety to our ration in order to be sure of incorporating all these essential amino acids. This is very important since a lack of one amino acid in a feed is the limiting factor of that feed.

Certain feeds are badly lacking in quality of proteins and among these may be mentioned the cereal grains including, corn, barley, wheat, rye and buckwheat. These should rarely supplement an already carbonaceous feed for any class of stock. Other feeds do contain a fair balance of these amino acids, and among these may be included alfalfa and clover hay, tankage, skim milk, and whey.

To illustrate this point we may quote experiments carried out in pig feeding. It has been shown that pigs fed corn alone, stored about 20% of the protein, but when linseed meal was fed as the source of protein less than 20% was stored. When these were mixed, approximately 30% was stored. When milk protein was fed approximately 60% was stored, and when corn and milk were mixed only 50% was stored. Another good illustration of the importance of this point is found in the results obtained in feeding pigs barley and wheat middlings resulting in a gain of 1.22 lbs. per day, and barley supplemented with whey resulting in a gain of 2.53 lbs. The second mixture contained less protein than the first but had a better balance of the protein constituents (amino acids), and therefore gave greater and more economical gains. An experiment conducted at Kansas Experiment Station showed that on corn plus a mixture of mineral matter containing an ample supply of lime, pigs

Short Course in Farm Engineering

Programme of course in farm shop work, gas engines, and drainage, put on for first time this year by Macdonald College—
January 29th to February 8th, inclusive.

ELSEWHERE in this issue Mr. L. G. Heimpel, lecturer in Agricultural Engineering at Macdonald College, describes the new short course in Farm Engineering that is being put on at Macdonald College this year. Herewith we present the programme that has been prepared in connection with this course—a programme that should appeal to every up-to-date farmer in the province.

Tuesday—January 29th

How The Gas Engine Makes its Power.
Farm Underdrainage—Soil Water and its Effects on Crop Growth. The Benefits of Tiling.

The Farm Blacksmith Shop.—Demonstrations with tools and forge. Practical Work.

Wednesday—January 30th

Gas Engines.—Valve and Spark Timing. Fuel Feeds and Carburetion.

Drainage Systems.—Open Ditches and Tile Drainage Systems.

Blacksmithing.—Practical Work.

Moving Pictures.—Ditching Machines and Tractor Farming Films.

Thursday—January 31st

Gas Engine Ignition Systems and How to Locate Ignition Troubles.

The Installation of Tile Drains.—Kinds of Tile. Digging the Trench. Grading the Ditch Bottom.

Blacksmithing.—Practice Work.

Friday—February 1st

The Magneto.—How It Works. Its Adjustments, Care, and Troubles.

Tools for Underdraining.—Home made Levels and how to use them. Trenching Tools.

Blacksmithing.—Practice Work.

Moving Pictures.

Saturday—February 2nd

Cooling and Lubrication of Gas Engines, Cars and Tractors.

Farm Implements and Machinery.—Plows and their adjustments.

Monday—February 4th

Electricity on the Farm.

Demonstration of Electric Lighting Plants and Equipment.

Demonstrations in the Babbitting of Bearings. Soldering.—Practical Work.

Tuesday—February 5th

The Farm Shop.—How to Plan and Equip it with the Least Expense.

The Farm Tractor and Its Development.

Gas Engines, Practical.—Valve Grinding, Bearing Adjustment. The Use of the Micrometer and thickness gauge in connection with pistons, piston rings, cylinder, and tappet adjusting.

Wednesday—February 6th

The Farm Tractor.—A practical lecture on Hitches, Drawbar and Belt work.

Care and Repair of Haying and Harvesting Machinery.

Gas Engines.—Practical.

Tuesday—February 7th

The Farm Tool Kit.—The selection of wood-working tools and of wrenches for the care of machinery.

The Threshing Machine and How to Run It.

Gas Engines.—Practical.

Moving Pictures of Plowing and other Operations.

Friday—February 8th

Rope-Splicing and Useful Knots.—Practical Work.

INSTRUCTORS

L. G. Heimpel F. G. North.

made practically no growth gaining only 12 lbs. each in 180 days. However when milk casein, a well balanced protein, was added to this ration the pigs gained 179 lbs. each in the same time.

Many other experiments could be quoted to show the importance of quality of proteins as well as quantity to a limited amount. Their importance for young and growing stock is much greater than for mature stock, this is evident from the fact mentioned earlier that they are the flesh formers or body builders.

Heat and Energy Producers

The other important side of an animal's life after its growth is the energy and heat which it requires. These are supplied principally and most cheaply through the carbohydrates and fats. These carbohydrates include the various sugars, starch, cellulose, pentose and pentosans. The fats simply include the various known fats. The cheapest source of energy apart from that obtained from roughages is found in the cereal grains.

The Question of Minerals

At the present time, the importance of mineral matter for live stock is receiving much popular attention, due to the striking results which were attained by experimentalists. As a result of this, many mineral mixtures are being offered on the market for which extravagant claims have been made. It is essential therefore that we know something concerning the mineral requirements of stock. The common feeding stuffs contain all the necessary mineral salts at least in small amounts. As a rule the roughages except some straws are much richer than the grains in mineral matter. Over 90 per cent of the mineral matter of the skeleton consists of calcium (lime) and phosphorus. These two constituents and common salt are the usual minerals lacking in the stock such as pigs and calves and for milking cows these elements, especially the calcium should be taken into consideration.

Fortunately, roughage from the legumes such as clover or alfalfa hay is especially rich in the calcium and quite high in phosphorus. Previously it was thought that the beneficial effects of these feeds was due to their richness in protein but experiments have shown that it is also due to their richness in lime. The addition of these elements, the amount and form in which they are fed will receive further discussion in the later articles and under the different classes of stock.

Vitamines not so Scarce

Other additional substances commonly known as vitamins have been found necessary in a few cases for livestock. Contrary to the common belief in some sections, and the claims made by various advertising agencies these necessities of life are not usually lacking in a well balanced ration. Thus far three different vitamins have been discovered, (a) the fat soluble vitamin, (b) the water soluble vitamin, (c) the anti-scorbutic vitamin, a possible fourth has been reported on viz. antirachitic and a further one not yet named has been suggested. The composition of these substances is unknown. Their distribution is fairly wide.

The first of these, namely the fat soluble vitamin is of importance to stock men since a lack of it causes rickets, more commonly known as rheumatism in pigs. Fortunately alfalfa hay is rich in this vitamin and 5 per cent of this hay chopped and added to the feed mixture will prevent this disease developing. Clover will also prevent rickets but is not so rich in the vitamin nor as satisfactory due to its coarseness, cod liver oil is also a preventative. Stock on pasture receive all they require. The second vitamin is of no practical importance to the stockman. The third also is not important since only man, monkeys and guinea pigs are subject to the disease of scurvy. The possible fourth vitamin is concerned with the calcium assimilation of the animal. It has however a fairly wide distribution from what is already known. Thus we see the importance of the different elements in a feed mixture and to some extent their purpose and function. In the next article we will see how the ration is balanced or put together and supplemented.

DEPARTMENTAL NEWS and NOTES

Subsidies to Farmers' Clubs for the Encouragement of Pork Production (Bacon Type)

THE Honourable Minister of Agriculture, desirous of encouraging the production of pork (bacon type) has decided to offer new advantages to Farmers' Clubs and to their members, by substituting for the bonus method which is now in force, the method already adopted for other kinds of animals.

Up to this time, Farmers' Clubs used to buy boars which they kept for themselves or gave out to a few of their members on certain conditions. The purchasing price was paid into the funds of the Club itself and the Minister of Agriculture gave but one bonus per Club. This was from \$10 to \$20 and was granted according to the Circular of Sept. 14th, 1922.

After having carefully studied the question the Minister believes that it is best to change this system, and to increase the number of bonuses if the number of members justifies it. This method of procedure will be as follows after Jan. 1st, 1924.

Loans for the Purchase of Boars (bacon Type).

The Minister of Agriculture will lend without interest, through the agency of the Farmers' Clubs, two-thirds of the purchase price on the condition that the boars be re-sold in advance and at the same price to the members best qualified and in the best position to have the boars bred to the greatest number of sows.

The purchasing members will pay one-third as cash payment and the balance in two equal annual payments without interest if these payments are made when they fall due.

The amount loaned to each Club should not exceed \$500 including loans made for other purposes.

The total amount loaned to each breeder should not exceed \$50.

The loan will be made on producing at the office of the Secretary of the Council of Agriculture the seller's invoices, registration certificates, and receipts showing that a third cash payment has been made. Also two Promissory Notes made out to the Club and signed by the buyer, each representing a third of the purchase price. The former of these notes to be due in one year and the latter in two years.

Furthermore it is necessary that the animal be bought under the direction of the County Agonomist or some person appointed by him. The Club should sign in duplicate a contract with each owner, and it will be stipulated amongst other things that the cost of each breeding for a sow belonging to a member will be at least 50 cents and for a non-member at least \$1.50. This money will go to the owner of the boar.

Subsidies.

The Minister will pay each Club which bonuses a purebred, registered boar, bacon type, the following subsidies on the report of the Agonomist that the animal is in fit condition for breeding.

\$10 for a purebred, registered boar who was bred between 8 and 18 months.

\$20 for a purebred, registered boar who was bred after he was 18 months old.

Each Club containing 30 or fewer members is entitled to a subsidy of either \$10 or \$20 according to the case.

The Minister will use the latest official list to ascertain the number of members in each Club.

The length of service required to obtain these subsidies still remains at 9 consecutive months counting from the day the boar is 8 or 18 months old.

A Club may increase the number and value of its subsidies on the condition that it does the same to its revenues.

Subsidies for boars not of the Bacon Type.

If a Club desires to bonus a boar not of the bacon type it will be entitled to a subsidy of only \$10 or \$20 according to the case, and if it conforms to the conditions.

No loan will be made for the purchase of this breeder.

A Club bonusing a bacon type boar and a non-bacon type boar will receive but one subsidy.

This Circular is effective from Nov. 15th, 1923.

J. ANTONIO GRENIER,

Deputy-Minister of Agriculture.

Agriculture in the School

Training the rural youth

Fundamental Ideas on the Social Mission of the Country.

(Continued)

ONE of the best established facts in civilized countries is that of the good moral influence which the country has upon society and the demoralizing influences of the city.

Useful to Farmers

BULLETINS

25A—A study on cereals

78A—The farm gas engine

CIRCULARS

43A—The building of a manure shed

45A—Fall rye in Quebec

50A—Plant diseases

55A—Sweet clover

58A—Root growing

63A—Hay and pasture

54A—Green manuring

65A—Common weeds and their control

66A—Alfalfa growing in Quebec

67A—Notes on the use of lime on the land

REPORTS

100A—Agricultural Merit in 1923

102A—Dairymen Association.

These publications are available free of charges at the Publications Service, Department of Agriculture, Quebec.

Society being composed of a collection of families, it follows that its moral prosperity depends upon the value of education in the home which should be the centre of domestic virtues.

While life in the country tends to develop domestic virtues, city life conduces to their destruction.

In fact everything in rural life contributes to the formation and strengthening of the family spirit while everything in urban life is of a nature to cause its disappearance.

Thus in the country the child learns to love, because it lives in almost uninterrupted contact with its mother who, always remaining by her own fire-side, never ceases to treat him with tenderness and to inspire him with good sentiments; and with his father who, busy with his work in the fields, can at the same time take an active interest in him, guide his first steps, correct his faults, train his mind and inspire him with an affectionate respect.

The city child, instead of being brought up like the country child in peaceful and calm surroundings so favourable to the development of the best sentiments, is surrounded by the feverish atmosphere of an agitated life, which communicates to him, from his earliest days, something of its morbid nervousness. How can this child, predisposed to egoism by his surroundings, learn the lessons of love, when his parents are so occupied with the necessities of life that they have scarcely time enough to even look after his physical development?

What are we to say now of the child whose father is almost constantly dominated by the fascination of the struggle for life, or of the stock market or sport and other passions, and whose mother frequently deserts her home to satisfy her taste for frivolity and worldliness elsewhere?

In the country, the child also learns to associate with others, for all the members of the rural family work towards a common end, which is to increase the value and the revenues of their patrimony. They live in a community of ideas and sentiments which have created the intimacy of the domestic hearth and established among its members moral bonds which are handed down from generation to generation.

ration to generation.

In the city, the child, exposed as he is to the extreme inconstancy of the events of daily life, which tend to alienate him from his parents rather than to bring him closer to them, is accustomed to being isolated from the time of his adolescence. The members of the family, to tell the truth, only meeting at meal hours, it is impossible for them to be joined with strong enough family bonds to create that intimacy and that unity of thought which contribute to the complete harmony and integrity of the domestic hearth.

In short, in the country the child learns to devote himself to others because he has been trained when quite young to efface his individuality in favour of collective interest. The rural family being generally large and its duties onerous, the children are early taught to give up their many pleasures in favour of their older brothers and sisters. Furthermore the constant examples of material and paternal devotion are not without having a penetrating influence upon these young hearts already predisposed to generosity by heredity.

In the city, the child, brought up among people who struggle greedily for the necessities of life, and obliged as he is to commence while young to earn his own living, becomes accustomed to thinking of himself rather than of others. From the time he earns sufficient money to supply his own needs, he quickly assumes an independence which permits him to liberally satisfy his desires, even though it be to the detriment of the wants of the paternal home where, moreover, he has seldom been shown the example of family devotion.

And yet, to learn to love, to associate with others, to be devoted, this is what the heart of the home should inculcate in the soul of the child, because these are the three private virtues which alone can beget the civic virtues.

In order that society may some day become what we desire it to be, let us try above all else to convince and to persuade the rising generation, which commands the future, of the importance of the moralizing effects of the country districts, and of the necessity of developing the intimacy of the domestic hearth.

Some people will certainly be found who will call you idealists—you patriotic teachers who have the moral prosperity of society at heart and who work in the manner indicated above. Do not be disturbed by their vain recriminations, for it is precisely those who do not concern themselves with the search after usefulness that Emerson treats as beggars.

J. H. LAVOIE,

Head of the Horticultural Service.

NOTICE

TO THE MEMBERS OF AGRICULTURAL SOCIETIES OF THE PROVINCE OF QUEBEC

The Council of Agriculture wishes to remind the members of these societies that the annual election of directors must be held strictly on the following date:—

THE SECOND MONDAY IN JANUARY — (Article 1833 as amended par. 8 George V, 1918, Chap. 33).

The notice of meeting for this purpose must be given at least fifteen days in advance.

The Council of Agriculture insists at this time that the members make a judicious choice of their officers and directors, that they may insure the best success for their association.

OSCAR LESSARD,

Secretary of the Council of Agriculture.
Quebec, this 13th day of November, 1923.

NOTICE

TO THE MEMBERS OF FARMERS' CLUBS OF THE PROVINCE OF QUEBEC

The Council of Agriculture wishes to remind the members of these societies that the annual election of directors must be held strictly on the following date:—

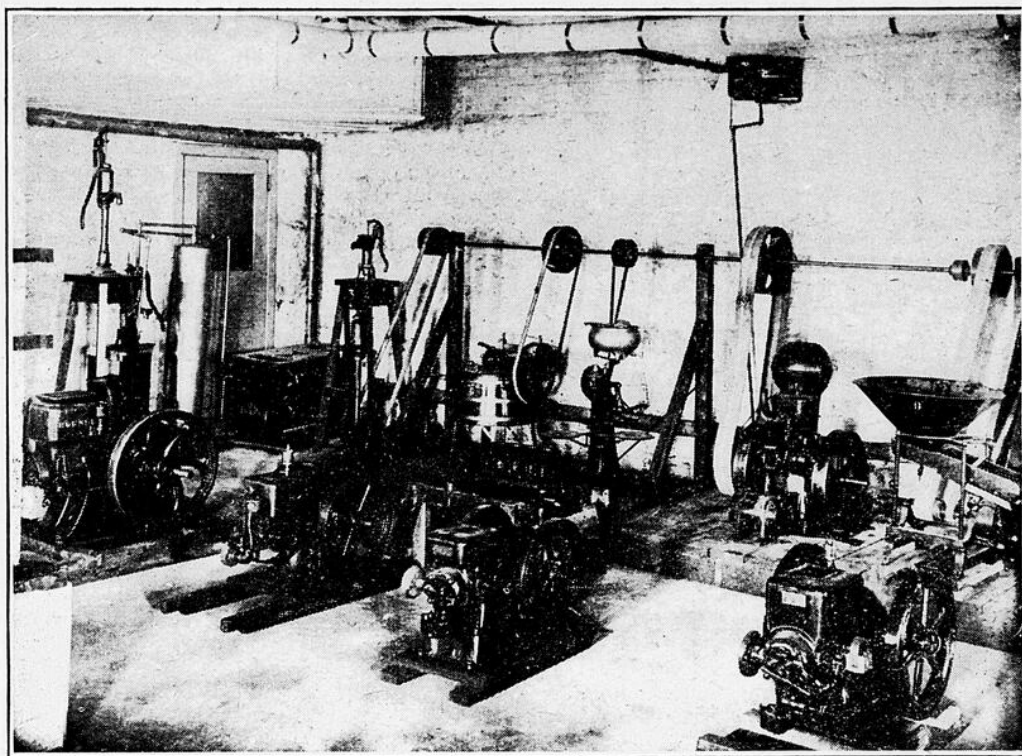
THE SECOND TUESDAY in January — (Article 1872, as amended par. 8 George V, 1918, Chap. 33).

The notice of meeting for this purpose must be given at least fifteen days in advance.

The Council of Agriculture insists at this time that the members make a judicious choice of their officers and directors, that they may insure the best success for their association.

OSCAR LESSARD,

Secretary of the Council of Agriculture.
Quebec, this 13th day of November, 1923.



A corner in the Gas Engine Room, Farm Engineering Dept., Macdonald College.

A Farm Power Short Course

The Farm Engineering Dept., of Macdonald College, will this month hold first course in use, care and repair of farm equipment.

By L. G. Heimpel, Macdonald College.

FOR many years in the past our Colleges and Governments, both in this country and in the United States, have gone to considerable expense and trouble to provide the farming public with short courses in Live-stock and Seed judging, Horticulture, Poultry, Dairying and other branches of farming. Until lately, however, very little was heard of courses the object of which was the dissemination of information concerning the choice, use and care of farm buildings and equipment. This is perhaps due largely to the fact that previous to the last decade mechanical equipment did not play so important a part in production as it does now. Not so very long ago there was no piece of farm machinery, except perhaps the plow, which could not be made by the local blacksmith. To-day machinery is involved in every farm operation. Labor is so scarce and expensive that the amount of profit one can make on a year's operations depends more on the amount raised per man than on the choice of variety of grain or the breed of live stock raised. In this race for high production per man the ability to handle machinery efficiently is often a deciding factor.

It is a well known fact that the gasoline engine is the cheapest form of farm power available on farms to-day. When we put this engine on wheels and try to use it for tractor purposes, most of us fail miserably and the failure is not the fault of the engine. It is the fault of the man who operates it. Almost every farm has its little engine for pumping, grinding or feed cutting and most of us get along splendidly with these. This is due to the fact that these little engines are seldom asked to work to capacity, and the periods of work are short. The tractor, on the other hand, is asked to develop 100 per cent of its horse-power and to do it day after day during the busy season. This is where we fall down; we are not well enough acquainted with the machine to keep it in running shape. The result is that we depend on horses for our traction power.

Though we do not fare so badly in the operation of the gas-engine when applied to the stationary power-plant, the automobile or the truck, most of these machines in use are not in good condition. Many a car is laboring along the road using several times as much gasoline as it should and with the radiator turned into a steam boiler simply because the operator does not know that the engine is firing late or that the valve-tappets need adjustment. Most stationary engines in use can be made to deliver from 5 to 50 per cent more power in a few minutes through proper adjustment by a man who knows how. The New Short Course is designed to give gas engine users such information as will enable them to "tune up" their machines.

Guess work will never get one very far in the use of any machine.

In the use of other farm machinery, as well, few of us are getting maximum service. There are millions of dollars worth of machinery spoiled by improper care every year, millions worth of machines "traded in" for new long before this is necessary, and more millions worth of machinery as well as horse-flesh destroyed by improper operation of implements. A study of the principles underlying the construction, use and adjustments of our most important implements will be made during this course.

FARMERS CANNOT AFFORD TO PAY UNION WAGES.

One of the ways in which much money can be saved for ourselves is in doing our own blacksmithing and repair work on the farm. There was a time when a carpenter's services could be secured for \$2.50 and his meals per ten hour day. In most

districts these days are over; sixty-five cents an hour is a carpenter's pay and of course his meals thrown in. The blacksmith's services also have risen to a cost so high that we let our horses go until the shoes on their feet look more like "in-grown toe-nails" than like horse-shoes. Then there is the consideration of where to go to get blacksmithing done. The local blacksmith is disappearing; there are very few apprentices learning the trade. Sooner or later many of us will have to do our own blacksmithing work, and why not? There is nothing about a blacksmith's work that cannot be quite creditably performed by any one of us provided we have the equipment and know how it should be used. Contrary to the belief of many of us, blacksmithing is not a closed profession nor a black art; all the "tricks of the trade" necessary for farm repair work can be taught in a few days. The skill of the professional is necessary for speedy work but if we were to spend the major portion of the time we now spend on the road and waiting at the shop we could do all our repair work several times over.

The New Short Course provides for four solid afternoons of blacksmithing, during which the student will not only become acquainted with the processes of drawing-out, upsetting, bending and welding iron, but will also learn to know what equipment to buy for the farm shop.

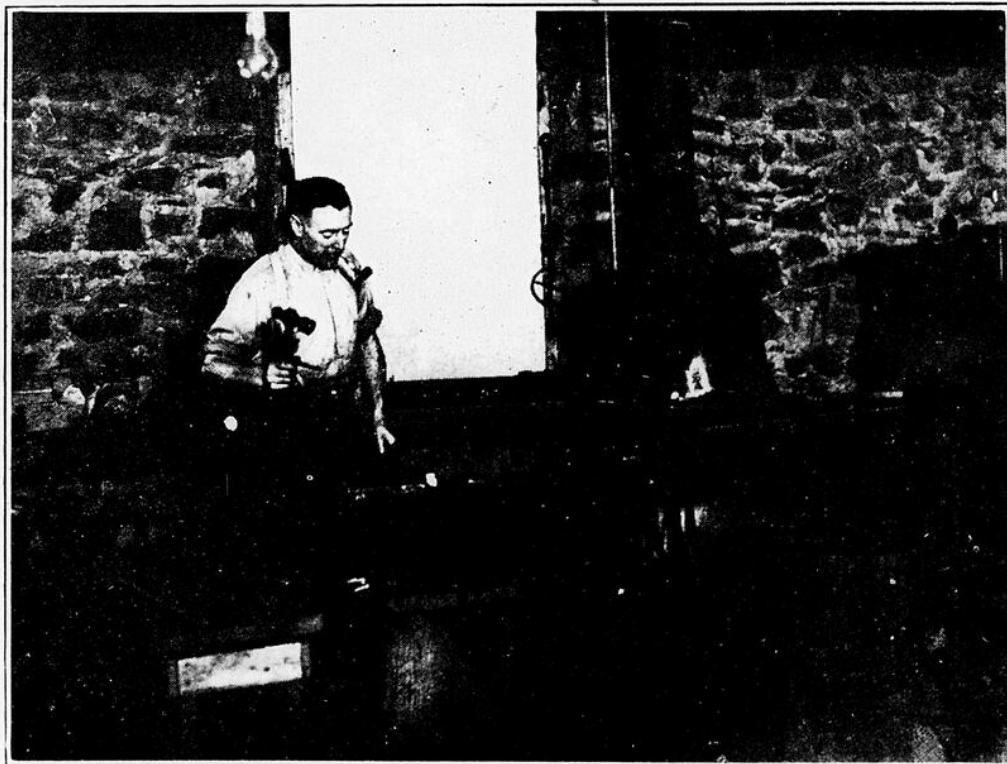
THE DEPARTMENT IS WELL EQUIPPED.

Through the co-operation of many manufacturers of farm machinery, gas-engines and farm lighting plants, we have been enabled to secure a large collection of these machines which are being used as demonstrators during all our courses. The gas engine room contains fourteen different kinds of this power plant, including four automobile engines. The Machinery Hall contains specimens of the leading kinds of tillage and harvesting machinery as well as tractors, manure spreaders and spraying machinery, all of which will be used in demonstration. The blacksmith shop contains sufficient equipment to allow twenty men to work at one time. The work is taught first by demonstration then by actual practice at the anvil under the supervision of the department's instructors.

Students are requested to come equipped with a pair of overalls which will be needed throughout the course.

The course commences January 29th, and lasts for eight days. Besides the days of instruction there will be evening programmes during which moving pictures of Farm Underdrainage operations and other interesting farm topics will be shown. The only expenses connected with the course consists of those for board and lodging, no charge is made for tuition. Full particulars can be obtained from the writer of this article, Dept. of Agr. Engineering, Macdonald College, P. Q.

Be careful of mares in foal. Avoid strains or other dangers.



A HANDY FARM SHOP

How to Make Good Concrete

1. Use fresh Portland cement free from lumps which cannot be broken to a powder between the fingers.
2. Test sand for loam and organic matter. Presence of loam and organic matter weaken concrete and reduce its wearing capacity.
3. Use stones $\frac{1}{4}$ to 1 inch in diameter for reinforced work. Larger stones can be used for foundations and similar work. Avoid loam and organic matter, as in sand. Don't use soft, long, thin stones.
4. Don't use too much water. Excess water weakens concrete.
5. Proportion materials correctly. Don't guess.
6. Tamp well.
7. Protect from sun and wind.
8. Protect from frost in cold weather; also heat materials in winter.
9. Mix materials thoroughly.
10. Build forms strong.

R. U. B., in "Hoard's".

The Supply of Good Seed

Visible Market Supply of Canadian Registered and Extra No. 1 Seed

THE Canadian Seed Growers' Association makes the following advance report on crop registration and visible market supply of Registered and Extra No. 1 Seed, 1923 crop:

Wheat.....	12,612 acres	264,014 bushels
Oats.....	8,560 "	361,240 "
Barley.....	336 "	17,025 "
Corn.....	138 "	4,360 "
Spring Rye.....	48 "	735 "
Flax.....	28 "	420 "
Peas.....	5 "	150 "

This information is based on individual inspection reports on the fields of some 930 growers. All of the seed concerned is covered by the crop registration certificate of the C. S. G. A. and hence is eligible to grade "Registered" or "Extra No. 1" under the Seeds Act 1923. Seed attaining either of these grades after cleaning will be sealed and tagged in the sacks by the Inspectors of the Dominion Seed Branch.

The great bulk of this pedigreed seed has been produced in Alberta and Saskatchewan. Full details of generation, crop certificate number and the probable quantities available for market in the hands of each grower, giving names and addresses, will shortly be published by the C. S. G. A. in the form of its annual "Report of Crop Registration and Visible Market Supply of Canadian Pedigreed Seed", copies of which may be obtained on application to the Secretary, 114 Vittoria Street, Ottawa.

Experiments with Mangels

Farm Manure or Fertilizers Absolutely Necessary for a Good Crop

AN important point which has been gained by an experiment conducted for eleven years at the Central Experimental Farm at Ottawa, in a comparison between farm manure and commercial fertilizer, says Mr. E. S. Hopkins, Dominion Field Husbandman, in his annual report, is that mangels require manure or fertilizers to produce a satisfactory crop. The unmanured land produced only a little over half the yield of mangels compared with the other three manured or fertilized areas; the size and quality of the mangels, moreover, was very poor.

For this experiment a four-year rotation was established consisting of mangels, oats, clover hay and timothy hay. To one portion of the land manure was applied, while to another portion commercial fertilizers were given. The simple rotation of the crops, Mr. Hopkins points out, is not sufficient to maintain the yield of mangels; the addition of manure or fertilizer is indispensable.

Another important point learned is that the commercial fertilizers applied to this rotation gave practically as large yields as were secured from the farm manure. The manure was applied to the mangel crop at the rate of 15 tons per acre, no manures or fertilizers being applied to the other crops in this rotation. The commercial fertilizers were applied in this way: to the mangel crop, a dressing of 100 pounds of nitrate of soda, 200 pounds of superphosphate and 75 pounds of muriate of potash per acre; to each of the other crops in the rotation 100 pounds of nitrate of soda per acre.

Figuring the cost of the fertilizers at the actual prices paid throughout the eleven years, says Mr. Hopkins, and computing the value of the increased crops over those secured on unmanured land, quite

large profits have been reaped. In order to avoid losses, anyone intending to use fertilizers should make small trials with these materials on his own farm before purchasing them in large quantities. The applications of farm manure have also given, as would be expected, very profitable returns.

Sawing Wood

THE buck-saw, like the grain cradle, is practically an institution of the past. A necessary evil once, it should now be regarded as an antiquated invention for driving boys off the farm, and relegated to the museum for curiosities.

The one-man cross-cut is a little better, while the two-man cross-cut is a distinct step in the evolution of sociability. It has its place in the bush, of course, and even the other instruments of torture aforementioned find occasional employment, just as the old grain cradle is resurrected now and then for some special purpose.

As a regular means of working up the winter wood pile, however, these are only to be advocated for one who absolutely has not and cannot get the

cash to hire a buzz-saw outfit. Modern life is too busy and full of interest to spend unnecessarily in back-testing mechanical routine which machinery enables us to dispense with. Most of us can find enough manual-labor jobs after we have substituted as much gasoline for muscle as we have wit to use.

We have heard arguments that buzz-sawing wood is more expensive than buck-sawing. But these calculations are generally based on old-time conditions. As it works out in these times, most of us find that gasoline beats elbow grease by a substantial margin. There is this, too, that buzz-sawing is a more or less sociable job which goes with a vim and men quite properly prefer it to the tedium of hand-sawing.

Again, it will be noticed that the farmer who buzzes his supply gets the job over with and goes on to something else, while the buck-saw adherent is hardly ever out of a job. The wood pile stares him in the face until he hates to go past it.

What a comfort there is in looking at a big heap of sawed fire-wood in the yard when a cold snap comes on and the snow piles deep around the buildings.

It Pays to Underdrain

Results of Underdrainage at the Stanbridge East Illustration Station for the Season of 1923

AS shown by the following figures, our tile drained plots gave a substantial increase in all crops under comparison, during the season of 1923, over the plots where surface drainage alone was depended upon to remove surplus moisture:

Clover	Tile drained land	2.89 tons per acre		
	Surface " "	2.26 " "		
Increase due to tiles .63				
Hay (Timothy)	Tile drained land	1.43 tons per acre		
	Surface " "	1.22 " "		
Increase due to tiles .21				
Corn	Tile drained land	14.48 tons per acre		
	Surface " "	12.38 " "		
Increase due to tiles 2.10				
Oats	Tile drained land	40 bushels per acre		
	Surface " "	26 " "		
Increase due to tiles 14				

The light yield of timothy hay on both the tiled and the surface drained land was due in a large measure to damage by white grubs, which were

very destructive in many fields in this district, and which were much more numerous on the tile drained plot in timothy hay than in the corresponding surface drained plot. This was probably owing to the heavier nature of the undrained soil which seems to be less congenial to the grub than soil of a lighter texture.

In the case of the oat crop, which gave an increased yield of 14 bushels per acre, due to drainage, a difference of three pounds more per measured bushel was found on the surface drained land; a bushel from the drained plot weighing 32½ lbs. and from the undrained plot 35½ lbs. This, at first thought, was so surprising that the weighing was repeated. But the same result was found. On second thought, I think this is easily explained. The growth of straw on the tile drained field was very much heavier than on the surface drained field; so heavy in fact that it lodged badly before the grain had ripened, shutting off to some extent the flow of sap in the oat stems, and resulting in a lighter grain. Last year very little lodging took place in either of the oat plots, and a measured bushel of grain from the tiled field weighed six pounds more than a measured bushel from the land which received only surface drainage.

C. S. MOORE,

Stanbridge East, Que.



The combination of tractor and power-driven binder machine speeds up the harvesting operations on many an up-to-date farm—and makes it possible to harvest all the grain when it is at the proper stage of maturity.

Quebec Pomological Society Meets

Many Excellent Papers Presented at Annual Meeting, and Keen Interest Taken in Discussions.

A growing realization of the extremely favourable opportunities for profitable fruit production in Quebec as compared with competing fruit sections, with its resultant increased interest in the industry, was probably responsible for the large attendance at the annual convention of the Pomological and Fruit Growing Society of the Province of Quebec, held last month at Macdonald College. A distinct air of optimism prevailed, tinged with something of pride in the achievements of Quebec fruit growers in carrying off so many creditable prizes at the recent Imperial Show at Manchester, England, and throughout the sessions keen discussions were engaged in by the members of the society on the various subjects opened up by the papers of the speakers on the programme.

The question again came up this year of the advisability of amalgamating the various small Horticultural Societies of the province into one large association, affiliated with the Quebec Pomological Society. Some discussion was also provoked on the subject of name for the society, the present one, the Pomological and Fruit Growing Society of the Province of Quebec, being considered too long for practical purposes. It was suggested by J. H. Lavoie, Chief of the Horticulture Service for the province, that at the time of changing the name this question of amalgamation be considered. He pointed out that if this centralization of activities were achieved it would be easier to approach the Department for the increase in annual grant for which the society has been asking for a couple of years, and which they consider so necessary if they are to keep up their present programme of activities under conditions of decreased purchasing power of the dollar, as compared with conditions fifteen years ago or so when the grant was the same as it is today.

It was finally decided that Prof. Bunting's resolution, calling for a change in the name of the society, be tabled for the present, and that a committee be sent to Quebec to interview the Minister on the whole question of names, grants and affiliations.

WANT INSECTICIDE LAW

One of the things upon which all were agreed was the need of some sort of law compelling the manufacturers of insecticides and fungicides to guarantee their products. Fruit growers in a number of sections this year suffered badly through the purchase of worthless or harmful insecticides, and heated discussion followed the presentation of a paper on this subject by Mr. McMahon, which paper we are publishing elsewhere in this issue. It was finally decided to memorialize the Dominion Government on the subject, asking for a law for the protection of users of these commodities.

Other resolutions included a number passed by the convention and given to Peter Reid, the society's representative on the Canadian Horticultural Council, to be brought up at the next meeting of this organization and if possible acted upon. The first was that "windfalls" be added to the list of commercial grades of apples that can be offered for sale in closed packages, provided that the word "windfalls" be stamped on the surface of the package in red letters at least one half inch in size. Another was that whenever a package of fruit is inspected and found correct that the inspector stamp the box with a statement to this effect, together with date of inspection and his number or initial, so that the purchaser may not think that the package was improperly packed when he finds it somewhat mused on opening. A third was that the packer shall stamp upon his containers the date of shipment and that the grower be not held responsible for deterioration in grade of fruit after two weeks for summer varieties and thirty days for winter. And a fourth resolution asked for an investigation of possible means of educating the people to the value of apples.

OUR MARKETING PROBLEM

One of the most interesting discussions of the meeting had to do with our marketing problems. This was led by N. E. Jack, Chateauguay, W. J. Tawse, Macdonald College, J. L. Byers, Abbotsford, and G. E. McIntosh, Dominion Fruit Commissioner, Ottawa, each of whom presented a fifteen minute paper on some phase of the work. Mr. Jack took as his thesis that while fruit growing and fruit packing have been reduced to a science, little has been done in the establishment of scientific marketing methods. He recommended the establishment of

a bureau of markets. He suggested that a good move in the increasing of the demand for apples might be made by the Quebec Department of Agriculture through the operation of an exhibit of Quebec apples in season at Montreal, Quebec, and other points, where information would be given out on prices and where to secure these fruits. He further advocated a National Apple Week, and a general campaign for publicity for our fruits.

Mr. Tawse carried the problem of marketing back into the orchard. "We must produce quality fruit in quantity, and of the right varieties", he said. "When we have done this, our marketing problem will be more than half solved". He advocated better pruning, not only to let in the light and air but also to assist in thorough spraying. He followed this by stating the need of better spraying throughout the province, then of thinning

to reduce the proportion of undesirable fruit going onto the market, and finally ended with a word upon harvesting.

Mr. Byers spoke of the excellent market opportunities in his district at present. With the coming of our good roads very little fruit has to be shipped to Montreal. It is taken up at good prices F. O. B. the orchard by operators with motor trucks. Mr. Byers was not altogether sure that the present extremely high prices for apples are desirable. In his opinion they may do something towards killing demand. He suggested as a good policy for Quebec apple producers that they make it a rule to sell their fruit early while they still have the excellent Montreal and Quebec markets to themselves, and before the New York apples arrive. He stated in conclusion, that he stood for wholesale fruit trade as one of the best things for the fruit growing business.

If there is any district in Canada where increased planting can be safely recommended even under the present adverse conditions, it is in Quebec and in the St. Lawrence River valley district of Eastern Ontario. This was the opinion expressed by Mr. McIntosh, Dominion Fruit Commissioner. Mr. McIntosh spoke of the great difficulties in marketing fruit at a profit faced by the other apple growing districts of the continent during the past few years, but complimented the Quebec growers on the wonderful markets at their doors. Mr. McIntosh spoke of some interesting experiments that are now being carried in his department in dehydrating fruits, which it is hoped will offer an opportunity for the disposal of surplus and cull fruits, and so help the markets for quality products.

A number of extremely interesting papers were given during the two days of convention, several of which we hope to publish in The Journal of Agriculture either in this or in our next issue.

ELECTION OF OFFICERS

The election of officers for the ensuing year resulted in the following slate being elected:

Patron. Hon. J. E. Caron; hon. president, J. H. Lavoie; hon. vice-president, J. R. Marshall; president, Georges Maheux; vice-president, M. E. Honey; secretary-treasurer, Peter Reid.

Directors—District 1, I. Waddell, Covey Hill; 2, C. E. Slack, Abbotsford; 3, G. P. Hitchcock, Massawippi; 4, Alf. Lebel, St. Denis; 5, J. M. Talbot, Quebec City; 6, R. A. Rousseau, Actonville; 7, A. D. Verreault, Village des Aulnaies; 8, Rev. Father Leopold, La Trappe; 9, N. E. Jack, Chateauguay Basin. Representative to the Canadian Horticultural Council, Peter Reid, Chateauguay Basin.

THE APPLE EXHIBIT

The exhibit of apples held in connection with the convention brought out some excellent fruit, but in the opinions of the judges not as large a number of entries as should have been made. Mention was made of the excellent quality that characterized the show throughout, and that in only one or two cases was any scab found, while no worm-holes were discovered in any fruit on show. The prizes in the various classes were awarded as follows:

Home use—1, M. E. Honey; 2, W. R. Honey; 3, R. Jack and Sons. Commercial—1, M. E. Honey; 2, W. R. Honey; 3, R. Jack and Sons. Ex-Wealthy—1, M. E. Honey; 2, W. R. Honey; 3, R. Jack and Sons. Plates of Macintosh Red—1, W. R. Honey; 2, M. E. Honey; 3, R. Jack and Sons. Fameuse—1, W. R. Honey; 2, M. E. Honey; 3, R. Jack and Sons. Wealthy—1, M. E. Honey; 2, W. R. Honey; 3, A. A. Johnston, Sweetburg. St. Lawrence—1, W. R. Honey; 2, R. Jack and Sons; 3, M. E. Honey. Russet—1, M. E. Honey; 2, W. R. Honey; 3, A. A. Johnston. Alexander—1, M. E. Honey; 2, W. R. Honey; 3, R. Jack and Sons. Milwaukee—1, A. A. Johnston; 2, W. A. Jack, Scott's Winter—1, W. R. Honey; 2, M. E. Honey; 3, A. A. Johnston. Peewaukee, 1, M. E. Honey; 2, W. R. Honey; 3, R. Jack and Sons. Bethel—1, W. R. Honey; 2, M. E. Honey; 3, A. A. Johnston. Lobo—Peter Reid. Seedling—1, Peter Reid; 2, Peter Reid; 3, M. E. Honey. Any other variety—1, R. Jack and Sons; 2, M. E. Honey; 3, W. R. Honey. Scarlet Pippin—1, R. Jack and Sons; 2, A. A. Johnston; 3, Antoine Lalonde.

Barrel Fameuse—1, M. E. Honey; 2, A. A. Johnston. Box Fameuse—1, W. A. Jack; 2, W. R. Honey; 3, M. E. Honey. Barrel Macintosh Red—1, M. E. Honey; 2, A. A. Johnston. Box Macintosh Red—1, R. Jack and Sons; 3, W. R. Honey; 3, M. E. Honey. Basket—1, A. A. Johnston; 2, Peter Reid.

Short Course in Horticulture

Programme of lectures to be given at Macdonald College—February 12th to 15th, inclusive

A very practical course in fruit growing and vegetable gardening will be put on this year by the Horticultural Staff at Macdonald College for the benefit of all interested in such work. Those intending to take in this course should get in touch with the Principal of the college as soon as possible in order that they may be able to arrange for accommodation. The programme, day by day, for the course is as follows:

Tuesday—February 12th.

Registration and Welcome. Opening Address: "Opportunities in Gardening and Fruit Growing."

Soils and the Fertilizer Problem.

Some Points in Profitable Onion Culture.

How to Construct and Manage Hotbeds and Cold Frames.

Seed Potatoes in Relation to the Production of Larger and Earlier Yields.

The Growing of Vegetable Root Crops (Beets, Carrots, Parsnips, Turnips, etc.)

The Flowering Habit of Plants in Relation to Pruning (Demonstration).

The Making and Care of a Lawn.

The Management of Plants in the Home.

The Culture of Annual Flowers.

Wednesday—February 13th.

Seed Sowing and Transplanting (Demonstration).

The Vegetable Fruit Crops (Cucumbers, Melons, Tomatoes, etc.)

The Vegetable Seed Crops (Beans, Corn, Peas, etc.)

The Control of Some Common Insects.

The Salads and Greens (Celery, Lettuce, Radish, Spinach, etc.)

The Perennial Flower Border.

The Planting and Care of Trees, Shrubs and Vines.

Plans and Designs for Laying Out the Home Grounds.

Some Popular Bedding Plants.

Thursday—February 14th.

Successful Methods of Growing the Strawberry.

The Asparagus Crop.

Raspberry and Bush Fruits for Home and Market.

The Control of Some Common Garden and Orchard Diseases.

Orchard Soils and the Establishment of the Orchard.

Garden Sprayers and Dusters (Demonstration).

The Construction and Equipment of a Small Conservatory or Greenhouse.

The Management of a Small Greenhouse.

The Peony and the Iris.

The Rose and the Lilac.

Friday—February 15th.

Making the Orchard Productive and Marketing the Crop.

The Construction and Management of Storage Houses.

Diversification in Tree Fruits (Cherry, Plum, and Pear).

Top-grafting, Root-grafting and Budding.

Demonstration of Spraying and Dusting Materials and Appliances.

The Discussion will centre around Modern Equipment and some of the newer sprayer materials.

The Gladiolus and the Dahlia.

The propagation of Shrubs, Vines and Herbaceous Perennials.

The Fungicide and Insecticide Guarantee

FOR WHAT DOES IT STAND?

An Address Delivered at the Recent Meeting of the Quebec Pomological Society

By E. A. McMahon, Insecticide Division, John Cowan Chemical Company Limited, Montreal.

"GUARANTEE" is a word that is being more and more used as business grows, and the world of trade expands. What is its meaning? A guarantee is a warrant of a certain standard of quality. To the salesman, it is a strong point in favor of his goods if he can guarantee them. Intelligent buyers look for, and stock guaranteed goods. A guarantee protects the consumers and ensures them value for their money.

A guarantee is only as good as the firm which stands behind it, and the law which enforces it. Unhappily, at the present time we have no insecticide and fungicide act, so that no guarantee of quality or of total arsenical content or of water soluble arsenic is necessary. The farmer, however, is better protected as to fertilizers. Under the fertilizer act of 1922 it is essential that each package containing such fertilizer have a tag or label durably attached, carrying the name of the manufacturer or importer, brand name, registration number, year of issue, and guaranteed analysis stating separately in minimum percentages only, water soluble nitrogen, total nitrogen, available phosphoric acid, potash soluble in water and further details for special fertilizers. Besides the above guarantees on the tag which state clearly to the grower the exact ingredients he is using he is further protected by a clause in the act stating that "no person shall sell, offer, or expose or hold for sale in Canada any fertilizer which contains more than one tenth of one per cent anhydrous borax or any other constituent poisonous to plant life when applied to the soil."

As before stated Canada is not as yet protected in the matter of insecticide legislation as is the United States, where the necessary guarantees on labels safeguard the consumer similar to our fertilizer act. Over there the regulations calling for guaranteed analysis has been a great protection to the fruit grower and farmer. It has also been a protection to the high grade manufacturer, as he now does not have to meet prices quoted on a competitor's greatly inferior product. The enforcement of their Act has led to the condemnation of many tons of spray and dusting materials each year. These condemned materials are often offered for sale in Canada, and some of them come across the border and are sold in this country in competition with some of our high grade material. So far as the writer is aware, only two manufacturers in Canada are guaranteeing their spray and dust products. One of these firms, where the writer has been employed for several years, follows all the important regulations of the U. S. insecticide law, putting a guarantee on each and every label of

spray dusting chemicals. Most of the Paris Green is guaranteed as to the total arsenious Oxide only following the old Act in this respect.

What does the guarantee stand for?—At the present, in Canada, the guarantee of any spray or dusting chemical is only as good as the reputation of the firm manufacturing it. Careful factory control, with frequent analysis, is necessary to insure a product being up to the guarantee. Therefore the guarantee ensures to the consumer a higher quality product. If a spray product does not carry a guaranteed analysis it is likely to have been carelessly made, and the plant control outlined above would permit any careful manufacturer using a good process to guarantee the analysis of his product. At the present time anyone buying spraying or dusting chemicals which carry no guaranteed analysis might be purchasing a 5% Arsenate of Lead instead of a 30%. Another point in favor of guaranteed analysis is this,—a salesman selling a non-guaranteed Lead Arsenate might say that it was about 30% Arsenic Oxide which is the usual guarantee, but Lead Arsenate carrying a guaranteed analysis of 30% Arsenic Oxide will analyse, on the average 31½% Arsenic Oxide. That is to say, a reliable manufacturer guaranteeing his Arsenate of Lead to contain 30% Arsenic Oxide usually does not pass this material unless it runs over 31½ so that he ensures being above his guarantee even if this product should be stored under unfavorable conditions. Of equal if not greater importance is the guarantee as to soluble arsenic which with some processes of manufacturer is difficult to control. Some makers, rather than remake a batch that is high in this dangerous leaf burning product will permit it to go on to the grinding room hoping to average the good with the dangerous material. This is always an unfortunate day for the consumer as he may get a material weak in killing value and destructive to the foliage, so that in some cases he would have been better off without any insecticide. This of course applies to insecticides used as a strength poison.

The writer sincerely hopes that within a short space of time Canada will have a law regulating the sale of spray and dusting chemicals in the main similar to that in force in U. S. The writer has spoken to several Federal officials about the need of such legislation, and certain preliminary work is now being done. We require as simple regulations as possible.

If such laws are very involved it might add to the cost of the finished product. Even if this were the case, the advantages to be derived from greater uniformity would be well worth while. Such a law

Short Course in Bee-Keeping

A short course in Bee-Keeping, lasting four days, will be put on this year at Macdonald College. The dates of the course are February 26th to 29th inclusive. At this course the following lecturers will take part: C. B. Gooderham, Dominion Apiarist, A. H. Birch, Apiarist, C. E. F. Ottawa, R. H. Willis, Queen Breeder, Beauharnois, Que., and W. J. Tawse, Lecturer in Horticulture at Macdonald College. All who are interested in bee-keeping are invited to attend the sessions and to take part in the following programme:

Tuesday—February 26th.

Registration and Welcome.
Anatomy of the Bee in Relation to its Functions.
Demonstrations and Lectures on:—
Hive parts and how to assemble them:
Comb Foundation and how to use it:
Wax rendering and how to clean it:

Wednesday—February 27th.

Organization of the Colony, Brood & Brood Rearing.

Why bees swarm and how to control it.
Address: Dr. F. C. Harrison, Principal.
Spring management in relation to production.
The production and marketing of extracted honey.

Comb honey and how to produce it.

Thursday—February 28th.

Queen breeding and introduction at Ottawa.
Commercial Queen Breeding.
How to move bees in the Apiary, auto or rail.
American Foul Brood and its eradication.
European Foul Brood, Sac brood, etc.
Laying Workers.

Drone Laying Queens and Waxworms.

Friday—February 29th.

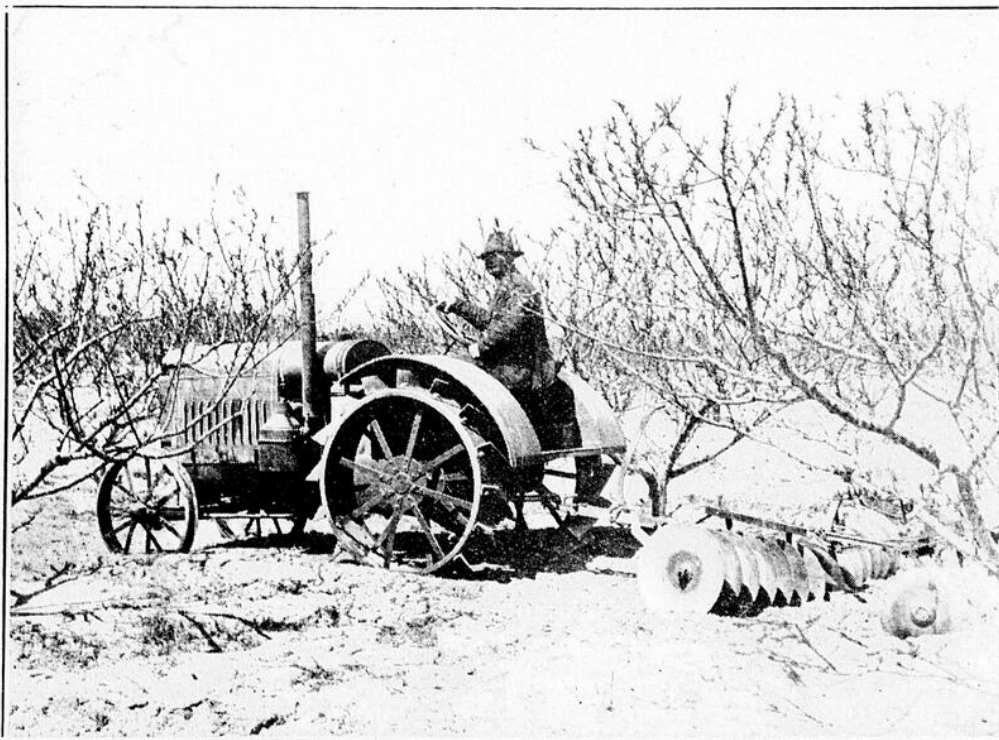
Sources of nectar and their value.
The location and arrangement of the Apiary.
The uses of honey in the diet: Household Science.
Outdoor wintering in cases.
Successful cellar wintering.

would withhold from the Canadian market a considerable quantity of present day Canadian and American inferior insecticides and fungicides. While good legislation would cause a great improvement it would not be a cure for all ills, nor would it mean that all Arsenate of Lead, for instance, would be of the same quality, but it certainly would mean much more uniformity. A firm using a superior process of manufacture will always be able to turn out the best product, but it is possible with careful batch control to make all of these products much superior to many on the market to-day.

The consumer should buy his arsenicals on an Arsenic basis. That is, Arsenate of Lead should be 30% Arsenic Oxide less than 1% Metallic Arsenic soluble with water, while Arsenate of Lime should be 40% Arsenic Oxide with less than ¼% metallic arsenic water soluble. Similarly prepared Bordeaux mixtures. Bluestone, C-L-A. Dusts should be purchased on their Copper and Arsenic content. The consumer should buy the arsenical, or combination which is the best for his individual use.

The writer agrees with those who would like to see regulations preventing the sale of Paris Green as an insecticide. This material is neither efficient nor economical. It often severely damages the foliage due to the water soluble arsenic and no two batches appear to be alike. Why it continues to be recommended by some federal and provincial authorities remains a mystery.

As has been pointed out we have no Insecticide and Fungicide regulations in this country. The guarantee of these materials is only as good as the word of the manufacturer producing them. A good insecticide law would, however, mean that the consumer would be getting a superior product on the whole and one that could be better depended upon than the average insecticide and fungicide found on the market to-day.



The tractor is finding a place in orchard work, where its ability to supply plenty of power without taking up too much space in operation is a factor in its favor.

For Whom Are You Growing Your Onions

A Pertinent Question — In View of the Ravages of the Onion Root Maggot

By T. A. Armstrong, Macdonald College

ARE you growing your onions for yourself or are you growing them for the benefit of the onion maggot? The pest known as the onion maggot is one which has been a constant source of worry to onion growers in the market gardens of Quebec. In some years severe losses to seedling onions have resulted from the ravages of this pest, while in other years but light infestations have been reported. However, the grower is never safe, and it would pay him to put into practice the control measures recommended in this article.

The onion maggot lives over the winter in the resting stage known as the pupa, which is to be found in the soil from one to five inches beneath the surface. It is easily recognized, being small, reddish-brown and oval in shape, and about 1/5 of an inch in length. From the first to the twentieth of May, depending upon the season, these pupae give rise to small two-winged flies, which can be seen flying throughout the onion fields. Ten to fourteen days after the flies emerge, they commence to lay their eggs on or around the young seedling onions, and in a very short time the eggs hatch giving rise to maggots which make their way to the young bulb where they feed.

In a very short time after the first maggots hatch in the spring their presence can be detected by the fact that the seedlings commence to droop and turn yellow, then finally die. When a wilted seedling is pulled the maggots will be seen feeding on the already destroyed bulb.

This wilting of the seedlings will be observed first about the tenth to the fifteenth of June, gradually increasing in intensity until in a bad infestation fifty percent or more of the seedlings will have wilted and died by the middle of July.

To the unobservant grower this more or less sudden wilting of his onions is a mystery which he is at a loss to explain, but we must consider the fact that the maggots are working beneath the surface, and therefore are not seen until the plant is pulled.

The maggots are present in the onion fields throughout the season but owing to the rapid growth of the onion the damage done during August and September is comparatively light. The larva or maggot feeds in the onion for a period varying from ten to thirty days, and when full grown it passes into the soil to form the resting stage. This pupal stage lasts from twelve to twenty-five days, and at the close of this variable period the adult fly emerges.

Throughout the summer there are two full generations of the onion fly as well as a partial third generation, and thus we see why the maggot is present feeding in onions throughout the season.

To control this pest two measures are recommended. One is known as the poison-bait method, the other, the trap-crop method.

Poison bait method:—

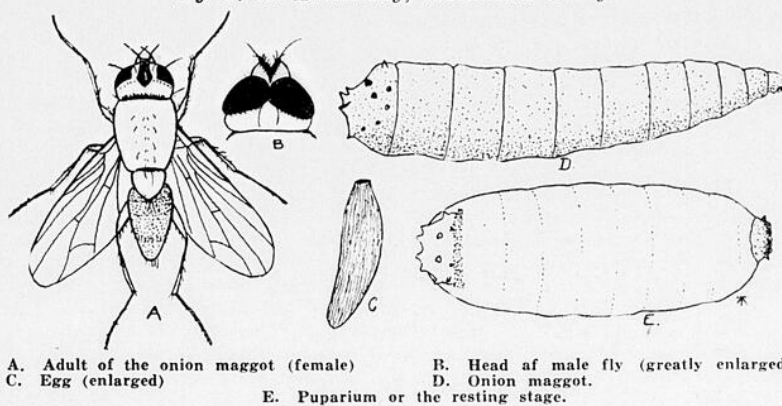
When the onions are about 1½ to 2 inches high, small tin pans 1½ inches deep and 6 inches wide at the top, are placed throughout the onion fields, twenty to thirty pans to the acre. In each pan a little excelsior is placed, and the pan then filled with the poisoned attractive bait. This bait consists of the following materials and amounts.

Sodium Arsenite	½ oz.
Molasses	1 pt.
Water	1 gal.

The object of this poison bait is to attract and kill the flies before they get a chance to lay their eggs.

The most important factor in this control work is that the pans should be laid out in time to attract the flies before they have deposited their eggs. When the plants are 1½ to 2 inches high, or not later than May 20, is the correct time to lay the pans. It should be understood, however, that the safest way is to keep a careful watch for the first appearance of the fly. The pans should be laid as soon as the fly is seen, and must be kept refilled for at least four weeks, and a period of six weeks is a more desirable length of time.

The cost of the above treatment is exceedingly low. To treat one acre of onions for a period of five weeks, with six refillings is \$5.20 at present day prices of materials. This figure includes the initial cost of the pans which have a life of at least three years.



A. Adult of the onion maggot (female) B. Head of male fly (greatly enlarged)
C. Egg (enlarged) D. Onion maggot.
E. Pupa or the resting stage.

Trap crop method:—

The trap crop method of control consists simply of placing cull onions (the previous year's onions) in rows 100 feet apart throughout the seedling plantation. The old onions are set out at time of seeding, and should be planted at least four inches deep. These onions are very attractive to the flies, on or around which they prefer to lay their eggs. Thus these traps secure a large majority of the eggs and become heavily infested with maggots. These traps should be removed and destroyed by burning (not discarded on the manure pile) not later than June 15th. Another batch of cull onions can be planted if it is found necessary. As can be seen this method is much cheaper, and in a wet season may prove to be the better of the two.

A combination of the two methods outlined above can be employed. Lay out the pans, and around them place a group of cull onions, being careful as before to remove and destroy these culls by June 15th.

If you want to get returns from your onion crop adopt the methods of control outlined above, and keep down the ravages of the onion maggot.

Protect The Lawn in Winter

DURING the winter the area which in summer is a lush green carpet in front of the house is often abused. Frequently it is not only neglected, but maltreated. Occupants of the house during sessions of cold weather are prone to remind themselves that "a straight line is the shortest distance between two points" and often they economize in distance travelled at the expense of the lawn.

A well-beaten path made across the lawn in winter will probably work permanent damage. The grass may be killed and the soil so compacted that grass seed sown thereon the next season will not thrive. Such a path will generally be obvious for a number of years. A "cow path" is distinctly an unattractive feature on a lawn. The lawn sign of summer, "Keep off the Paths that are Making" may well be needed throughout the year.

Another sin against a lawn is to flood it for the purpose of making a skating rink. A body of ice over the lawn in winter is almost certain to completely kill the grass. The grass will not tolerate for a long time a covering which precludes movement of air.

Young lawns should have a covering of snow. A wind-swept lawn, blown free of snow in winter, is likely to lose much of its young clover. Brush spread about tends to deflect the wind and holds the snow.

Old Earth Cellar Best for Apples

ONE of the problems of the householder each year is what quantity of apples he can store economically, and another question "Why did not my apples keep well last winter?" or "is there any way by which I can keep them better this year?" This does not apply, of course, to those who are fortunate in having the old fashioned cellar without a furnace which was cool but frost-proof, and moist without being damp. It was and is in such a cellar that apples can be kept to the best advantage and where they will best retain their flavour. The nearer the conditions approach those in this old earth cellar the better the results will be. First, the fruit should be kept as cool as possible without freezing. If the temperature can be kept between 35° and 40° F., this would be best. The higher the temperature the shorter the life of the fruit.

Next in importance is retaining the moisture in the fruit. If the individual specimens are exposed to a very dry atmosphere they will wither, hence the desirability of keeping them in such a way as to retain the moisture as much as possible, even though the air of the storage room be dry. This can be obtained, to some extent, by keeping the fruit in a closed package and, better still, in addition, by wrapping each individual specimen in waxed or oiled paper, which will do much to preserve the moisture in the fruit, and to keep disease from spreading from one specimen to another. It is also desirable, of one has nothing else in storage that will be adversely affected, to keep an open vessel with water in it in the room.

A careful choice of varieties should be made if one is going to lay in several barrels, or more than the family can use in a month or so, as notwithstanding favourable conditions for storage, the length of season that any variety will remain in prime condition is limited.

W. T. MACOUN,

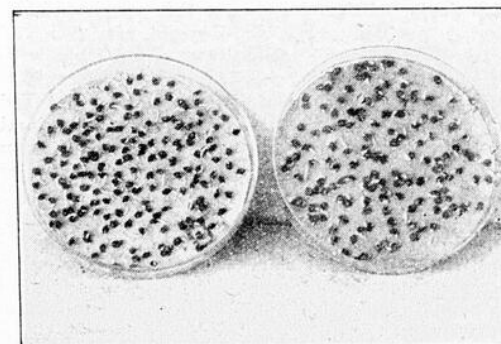
Potato Seed Inspection

CREDITABLE progress has been made this year in the production of certified seed potatoes, according to George Partridge of the Botanical Division, Central Experimental Farm. The standard of qualification during the past season was considerably higher than formerly applied. Added to this was a somewhat adverse climatic condition prevailing in many of the greatest potato producing areas. "In such localities", states Mr. Partridge, "the most vigorous and disease-free strains of potatoes were put to severe tests, but in most instances were able to withstand the unfavourable growing conditions and to furnish an interesting object lesson on the value of good seed when compared with strains of less vigour and disease freedom growing in the same locality."

A total of 1,297 applications was received and 2,914 fields containing in all 9,681 acres were inspected. The majority of these fields received two, and in some cases three inspections. The following table gives a comparison of the acreages and the result of inspections in the various provinces. Of this acreage, 73.3 per cent. passed the final tests. In 1922 the percentage was 62.1.

	No. acres inspected	No. acres passed	Per cent. acres passed.
P. E. I.	3,212	3,048	94.9
N. S.	333	224	67.2
N. B.	3,475	2,223	64.0
Que.	959	573	59.7
Ont.	508	345	67.9
Man.	391	267	68.3
Sask.	446	242	54.6
Alta.	354	174	49.4

The Division of Botany calls the attention of growers to a practice commonly followed of planting diseased or inferior seed in the same field or in close proximity to certified seed plots. "Mosaic or Leaf Roll are communicable in the field," states Mr. Partridge, "and it is highly desirable to separate the good seed potatoes from the doubtful ones. Even one row of inferior stock planted alongside good seed in order to round out a field may infect the healthy stock and cause rejection. Where such a practice is followed provisional certification of fields will not hereafter be considered."



Glass dish used as a germinator for Onion Seed. At this stage the number of seeds that have germinated are counted and the percentage of good seed is determined.

FERTILIZING THE ORCHARD

A Paper Given at the Recent Annual Meeting of the Quebec Pomological and Fruit-Growing Association

By M. B. Davis, Chief Assistant Horticulturist, Ottawa.

AS I spoke to you briefly at your summer meeting on the question of orchard fertilization, there is really very little material of a new nature that I can add to what I said at that time.

Naturally every orchardist wishes to be given a formula for his fertilizer needs, a method which he can religiously adhere to and get first class results. But to give any such formula is impossible, because of the difference in soils, the difference in the treatment which has been given the various orchards in the past and the difference in the bearing habits of different varieties of fruits.

When one refers to the question of orchard fertilization the three old standbys, potash, phosphate and nitrate, immediately come to the fore. We will discuss the use of these three fertilizing ingredients with the addition of a fourth now commonly used, viz. calcium or lime.

The general use of potash as an orchard fertilizer was for years a very general recommendation, but evidence as to the value is lacking. Potash is of course, a necessary element in plant nutrition, but it appears that in most soils there is a sufficient supply to meet the requirements of an orchard. There are many of you present, who doubtless have used many tons of potash fertilizers at considerable expense to yourself. From the evidence at hand, it is doubtful if the value of the fertilizer was returned in increased production. The most that can be said with regard to potash for orchards is to recommend all orchardists to try it on a small portion of their orchards before launching out into the wholesale application of this fertilizer. It may so happen that your particular soil is depleted of this element, but one should be certain on this point before venturing too far.

Our second consideration is phosphorous, applied in the form of phosphate. Fruiting trees require much more of this element than non-bearing trees. Hence in bearing orchards the soil is called upon to supply much larger amounts than in the case of young orchards. Experience shows that many orchards are deficient in phosphorous and that frequent applications are beneficial. It is rather as an indirect fertilizer however, that phosphate may prove of the most benefit to the orchardists. Later, we will discuss the usefulness of cover crops, especially those of the leguminous type. Now it is often found that when using nitrate of soda alone on an orchard, it is difficult to maintain clover and other legumes in the orchard. Under such conditions, the addition of acid phosphate or some other phosphatic fertilizer will generally encourage the growth of these plants, and thus assist in the maintenance of the nitrogen supply. As with potash however, the orchardist should do his own experimenting before launching into any large use of phosphatic fertilizers.

We now come to nitrogen, the most important element from a fertilizer standpoint. Unlike phosphorous and potassium, nitrogen is generally deficient in orchard soils, and being found in very unstable forms requires to be constantly replenished in the orchard soil if best results are to be maintained. An abundant supply of nitrogenous fertilizer is necessary to maintain vigorous tree growth, and a vigorous tree is essential to profitable fruit production. The great majority of recent tests have shown marked increases in yield due to the application of nitrate of soda. This is primarily because most orchards were starving for nitrogen. After a number of years of continual nitrate applications the marked increases may not be apparent. In fact, a point may be reached when it will be wise to withhold such applications for a period. The majority of the orchards in this province, however, are probably very deficient in nitrogen and annual early spring applications should meet with good results. On sod orchards nitrate is especially beneficial, for experiments have shown that sod lands possess one-tenth as much nitrate as land treated by the leguminous cover crops and clean cultivated method, and only one-half as much as land clean cultivated with no cover crop.

If the orchardist is obliged to rely upon fertilizers for his supply, an annual application of eight to nine pounds per full bearing tree, applied in early spring is generally recommended in orchards which are in a starved condition, lessening this amount each year as the nitrogen content of the soil is gradually ameliorated to about three or four pounds or in some cases less. On sod lands probably an application of five pounds or a little more will be

necessary throughout the life of the orchard to obtain maximum results. Whenever possible the use of leguminous cover crops should be adopted as such procedure will assist very largely in the maintenance of an adequate nitrogen supply. In orchards where such cover crops combined with cultivation is the common practice, the amount of nitrate necessary would be much less than under the clean cultivation or sod system.

Applications made in very early spring appear to give better results than those made later, probably because at this period there is little available nitrate and furthermore because the majority of orchards are undoubtedly in a semi-starved condition with relation to nitrate. Whether early spring will prove to be the best period for nitrate application after the trees reach a state of equilibrium with regard to nitrate, is open to question, as some results show that spring applications do not tend to starch accumulation at the time of fruit bud differentiation, but that fall applications do cause starch accumulation at this period. As starch accumulation at this time appears necessary for fruitfulness this may prove to be a vital question. At the present, however the spring applications are probably the safest until information regarding the effect of fall applications upon winter injury is available.

Inspection of Imported Nursery Stock

ON September first the new regulations under the Destructive Insect and Pest Act, issued by the Department of Agriculture went into effect. All importers of nursery stock, which includes all plants for ornamental purposes or propagation, such as trees, shrubs, vines, bulbs, perennials, etc., except seeds, are now required to secure a permit before the shipments are brought

into Canada. Importations of nursery stock must be inspected before leaving the country of origin and a certificate of inspection must accompany the invoice. Importations from countries other than the United States can enter Canada only through the ports of St. John, N.B., Montreal, Que., Niagara Falls, Ont., and Vancouver, B. C. At these ports the shipments will be reinspected or in the case of large consignments, they may be permitted to proceed to destination for inspection. The importation of certain plants has been prohibited on account of insect pests or plant diseases. Persons intending to bring in nursery stock from the United States or other countries, are advised to write for information to the Secretary, Destructive Insect and Pest Act Advisory Board, Department of Agriculture, Ottawa.

The Value of a Good Male

THAT it pays in dollars and cents to breed from pedigree bred to lay cockerels has been frequently demonstrated. One illustration may be taken from the last Canadian Egg Laying Contest held at Ottawa. The Experimental Farm had a pen of White Leghorn pullets (pen 55) in this Contest, nine of these pullets were from the same sire though they were from nine different mothers. The total production of the nine mothers in their pullet year was 1469 eggs or an average of 163. The nine pullets in the 52 weeks of the Contest laid 1893 eggs, an average of 210. The sire of these pullets came from a line of high producers of which the six nearest female ancestors averaged 232 eggs in their pullet year. The care of the mothers and of the daughters was similar, therefore, the increased production must have been due to the sire and if he had had no more than the nine daughters that were in this pen the increase of 400 eggs at an average price of two cents an egg would have meant \$8.00 additional.

It is a question if anything brings quicker increased revenue in the flock than a proper selection of the male and now when breeders should be seeing about securing the males for mating next spring with the flock this matter should receive attention.

The man who would make the maximum from his flock must use only males that have a record of production behind them; males that can transmit this ability to their daughters. There are available in Canada breeders who specialize in pedigree stock a good many of them under government inspection through Record of Performance and through Registration secured in the Canadian National Egg Laying Contests. From these as well as the Experimental Farms and Colleges, good breeding males may be secured if they are purchased now rather than when they are needed next spring.

Beware of Worms

INTESTINAL parasitism of fowls is brought to attention at this season of the year because the most striking phase of the disease is often seen at this time

This disease is vastly more prevalent than tuberculosis, with which in its chronic form it may be confused clinically, and from an economic standpoint it probably ranks second only to roup.

In order properly to understand the disease the following brief description of the chronic form is given since it may precede or follow the acute form.

The sick birds become thin, although the appetite is not especially disturbed. At times the appetite is even increased and is accompanied by an intense thirst for cold water. The droppings are thin, contain considerable yellow slime, and are passed in small quantities, but at short intervals. After a time other symptoms develop. The sick birds become dull and listless, remain apart from the rest of the flock—the feathers are ruffled and the wings droop, the appetite is lost and the birds allow themselves to be easily caught. Impaired organic functions lead to extreme emaciation and a fatal termination usually follows, when the subject is but a mere shadow of its former self.

It is not the chronic form, however, that we are primarily interested in at the moment but with a form so acute as to be very misleading. Suddenness of onset and great prostration usually lead to the assumption that the birds have consumed poisonous material. This belief is further favoured, in many instances, by the fact that no previous indication of disease has existed.

In so far as we have been able to learn, these attacks are always associated with sudden changes in weather conditions. The usual history is to the effect that birds are found in a prostrated condition, comb and wattles suddenly become dark in

Poultry Short Course

To Be Held at Macdonald College, February 18th to 22nd, Inclusive.

UNDER the direction of Mr. W. A. Maw, Manager and Lecturer of the Poultry Department, Macdonald College, and with the assistance of L. H. Bemont, and G. L. Landon, of the College Poultry Staff, a five day short course in poultry work will be given at Macdonald College on the dates appearing above. The practical nature of the lectures and discussions, and the worth of this course to anyone interested in poultry keeping will be apparent from an examination of the programme of this course, which is as follows:

Monday—February 18th

Reasons for Progress in Poultry Production in Canada.

The Poultry Breeds and Economic Egg Production.

Tuesday—February 19th

Successful Incubation.

The Brooding Problem.

Factors in Rearing that Count.

The Evolution of Poultry Production (Illustrated).

Wednesday—February 20th

Reasons for High Egg Prices.

The Selection and Management of the Pullet Flock for Profitable Winter Production.

The Selection and Mating of Breeders for Increased Egg Production.

The Marketing of Eggs According to Government Regulations.

Thursday—February 21st

The Preparation and Marketing of Surplus Stock.

Demonstration in Killing, Plucking and Packing Dressed Poultry for Market.

Plant Sanitation or Disease Control.

Poultry Housing and Its Problems.

Friday—February 22nd

Duck and Goose Culture. Turkey Raising.

Lighting the Layers.

Hints to Poultrymen.

Question Drawer.

In addition to the regular programme, demonstrations will be given to those who request them, on candling and grading of eggs, packing eggs for shipment, testing hatching eggs, selection of pullets for the laying pen and culling the layers.

color, followed by death in one to three days, and this occurs just after a sudden drop in temperature usually preceded by rain.

By this it would seem that the birds are able to hold their own against the parasites under favourable conditions, but are unable successfully to carry on the fight when reduced by adverse influences.

Accurate diagnosis is the first essential and the fact should be kept in mind that one of the most devitalizing tape worms is so small as to require a

microscopical examination to determine its presence.

Treatment should be directed towards fostering the already waning strength of the patients rather than attempting to destroy the parasites. The latter course will usually result in the death of many birds that otherwise might be saved.

A small dose of physic is indicated, merely to remove from the intestines the slime with its accumulated toxic products. Grain feed should be

withheld, the ration consisting entirely of easily digested wet mash. Good hygiene should be practised and, where outside roosting places have been used, these should be substituted by regular houses.

When by careful handling, the birds regain their normal condition, further doses of physic (Epsom salts) may be administered; one fourth pound to one hundred birds once a week or every ten days is recommended.

Housing the Farm Poultry Flock

By W. A. Maw, Poultry Dept., Macdonald College.

HOW much of our success in winter egg production is due to proper housing conditions?

What have proper housing conditions meant to the poultry keeper this fall? They have meant eggs or no eggs, colds in the flocks or no colds in the flocks. They have meant dollars to the experienced poultry keeper. How many farm flocks are failing to give winter egg production due to poor housing conditions? Too many farm flocks are housed in stables or low dark damp places which are unsanitary. Do we realize that most farm flocks to-day that are enjoying up-to-date houses which are light, dry and airy, without draughts present, are showing good fall and winter egg production and also a profit on management? Of course housing is not the only management problem that makes for success, but it is one of the essentials for winter egg production which is so highly profitable. Proper selection of stock, feeding and general management are all necessary along with good housing conditions, which make for a proper environment in which the birds must live.

What are the essentials of good poultry houses?

The essentials of a good poultry house are—(1) economy, (2) sufficient working floor space, (3) convenience, (4) adequate sun-light, (5) thorough ventilation without draughts, (6) dryness, (7) sanitation, (8) proof against rats and mice.

Economy in construction is something that everyone must think of when contemplating a commercial poultry enterprise. We must avoid tying up too much capital in our houses. Oftentimes houses already present on farms can be reconstructed to good advantage and the work done at a low cost. Our aim is to keep down the cost per bird housed. If the cost of housing is too great per bird it will be that much more difficult for the birds to show a profit.

There are various types of poultry houses each having its own merits, but the simplest or most economical one is the shed-roof type. The next most commonly used and which is just as economical to build is the two-thirds span, as illustrated in the cut on this page. This house has the advantage of having a low back and also a moderately low front but one which at the same time allows for a good supply of sunlight at any time of day. This type of house built of tongue and groove spruce sheathing, with a double wall on the back wall and on the two end walls out as far as the door on east end and the window on west end, and with a concrete foundation and floor should not cost over two dollars per bird. If a man is doing his own building it should be built for less money.

Floor Space.—When planning the house for the proposed number of birds to be kept we figure to provide four square feet of floor space per bird. This allows for good working space for the flock during the winter season when the birds are housed inside. Exercise is one of the essentials to high winter production. The birds must get plenty of exercise and this is provided as a rule, by forcing the birds to work in a deep litter. Such exercising

calls for plenty of floor space.

All houses should be planned to be convenient for all operations carried on within them, such as forking over the litter, trapping the birds, and the general cleaning operations. The front wall should be at least six feet high to the plate and the back wall should be at least four and one-half feet high. If the roof is a shed-type and the house is twenty feet deep, it is necessary to raise the front wall to about eight feet in order to get sufficient slope. The two-thirds span is eight feet high at the centre peak. A straw loft is set at the six foot level from the front wall to ceiling over the roosts and then runs down to the back wall on the rafters. Wire netting is used for the straw loft.

All equipment, such as nests, troughs, and hoppers, should be so built and arranged as to be easily moved when the house is being cleaned. The roosts should be hinged to the back wall to allow for raising during the day and also for ease in cleaning dropping boards or sections under roosts where dropping boards are not used.

Sunlight is a natural disinfectant which should penetrate all parts of the house as much each day as possible. Our house fronts should be planned to allow an abundance of sunlight in the houses. Most poultry houses are lacking in lighting facilities. The birds are always glad to get into the sunlight to work when the air is cold during the winter. The windows or open screens should be set high enough to allow the sun's rays to reach the back part of the house. Note how the windows and screens are set in the illustrated house. This house represents the improved Macdonald House front.

This new Macdonald front also allows for thorough ventilation without draughts. A wall ventilator is placed in the east end of the house above the door at the highest peak of the roof. The ventilator carries off the excess dampness gathered above the straw loft. The three open screened sections above the glass sash in the illustration are covered by hinged cotton frames during very severe cold weather or on stormy days. The screens are hinged to the plate to allow for swinging up to the straw loft to avoid the birds flying up to them and roosting on them. The two outer open sections in the front are openings for the glass sash which happened to be out when the photo was taken. These are removed during the summer.

Dryness cannot be had unless we provide thorough ventilation. Along with thorough ventilation we must arrange the floors to be moisture proof. This can best be done by filling in the foundation with large stone and then putting in a cinder filling before the concrete covering is put on. It is also wise in some cases, especially where the ground may be low or where the slope runs towards the house on a hillside, to lay a tile drain away from the foundation.

Another method is by laying a layer of tarpaper between the cinder filling and concrete layer to avoid dampness coming up through the cement finish.

Poultry will not work in damp litter. The floors must be kept dry if we are to expect the birds to exercise freely and keep in condition to lay heavily.

Along with dryness comes the point of *sanitation*. Damp litters mean dirty conditions for feeding the birds. Such conditions lead to disease very quickly. Clean homes mean an immediate increase in egg production. It pays to keep the houses clean. All equipment, such as water pans and troughs, must be kept clean at all times if the birds are to be healthy. Arrange water stands up off the floor to avoid filthy litter getting into the water. The same applies to the mash hoppers. They should be of a type that will avoid waste and at the same time keep the feed clean. Several types of mash hoppers can be built to serve this purpose.

Insect pests, such as body lice and mites are also carriers of disease as well as being harmful in other ways. The mites especially are harmful in that they suck the blood from the birds, thereby annoying and weakening them. All quarters surrounding the roosts and-nests must be kept thoroughly disinfected with a good coal tar product or lime wash.

Rats and mice are also pests in that they destroy the house (by cutting through the walls and floors), and eat a large amount of feed during the course of time. They may also carry disease from one house to another. Cement floors and small-wire screened frames on windows will help keep them out of the house. Straw lofts harbor rats and mice, but as a rule these can be arranged to keep them out.

The Macdonald House as illustrated can be built to suit any size of flock from fifty birds up, by increasing the length of the house. A small one-unit house for fifty or sixty hens can be built 12 feet across the front and 20 feet deep. In this case the door could be placed either on the front or on either end, but preferably on the front as it avoids cross draughts through the house.

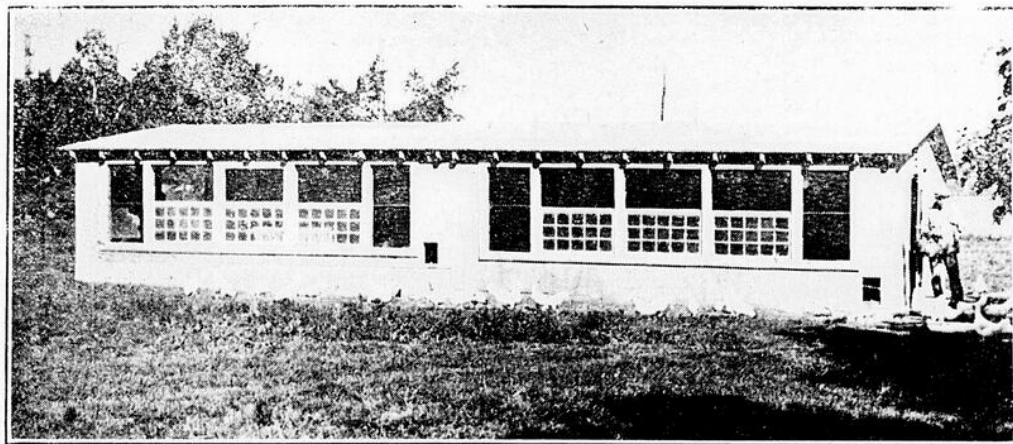
A house twenty feet by twenty feet is recommended for a flock of one hundred hens. This should be the size of flock kept on every general farm. Plans of this type of house will be sent to any address, upon request, by the Poultry Department of Macdonald College, P. Q.

It may not be necessary to rebuild the existing poultry house to get the necessary conditions. A slight remodelling in the way of a new floor, more windows and fresh air openings, a ventilator or some such change, may be all that is necessary. A little thought along these lines may prove time profitably spent. Ensure dryness, light, ventilation and working space, and the major essentials will be cared for.

Green Feeds

GREEN feeds such as cabbage, or sprouted oats are very essential parts of the ration at the present time if we are to expect a high percentage egg production and at the same time keep our birds in a good physical condition. Too many people keeping poultry on the farm fail to feed any sort of green food during the winter months. If the flock is to get the properly balanced ration, the green food must be added. The actual results of feeding green feed are difficult to determine. It is quite noticeable in the spring, as soon as the birds are given free range, that the production immediately increases, also the chicks hatched from eggs produced by hens being given an abundant supply of green food are generally more vigorous. The percentage of total eggs hatching is also greater. From this standpoint alone it is more essential that the birds get an abundant supply of this class of food from now on through the breeding season.

Sprouted oats and cabbage have been mentioned as good green foods. The cabbage season is not long enough so we use sprouted oats. Mangels are used quite extensively by most poultrymen as a green food, but it must be remembered that man-



A Double-Unit Macdonald House with improved front allowing for more light.

gels are not a true green food. They are a root and only supply a succulent food. Some form of green leafy material should be fed along with the mangels. Sprouted oats, steamed alfalfa, or ground dry alfalfa may be used. The ground dry alfalfa is generally fed in the dry mash. Sometimes it is used in a steamed condition with a moist mash. Either way is good. During the fall and early winter months, kale can be used to very good advantage. It withstands the frost and can be kept for quite a long time, if frosted, after being cut.

The following method of sprouting oats has been found to be the simplest and most satisfactory for general use, especially where any quantity is being handled.

"Secure about eight or ten butter tubs or candy pails and bore a small hole in the side of the pail close to the bottom. These pails are to hold the oats while the sprouting is being done. Soak a supply of oats each day by allowing the bag containing them to be covered with water for 24 hours, then hang the bag containing the oats up to drain.

When the water has drained off turn the moist oats into pail No. 1. The oats should be turned twice daily and flooded with water before each turning. Keeping them moist and airing them twice daily should give a sprout about one and one-half inches long in eight to ten days. Move the oats to pail No. 2 the second day, etc., and when they reach the end of the line they may be fed. Start only enough for each day's supply at a time and let the practice be a daily one. Sprouted oats are palatable and the birds devour them very hurriedly. For that reason they should be fed in troughs rather than in the litter. They can be fed with perfect safety."

The value of the green feeds in our rations for laying and breeding stock must not be overlooked. We cannot afford to neglect one of the necessary essentials in the hens daily diet. Feed off the fresh, crisp, green food that the birds will take and you will be more than paid for your efforts.

W. A. MAW.

OUR YOUNG FOLKS

My Resolutions for the New Year

Prize-Winning Essays in Our Fourth Monthly Contest

(First Prize)

I AM going to try and learn my lessons well. Not contradict anybody or to say bad words, and be polite to my teacher, parents and to everybody. To get to school at the exact time, and not have to stay in recess or after school. Not talk back to anybody. To wipe d'shes for Mother without being told, get up in the morning without being called and go to bed without being sent. To be good and not cry when I am told that I can't do anything. Not go away any place without asking Mother, or to climb the trees and up on the roof of the barn or the house. Not do anything that I know isn't right. Not to take anything of somebody else unless they give it to me. Be good to the younger ones and take their part when they need it. Not waste scribbles or pencils or mark up all my books. Not quarrel with anybody. I will always believe in the Bible, say my prayers every night and morning, go to church every Sunday that I can get there, always say "Good Night" to father and mother, brothers and sisters, never neglect them or leave home, do all that's possible to help them and make the home happy, and easy for them as well as for ourselves. Not go outside when I have a bad cold or am sick. Never call anybody names or get other people in trouble. Never run away from the little ones. When I break anything that belongs to somebody else I will repay it. Never do anything that I know isn't right. Never pull a cat's tail or pinch its ears, tie things on dog's tails. Never pinch your brothers or sisters. Make up fires without being asked, dust, sweep, and tidy up all the house and make the beds. Put on warm clothes when you are told to. Study lessons every night at home and work hard to get an education so that I'll be some use in the world. Not hide peoples things. Try and be nice to my teacher, do all I can to help her at school. Keep everything clean and tidy. Tell mother all my troubles.

MARGARET HIGGINSON,
Stanstead, Que. (age 11).
(Second Prize)

I am going to start my new year in trying to be good and not quarrel with my schools mates or my sister or speak rudely to them if they are cross with me. I will repay them with kind words and deeds.

I will not be angry with my teacher even if she does tell me to do things I do not like.

I am not going to wear a frown on my face when asked to do an errand by my parents.

If my school mates have anything hard to do I will help them.

If I see any of my school mates quarrelling I will try to stop them.

If my parents ask me to do anything I will obey at once.

I am going to learn my lessons well each day and stand at the head of my class at the end of the year.

I am going to speak kindly to everybody especially to old people.

I will remember what is says in the "Bible". "I

Essay-Writing Competitions For Our Young Folks.

New Competition Each Month — Money Prizes Offered — Outline of Rules.

1. Each month a subject will be announced upon which rural pupils of fifteen years and under will be invited to write essays or compositions. These should be mailed to THE EDITOR, THE JOURNAL OF AGRICULTURE, MACDONALD COLLEGE, QUEBEC, before the fifteenth of the month for examination and judging.

2. Five prizes will awarded each month: \$3.00, \$2.50, \$2.00, \$1.50 and \$1. The prize winning essays will then be published on our Young Folks Page.

3. Essays should be accompanied by a letter from parent or guardian certifying as to child's age, and stating that the matter and work of composition embodied in the essay is work of child only. (Note: name and address of parent is always necessary for postal directions in case of prize winners.)

4. That our young folks may learn thrift, it is suggested that the money won in these competitions be used by them for starting bank accounts.

Subjects for next two months.

Essays to be mailed before January 15th.: "My Favourite Winter Sport".

Essays to be mailed before February 15th., "My favorite book—and why I like it."

will do to others as I would like to have them do to me."

EVELYN HADUKE,
Massawippi, Que. (Age 8).
(Third Prize)

I have made a good many resolutions which I think will be broken before 1925, if I dont get help on all sides.

First I intend going to school every day rain or shine as I am twelve years of age and have not many more years to go and Dad says I must make the most of them so that I may get along well in this world as one is nowhere nowday's without education.

Second I mean to help grandpa with the chores as Dad is away and he has a lot to do, this will mean me to get up early in the morning as I have over a mile to go to school and it is generally dark when I get home as the days are so short.

I generally make a good many more which I will not tell about as they are pretty sure to be broken but these two I mean to keep.

FRANCIS COTNAM,
R.R. No. 1, Demers Centre, Que. (Age 12).
(Fourth Prize)

I am not going to make many resolutions but I am going to try to keep all I make.

My first resolution is that I will try to be good so I may sit with Edna Martin all the time at school because it is easier to do lessons when you have somebody to compare notes with.

I resolve to learn my lessons well so I can get good marks in my examinations.

I am going to tidy up my desk every night so it will help keep the school-house neat.

I am going to keep my bed-room neat because it looks much nicer and because it makes a lot of extra work for someone who has to clean it up.

I shall try to wash my teeth every day and if I think of it I shall wash them at night also, I shall do this because it makes my teeth nicer and easier to keep clean when I want them extra nice.

I resolve to try to get to school in time every morning so I will have more time to study my lessons.

I am going to try to learn my lessons in the evening so I will have time to help my brother Billy learn his lesson so he can get a headmark every day.

I shall start after New Year to keep my copy-book neat, as an untidy one is not very nice to have the Inspector see when he comes around.

I shall also try to break myself of eating between meals as it is very unhealthy and it also takes away anyones appetite when meal time comes around.

ILEANA LOWNY,
Sawyerville, Que. (Age 11).
R. M. D.

(Fifth Prize)

My first resolution is I am going to try to come to school every day from the Christmas Holidays.

Second, I want to have my lessons all learned everyday.

Third, I want to be on time for school every morning.

Fourth, I'm trying to go home every night right after school.

Fifth, I am going to help all I can at home also be good as I can.

Sixth, I resolve to go to church every Sunday.

Seventh, I resolve to mind my parents and do all I can to help them.

Eighth, I resolve to not fight at school very much if I can help it.

Ninth, I resolve to take a bath every Saturday night.

Tenth, I resolve to get up earlier because sometimes I am late for school.

Eleventh, I also want to mind my teacher.

HAZEN LOWREY,
Sawyerville, Que. (Age 12).

NOTES ON THE CONTEST

Interest in the contests grows apace, if the number of entries is any indication of this. Each month sees a larger number of essays coming into the office from Our Young Folks—all sections of the province being represented. And, by the same token, the work of judging these contests grows rapidly more difficult. We receive so many really excellent compositions each time that it is very difficult to decide which of these must be left out of the prize money.

This month's offering was particularly good. And if any of Our Young Folks are disappointed in not receiving a prize, they can have the satisfaction of knowing that a great number of really good essays had to go without prizes this time, simply because there are not enough to go around. our advice to all is to try again next month — some day you will most likely break into the prize money, and in the meantime you are getting practice in writing and in self-expression.

Our first prize essay this time contains enough resolutions to do us all good for a year. They are so human, reflecting our own little weaknesses, that we hope the fair resolver will be pardoned if sometime she should slip up in the matter of keeping a few of them during the coming year. The second prize essay is really a remarkable piece of work for an eight-year-old—we wish her a happy New Year, as she is bound to have if she keeps all her resolutions. For a third prize winner we have chosen an essay by a small but earnest boy, who obviously intends to keep those resolutions that he has made. A resolution kept is worth any number made—but broken. Fourth and fifth prizes go to two scholars from Kingsley School, No. 18, at Sawyerville. If the resolutions are kept we are sure that the New Year of these scholars, and of Miss Chute, their teacher, as well, will be a very happy one.

Do not sell all the good horses and keep the "plugs" for the boy to work. This is a poor way to encourage him to look after his team well.

Woman's World

Pies and Steam Pudding

"WELL", exclaims the man of the house, "I'm glad winter is here! Now we can eat pies and steamed puddings to our heart's content. Since these domestic science experts have been lecturing and demonstrating to the women folk we never see a steamed pudding and only a very occasional fruit pie in our house, from the last of May until early November. I talk, but what's the use; the women insist that rich puddings and pies have no place in the summer menus, and, as usual—they win."

PIES

Raisin Pie

1 cup raisins
2 eggs
1 cup sugar
1 cup milk
1 teaspoon vanilla

Put raisins through food chopper. Beat eggs slightly, add sugar, milk, raisins and vanilla. Bake in one crust.

Cranberry Pie

1 cup cranberries
1/2 cup raisins
3/4 cup sugar
1 tablespoon flour
2 tablespoons cold water

Cut cranberries in halves, chop raisins, mix, and add remaining ingredients. Bake between two crusts.

Butter Scotch Pie

1/4 cup butter
3/4 cup flour
3/4 cup brown sugar
2 eggs
1/4 teaspoon salt
2 cups milk
3 teaspoons caramel syrup

Mix flour, sugar and salt, add eggs slightly beaten, milk gradually and caramel syrup. Cook in double boiler for 15 minutes, stirring constantly until mixture thickens and afterwards occasionally. Remove from fire, add butter and stir until well blended. Cool slightly fill a baked crust with the mixture.

NOTE 1. Caramel syrup is made by melting 1/2 cup of sugar in a frying pan until light brown, then adding very slowly 1/2 cup of boiling water and boiling until a thick syrup is formed.

2. The whites of eggs may be reserved and a meringue made by beating whites until stiff, and adding gradually, while beating constantly, 2 tablespoons of sugar and a few grains of salt. Cover pie with meringue and brown in the oven.

Chocolate Pie

4 tablespoons cornstarch
1/2 cup sugar
salt
2 cups milk
1 ounce (square) chocolate
2 eggs

Mix cornstarch, sugar and salt, add milk and chocolate. Cook in double boiler for 15 minutes stirring constantly until mixture thickens and afterwards occasionally. Beat yolks of eggs slightly and combine with cooked mixture. Cook 5 minutes longer. Cool slightly, fill baked crust with mixture, cover with meringue.

Cocoanut Pie

Prepare as Chocolate Pie, omitting chocolate and adding 1/2 teaspoon vanilla, 1/4 teaspoon almond extract and 1 cup shredded cocoanut.

Egg Tarts

2 cups brown sugar
2 eggs
4 tablespoons vinegar
1 teaspoon vanilla

Beat eggs slightly, add sugar gradually beating constantly, add vinegar and vanilla. Fill uncooked tart shells and bake.

STEAMED PUDDINGS

Plum Pudding

1 cup hot milk
2 cups stale bread crumbs
1 cup brown sugar
1/2 teaspoon salt
8 eggs
1 cup flour
1 teaspoon nutmeg
1 tablespoon cinnamon
1/2 teaspoon allspice
1/2 pound suet (chopped)
1 pound raisins
1 pound currants
1/4 pound orange peel
1/4 pound citron peel

Soak bread crumbs in milk; when cool add sugar, salt and beaten eggs. Sift flour with spices, add suet and fruit; mix well and combine with first mixture. Turn into a greased mould, cover tightly and steam 6 hours. The day it is to be served re-steam until heated. Serve with a sauce.

Mock Plum Pudding

2 cups stale bread crumbs
1 cup flour
1 teaspoon soda
1/2 teaspoon cinnamon
1/4 teaspoon cloves
1/4 teaspoon salt
2 tablespoons butter
1/2 cup molasses
1/2 cup corn syrup
1 cup raisins
1 cup boiling water
1 egg

Mix in order given and blend thoroughly. Turn into a greased mould, cover tightly and steam one hour.

Suet Pudding

1 cup suet (finely chopped)
1 cup molasses
1 cup milk
3 cups flour
1 teaspoon soda
1 1/2 teaspoon salt
1/2 teaspoon ginger
1/2 teaspoon cloves
1/2 teaspoon nutmeg
1 teaspoon cinnamon

Mix and sift dry ingredients, add suet, mix well and add molasses and milk mixed. Turn into a greased mould, cover tightly and steam 3 hours. Raisins and currants may be added.

Carrot Pudding

1 cup flour
2/3 teaspoon soda
1/4 teaspoon salt
2/3 cup sugar
1/2 cup suet (finely chopped)
1 cup raisins
1 cup currants
3/4 cup grated potatoes
3/4 cup grated carrots

Mix and sift dry ingredients; add suet and fruit; mix well. Add vegetables and stir until well blended. Spices may be added if desired. Turn into greased mould, cover tightly and steam 3 hours.

Date Pudding

1 1/2 cups flour
1/2 teaspoon soda
1/4 teaspoon salt
1/4 teaspoon cinnamon
3/4 teaspoon cloves
1/2 teaspoon nutmeg
1/2 pound dates (stoned and cut)
1/2 cup milk
1/2 cup molasses
3 tablespoons butter (melted)

Mix and sift dry ingredients, and add remaining ingredients in order given. Steam three hours.

Chocolate Pudding

3 tablespoons butter
2/3 cup sugar
1 egg
1 cup milk
2 1/4 cups flour
4 1/2 teaspoons baking powder
2 1/2 squares chocolate
1/4 teaspoon salt

Mix as a cake, turn into greased mould, cover tightly and steam two hours. Serve with Cream Sauce.

PUDDING SAUCES

Cream Sauce

1/4 cup butter
1 cup powdered sugar
1/2 teaspoon vanilla
1/4 cup cream
Cream butter, add sugar gradually, vanilla, and cream beaten until stiff.

Foamy Sauce

1/4 cup butter
1 cup sugar
2 eggs
1/2 cup milk
1 tablespoon lemon juice
1/2 teaspoon vanilla
Cream butter, add sugar, well beaten yolks of eggs and milk. Cook in double boiler and pour over whites of egg beaten until very stiff. Beat thoroughly and serve at once.

Hard Sauce

1/2 cup butter
1 cup sugar
1/4 teaspoon lemon juice
2/3 teaspoon vanilla
Cream butter, add sugar gradually and beat thoroughly. Add flavoring and chill.

Investigational Cookery

Experiments with rice

EXPERIMENTS were carried out with three grades of rice to determine the grade most economical as to cost, texture, appearance and flavor. The three grades used were—"Japanese Ice Drips" (a high grade polished rice), coarse broken rice, and brown rice (unpolished rice, or rice from which the inner husk has not been removed).

Boiling was the method used for cooking the rice, following is the recipe.

1 cup rice : 12 cups boiling water : 1 tablespoon salt.

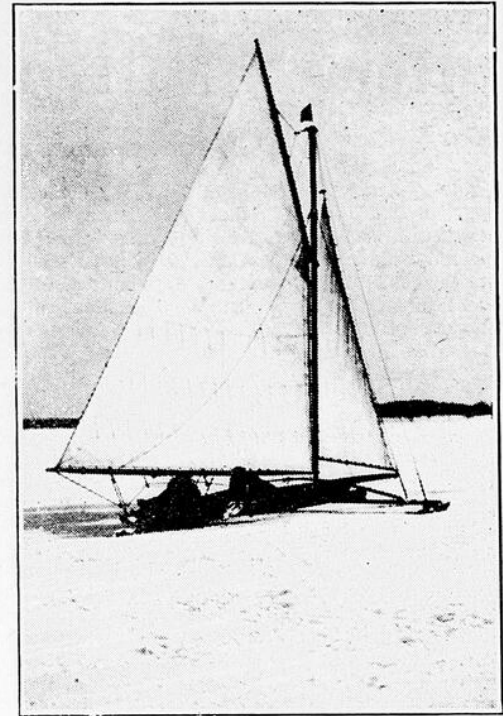
Wash rice, add slowly to boiling salted water. Boil uncovered until tender. Do not stir but to prevent rice sticking, occasionally draw a fork across the bottom of the pan. Drain in a strainer, and pour boiling water through the rice; shake off surplus water and dry for three minutes over heat, (on back of range), or in the oven.

The results are as follows—

The high grade polished rice, (Japanese Ice Drips) has the finest flavor but is expensive. The coarse broken rice received third place in flavor, texture and appearance. It is a cheap grade and of poor quality. The brown rice is cheap, ranks first in appearance and texture, and second in flavor.

This disadvantage was not considered great enough to prevent the brown rice from receiving first place when all factors are taken into consideration.

Therefore, if flavor is the main factor to be considered, as when nothing else is cooked or served with rice, or when cooking rice for the sick, the high grade polished rice is the best grade, but for general family use the brown rice is the grade recommended.



There are few sports that can compare, from the standpoint of thrills with ice-boating. High speed, proximity to the fleeting ice, and the chance of a spill at any moment—What could be finer?

Brown Sugar Sauce

1/2 cup brown sugar
1 tablespoon flour
1 cup boiling water
1 tablespoon butter
1/2 teaspoon vanilla

Mix sugar and flour, add boiling water and cook for 10 minutes. Remove from fire, add butter and vanilla. Two tablespoons rich spicy fruit syrup may be used instead of vanilla.

Lemon Sauce

Prepare as Brown Sugar Sauce substituting white sugar for brown and 1 tablespoon lemon juice for vanilla.

M. C. M.

Honey and Some of Its Uses

HONEY consists of sugar about 75%, water 18% and small quantities of mineral matter and other substances such as protein, acid and volatile oils.

Practically all honey produced in Canada granulates soon after extracting but this does not affect its quality but makes it easier to handle. Granulated honey can be brought back to its liquid form by heating it slowly in a double boiler to a temperature of 155 degrees Fahrenheit, a higher temperature than this darkens the honey and injures its flavour. Honey must be stored in a dry place, as it absorbs moisture quite readily, which causes it to ferment and decompose. If stored under suitable conditions, well ripened honey will keep for a long time even from one year to another.

Honey has a claim to be used regularly in every home both on account of its sweetness which is delicately flavoured according to the source from which it is gathered and also because of its high food value, it being a concentrated and easily assimilated heat and energy producing food.

The bulk of Canadian honey is of unsurpassed quality being light in colour and delicately flavoured, therefore, its uses in the home are practically limitless.

The most common way of using honey is as a spread upon toast or bread. It readily takes the place of either jam or preserves. In the making of cakes and cookies it has a decided advantage, especially for cakes that are meant to be kept for some time, as it keeps them moist and improves the flavour with age. When honey is used in cooking it must be remembered that every cup of honey contains about 1/4 liquid, therefore, the amount of liquid that the recipe calls for must be cut down in proportion. As honey contains acid a small amount of soda should be used, about 1/4 of a level teaspoon to every cup of honey, and the baking powder reduced. Honey should not be boiled as boiling gives it a burnt flavour. Honey also readily takes the place of sugar in canning or preserving fruits, especially plums, peaches, pears, etc. It also gives them a richer flavour. Honey can also be

used instead of sugar in making jams. As a sweetening for summer drinks, honey gives refreshing results. The kinds of candy that can be made of all or part honey are numerous. Candy made of honey is much better than that made from ordinary sugar, as honey is far easier to assimilate and does not

tax the digestion. Icing made from honey will remain fresh and moist for months without being impaired in flavour or consistency.

C. B. GOODERHAM,

Dominion Apiarist.

Home and School Co-operation

Ellison M. Tilton

IT is hard indeed to think of the school without having a mental picture of the many homes that go to make it up. Home will always be the background on which the teachers and more especially the children build. As soon as school is out they rush home, open the door and mother, if she be in another room, will hear a shout of "Oh Mother! where are you"? When she answers and asks what he wants the most frequent reply is, "Oh somethin' to tell you".

There is always so much to tell her and nearly always some opinion is asked for on some school happening that seems trifling but is of momentous importance to the small lad. The wise mother after a satisfying (but non-committal as to her own thoughts) answer, gives him a slice of bread and butter and sends him off happily to play. After he is away is the time for her to think over what he has said. Even when she was decided which was the right course, if it is adverse to the teacher she should say nothing in front of the child. This is true co-operation.

It is very much easier, of course to listen to your child's story of school affairs, naturally taking his side, as he expects you to, and when he has finished, to exclaim about the injustice and ignorance of it all, before you think about it, condemning the teacher or at least speaking in a contemptuous manner of her action. The child feeling pity offered him, grabs it and seeking more, unwittingly makes a real big story out of a small happening, watching his mother's face the while, and finally after receiving a far too generous amount of biased sympathy and a too liberal offering of cake runs out to tell his playmates that, "Mother says the teacher is all wrong, and *she* knows". Of course you didn't intend him to turn against the teacher but how can he have any respect or obedience to offer to a teacher that he doesn't believe in. If he is a leader among the children they too will reflect his attitude.

If this is the case, and it too often is the unthinking attitude adopted, both the teacher and children suffer. It is far better to do what the first mother did. Think it out and talk it over with the children's father, and then if you still hold her in the wrong go to the teacher herself some night after school when the children know nothing about it and ask her about it. Try to see her side, too, for of course she must have had some reason for acting as she did. Ten to one you'll both laugh about it and part good friends. Possibly you may find out that your child acts very, very differently at school than at home. Of course it's "up to" the teacher to co-operate with you, too, and out of a hundred teachers, ninety-nine will. Even if your teacher is the *hundredth*, better not tell the children so, or even mention it before their quick ears. Help her to become a better teacher by pointing out her good qualities, thus making the children loyal to her. This is often hard but it is much better for the child in after life if he has been taught to look for the good in everyone.

Maybe your boy or girl informs you that Willie Jones' mother told him that the teacher didn't know how to teach Arithmetic. If you answer quietly "she wouldn't be teaching you if that were so", the child quite unconsciously adopts that as his mental attitude towards her—just because you told him so.



Harmony between teacher and student, which is so necessary to successful work in school, very often has its foundation in the right attitude towards the teacher in the pupil's own home.

Oh you mothers, what a power you hold! It can never be equalled. If only all mothers realized this and from the first (the very beginning) taught the children to be quietly and instantly obedient, what a boon to them in after life! What a gift to the teachers! What do I mean? Your children are obedient? Just think a minute. Some of you mothers speak as often as ten times to a child before a thing is done, and often an exasperated mother does it herself to save the bother of making the child do what he rightfully should. The teacher with her thirty or more speaks once and expects to be obeyed—she hasn't time to speak ten times or even three times to each wilful little individual. If she has to do this, her teaching time is being wasted, and she can not cover as much work. You blame *her*, but should you?

A healthy plant needs a healthy root—the root of a happy school is a healthy home life. Healthy morally, I mean. Dr. Marty, Superintendent of Public Schools of Toronto, says that character is formed by our thoughts. This is a thought that the more you ponder the more impressed with it you become. We get a great many of our thoughts from our reading, of course. Often mothers bemoan and deplore the fact that their children are reading trash. But what are these same mothers putting before the children? Often the mothers themselves are reading stories that although not trashy, do not represent life in a sane, healthy way. The children read these magazines even when told not to. Put clean stories in front of your children and have them there from the earliest school years. Read them to the boy before he is able to, and when he is able let him read to the younger children. I don't mean prosy books that only teach a moral. Give him lots that tell of good adventures, jolly family life pirate stories, chivalrous deeds and venturesome travels. They can't hurt him. All these will give him proper thoughts on which to build a strong character.

Physical health, too, is of greatest importance. Children are often described as healthy young animals. Look at our school groups—too often they are not healthy. Those from the well-to-do homes are frequently mal-nourished. Sleep and good plain food are the two most important requisites, and the former is most often neglected.

We may take it for granted that children get up about seven o'clock. How many of these same children go to bed by eight o'clock? They should if they are in any grade under seventh year. Even grade nine boys and girls ought to be asleep by ten o'clock at the very latest, on all school nights. Any mother that will hold a party until midnight or after is a menace to the neighborhood.

Again, sometimes children do not sleep the night through. This is often overlooked because we grown-ups can lose an hour or so and not miss it. The child can not afford to. Find out if anything is troubling the child's mind. Some times school work is too heavy or too difficult, or not understanding it the child may be frightened by approaching examinations. When you find out, consult the teacher, possibly she has not realized that there are too many home-lessons. She should do whatever she can to relieve the child's mind—more often, however, too many outside activities have produced a neurotic state. After all, the children's business between the ages of six and sixteen, is school and these years ought not to be crowded with an overload of other excitements (Oh yes, they do get excited at school)—out-of-doors exercise is much more important than hours of practising, sewing-club work and suchlike. Remember, I say an overload. The mother can easily decide whether it is or not if she gives it but a moment's thought. Unfortunately some of our so-called best mothers are too busy with club work themselves, to give the proper amount of thought to this important thing.

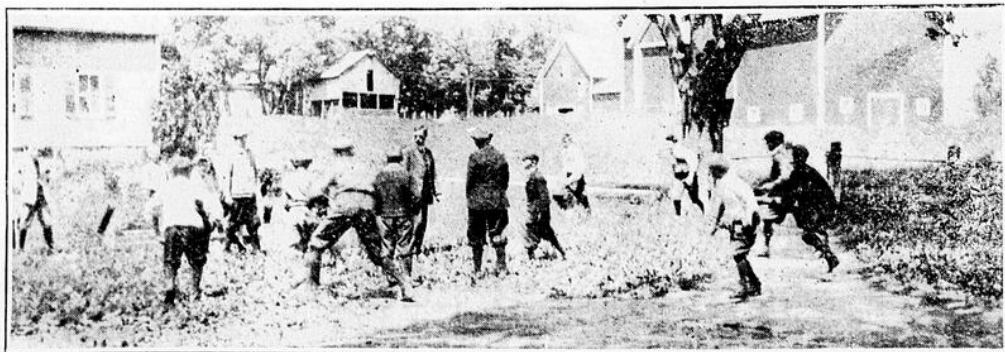
This brings me to my last thought for today. A real mother will find out whether or not the child has homework and an opportunity will be given him to do it. It only takes a moment to find this out and it will only take another moment later in the evening to find out if it has been done. Just as the school can not do its best work with sleepy children, neither can it go ahead if the children stall the machinery by neglecting the oil,—home-work.

I have spoken mostly to the mothers, but it all applies inversely to the teacher, every time. She must give herself time to think and plan for her young charges. If John brings in an Arithmetic problem that father helped him to do correctly she must not criticize it because the method does not coincide with her method. After all no one method has been set down as a great pattern, and all she will do is to destroy John's faith in his father's ability and he will not like her as well because of that. Frequently when the homework is undone there is a reason for it. A little careful questioning may reveal that someone is sick at home and the child's help was needed. Too often a child who can think of all sorts of fake excuses will not tender a legitimate one. I wonder if he is afraid of a thoughtless scornful answer? Question yourself, you teacher, and see. For a successful year both parents and teachers must hold malice towards none and charity towards all with courage to do the right when right should be done, thus giving the boys and girls of our glorious country the firm foundation of character.

Queen Bee Breeding and Rearing

AN interesting description of queen bee breeding and rearing at the Central Experimental Farm, Ottawa, is given in the report for 1922 of the Dominion Apiarist, Mr. C. B. Gooderham. Last season at Ottawa four queens were chosen of selected stock for queen mothers and two were chosen for drone production. In the colonies used for drone production a number of drone combs were placed early in the season, to ensure a preponderance of drones in the apiary from select parentage. Drone production, in all other colonies, was reduced to a minimum by removing combs in which drones might be reared.

Queen breeding, says the report, was commenced on May 26, when a batch of 25 cells was started from one of the selected queens. Cells were started twice every week from then on until early August. During the season 170 queens of selected parentage were reared, of which 104 were mated from special mating boxes; 53 were lost during the mating flight or killed by the bees, and 13 were virgins. Seventy of the mated queens were used for requeening colonies in the apiary at Ottawa; 19 were sent to branch farms, 15 to private beekeepers, to a section of whom the 13 virgins were also sent. The methods used in queen bee rearing are detailed in the report and furnish instructive reading.



No other thing can take the place of good healthy sport amongst the school children, where advancement in their studies is desired.

Women's Institutes Activities

Report of the Quebec Women's Institutes

ARGENTEUIL COUNTY

THE five Women's Institutes in Argenteuil County—Lakefield, Argenteuil, Upper Laclute, Hillhead and Jerusalem & Bethany each had a one day's Short Course in Millinery, given by Miss Roach and Miss Poole which was very profitable and interesting. The members brought in shapes and materials or old hats, and they were shown how to make, or fix over as was necessary. Besides this, demonstrations were given on making wool, organdy, ribbon, silk and velvet flowers which the women, and particularly the girls, enjoyed so much. These Short Courses were the means of the women having a holiday, leaving home in the morning and not getting back till night. At noon hour lunch was served by those present, each one bringing something.

Lakefield had three new members as a result of the Course. This branch is sewing and knitting for the Children's Memorial Hospital, Montreal, Que.

BONAVENTURE COUNTY

A most successful chicken supper was held by the *Cross Point W. I.* This is a branch that is very wide awake and up and doing as are all those in Bonaventure County. *New Richmond* is envied by many branches as it has a very comfortable and attractively furnished club room which is going to be used for a reading and rest room for the public. How many W. I's. have tried and wanted just this? These women, too, have sent a box of supplies to the Soldiers' Memorial Hospital, Campbellton, N. B. *Port Daniel* had a dinner during the Fair, and as all the other branches had at their November meeting, a report of the County Convention held in New Carlisle the first week in October.

BROME COUNTY

South Bolton, has a club room, and has had dishes presented for use in this room. Appreciation of the importance of the work of the Girls' Industrial School, Sweetsburg was shown by the donation of \$10 at the November meeting. Prizes are being given to pupils in the three schools making over 75% in their examinations. A cook book has been printed, and is selling very rapidly. This branch, along with the *Foster W. I.*, is looking forward to the demonstrations in the near future on the "Appreciation of Music, and the Value of the Phonograph in the Schools."

McNeil's Crossing is selling tickets on a quilt. This is a small branch in membership, but strong in spirit, the same of which applies to *Highwater*. The latter is planning a bean supper as a means of raising money.

CHATEAUGUAY COUNTY

Up to the present this county has had only one branch, now it has two, and we hope will have several more before the end of our year. The new branch takes in the people from Riverfield and Aubrey, but as yet we do not know its official name. *Howick* however, is just as strong as ever, perhaps a little stronger having a sister branch so near, and at the November meeting two new members were enrolled. The roll call was answered by my favourite work or amusement, and papers and discussions were given on "My Winter Wardrobe" and a "Patriotic Day."

COMPTON COUNTY

Brookbury is having a warm shed built near the community Hall for the horses. This year, as last they are having a Community Christmas Tree, the proceeds of which will be sent to the Children's Memorial Hospital, Montreal.

A talk on Kipling, and his works was given by one of the members of the *Sawyerville W. I.*, at their November meeting.

DRUMMOND COUNTY

Up until the month of November there was only one Women's Institute branch in Drummond County. Now we are pleased to have one at Gore. The *Union* had a most interesting meeting when the two problems under discussion were "Dressmaking" and "Marketing of Fresh Eggs". A special meeting was held at which Mr. McQuat from Macdonald College was present and showed the Macdonald College Moving Pictures. Ulverton women suggest that other branches apply for these pictures.

HUNTINGDON COUNTY

This County has increased its branches from one to four, Miss Poole having organized in the month

of November at *Franklin Centre, Hemmingford* and *Huntingdon*. Is this not encouraging? *Dundee*, the first, is still working hard, and is now making extensive plans for a bazaar to be held in the new community hall on December 11th.

MEGANTIC COUNTY

Lemesurier is working for the improvement of the community hall, and is planning a Christmas Tree for the Children. "Storing up Sunshine for Winter Months" was the title of a paper read at the *Crawfordville W. I.* *Leeds Village* is so interested in Nutrition and the school children that it is providing hot cocoa for those bringing their lunch. A flag was presented to the Boy Scouts by the *Inverness* branch, and a sale of clothing sent to the Industrial School at Sweetsburg.

MISSISQUOI COUNTY

Cowansville had two new members join at their November meeting. The roll call was responded to by suggestions for Christmas Gifts. This year, as last, *Noyan* is having a Christmas Tree for the kiddies. Thirty-five dollars was the proceeds of a Masquerade Dance at Halloween. *Dunham* discussed the "Preparation and Cooking of Poultry" and "Methods of Cooking Apples". This branch is planning to hold "An Old Folks' Concert" in the near future.

PONTIAC COUNTY

On'y one report from this county with twelve branches! Nevertheless we are glad to hear from the *Radford Girls Jr. W. I.* During the month of November, Miss Roach gave the girls a demonstration on Table Setting and Serving. A house social and sale of fancy articles was held, the proceeds of which amounted to \$30.

RICHMOND COUNTY

This, too, is another county which has increased in the numbers—from two to four. During the month Miss Poole organized at *Dennison's Mills* and *Melbourne Ridge*. It is hoped that a county organization can be formed soon. *Cleveland* reports a successful community supper, and a very interesting paper on "Immigration", at their last meeting. This branch is sending a Christmas box to the Salvation Army in Montreal.

SHEFFORD COUNTY

We would like more branches in this county. After routine business of this W. I. assistance in sewing was given the hostess. Is this not true community spirit?

SHERBROOKE COUNTY

We need and want more W. I's in this county. The *Ascot* and *Montreal Road* report only routine business and an increase of membership. The *Ascot* girls held a box social. *Orford* is still working on the quilt. At this meeting a very interesting paper was read on "The Happy Woman". *Belvidere* is caring for a very needy family; *Lennoxville* gave the proceeds from a tea to the local library.

STANSTEAD COUNTY

All seven branches in this county report interesting meetings each carrying on in its own way. *Beebe* reports nine new members. Papers were read on "Child Nutrition" and "Home Decoration." A singing school has been organized for the winter months. Besides this, two cupboards have been placed in the Academy for the storing of dinner pails. During the recent town jubilee this branch took a prominent part and raised \$130. *Way's Mills*, had a paper on "How to Spend the Winter Evenings". A box of fruit was sent to the *Bethany Home, Montreal*. A box is being sent to the Girls' Industrial School, Sweetsburg by the *Tomofobia W. I.* This institute is also trying to interest parents, school boards and others in medical inspection of schools. *Ayer's Cliff* reports two new members. \$10 was donated to the School Fair, \$25 to the local cemetery fund, 1 dozen sheets, 1 doz. pillow cases, 1 dozen towels to the Girls' Industrial School, Sweetsburg, and is planning a community Christmas tree. This is an excellent and encouraging report. A box containing complete furnishings for a double bed, was sent to the Girls' Industrial School, Sweetsburg, and medical inspection of the local school financed by the *Hatley W. I.* At the November meeting of the *North Hatley W. I.* "Education" was the problem discussed. An address was given on "Character Education", and plans made for the formation of a Parent-Teacher Association. The Convenor of Agriculture obtained Peony roots from Macdonald College for distribution among the members. The *Beebe Jr. Institute* had four short papers on "Work Junior Institute Girls Can Do." These girls are assisting in making arrangements for serving a hot dish to the school children. The meeting closed with a piano duet and a chorus.

MRS. W. S. ARMITAGE,

Convenor, Publicity Committee.

Quebec Women's Institutes.

County Executive Meeting in Pontiac County

A MEETING of the County Executive Women's Institutes of Pontiac County was held at Wyman, October 11th., 1923. Representatives were present from Bristol, Clarendon, Fort Coulonge, Shawville, Stark's Corners, Wyman and the Radford Girls' branches. Miss S. J. Armstrong, county president, presided.

The "Opening Ode" was sung, and the delegates welcomed by Miss Armstrong.

The first half hour was given over to Mr. Ernest Hodgins, who showed three charts that he was in-

troducing to simplify and make easier and clearer the studies of Agriculture, Geography and History. It was agreed that wherever possible the Institutes should commend, and if necessary assist with, the purchase of these charts for schools.

As the respective county convenors have not had any communications as to work that might be carried on through them, they have not been able to plan anything to pass on to the branch Institutes.

Mrs. Taber wished to be relieved of her duties as Publicity Convenor, and Mrs. R. W. Hodgins,



A PASSING TYPE. — The Indian, once so warlike is now numbered amongst Canada's peaceful and industrious citizens.

Shawville, was appointed in her place.

A short report of work being undertaken in each branch was given by the delegates from the branches represented.

A clipping bureau was suggested, and each branch institute was asked to send in from time to time to the secretary, clippings on Agriculture, Child Welfare, Education and Better Schools, Immigration, Social Service, Legislation and Household Science. These will be available for use in our County.

The work in connection with the Agricultural Fairs was discussed, and a committee was named to report at the annual meeting, (if there is no executive meeting held prior to that) what form the Institute exhibits should take. The members of said committee are Mrs. Wm. Hodgins, Convenor, Mrs. Jno. Russell, Mrs. J. N. McLellan.

Moved by Miss Bryson, seconded by Mrs. Wm. Hodgins, that we pay the amount levied by the

Provincial Executive to complete the Frederica MacFarlane Memorial Fund.—Carried.

In closing, Mrs. Armstrong said that a copy of "Mrs. Parsons' Manual" had been secured for each branch. These had not been received in time for distribution at this meeting, but would be mailed as soon as received, by the secretary. She suggested that each branch make a supply of articles to have on hand in case of fire or accident.

Kindness to our dumb animals was dwelt on, and the teaching of prevention of cruelty to animals was endorsed. Weaving was mentioned as an industry that might be followed up to advantage in our homes.

The singing of "God Save the King", and a short prayer concluded the meeting; after which refreshments were served at the home of Mrs. W. J. Thompson. Nineteen delegates attended the meeting.

fact that Way's Mills and Hatley are so far from the railroad, it was decided to hold the February meeting at Ayer's Cliff and go to Tomifobia later in the season.

Sherbrooke County Women's Institute Holds Quarterly Meeting

"CLOSER and more efficient organization" is the objective of Sherbrooke County Women's Institutes and to this end a quarterly meeting of county officers, convenors and members was held on Tuesday, November 22nd., at the home of Mrs. W. P. Cox, president of the Ascot W. I. The attendance was most gratifying, over forty being present, representing all the institutes in the

county except one.

Mrs. W. S. Armitage, County President, occupied the chair. Mrs. G. G. McCurdy acted as secretary pro tem in the absence, through illness, of Miss Beatrice McKee, who was kindly remembered with flowers and a letter of cheer.

The arrangements for the third annual Short Course to be held in January in Lennoxville were thoroughly discussed. It was decided to send typed copies of the prize list to the county convenors and to the local branches, and that the county provide the necessary \$75.00 for prizes each branch contributing in proportion to membership.

Two dollars was voted to complete the Macfarlane Memorial Fund.

County convenors of Social Service, Publicity, Legislation, Agriculture, Child Welfare and Household Science gave encouraging quarterly reports, and the committee on extension reported the possibility of a branch institute at Capelton. The financial report, too, was satisfactory, about forty dollars being the balance in hand in the treasury.

Special features of the afternoon were solos by Mrs. G. G. Trenholme of Lennoxville, accompanied by Mrs. N. S. Browne. Tea was served by the hostess, assisted by the Ascot Girls Club.

Quarterly Meeting of Stanstead County Women's Institutes

AN interesting meeting was held at Way's Mills on November 9th when about thirty Stanstead County Institute workers met for the second quarterly meeting of the year. A very bountiful dinner was served at noon to all in the dining room of the community building; after which all adjourned to the hall for the business meeting.

Mrs. J. B. LeBaron, the president, presided. The meeting opened by the reading of the Secretary's report which was adopted; also the Treasurer's report which showed a balance on hand of \$67.18.

The reports from the Convenors were more numerous than usual and proved to be most interesting. Mrs. Holmes, Convenor on Agriculture, had been busy securing from Macdonald and distributing to the different branch clubs, seventy-five peony roots of choice varieties. Reports were read from Hatley and North Hatley. Hatley members have planted between one hundred and two hundred tulip bulbs on their school grounds this fall. This planting took the form of a demonstration to the pupils in which they all took part. The North Hatley branch held a meeting on Agriculture in September at which Miss Bond of Stanstead also gave a most instructive paper on "Landscape Gardening." Miss Aiken, Convenor on Child Welfare was absent but Mrs. R. Cooper gave reports from Hatley, North Hatley and Beebe in this department. Mrs. Rexford, Convenor on Education and Better Schools, read reports from Beebe, Hatley, Ayer's Cliff and North Hatley. Plans are being made at Tomifobia and Way's Mills for new work. Mrs. Haselton, Convenor on Home Economics, was absent. Miss Haselton read reports from Hatley, North Hatley and Beebe. Mrs. Worthen, Convenor on Social Service, was absent. Mrs. Bangs read reports from Ayer's Cliff, Hatley, Tomifobia and North Hatley. No reports were received from the Convenors on Publicity, Legislation or Immigration.

The reading of these reports brought up several matters for discussion, the first of which was the possibility of organizing and carrying out an historical exhibit in some central place in the country. A committee was formed to look into this matter and to report at the next quarterly meeting in February. The committee consists of Mrs. J. H. Turner, Mrs. Holmes and Mrs. W. Rexford.

The Junior Institute at Beebe is entertaining and giving a demonstration on their work on Saturday, November 17th. It was suggested that the Women's Institutes send one or two girls from each locality, paying their expenses to this meeting, and thus help to create an interest in Junior Institute work. Any communications may be addressed to Miss Beatrice Cas, Secretary, Beebe, Que.

Tennis courts were advocated as an undertaking for Institutes to carry out. If all did this, games and tournaments could be arranged so as to provide an opportunity for congenial companionship between the boys and girls of Stanstead County.

It was with regret that Mrs. Elam's resignation as Vice-president was heard. Two names were suggested for the vacancy—Mrs. Sargeant and Mrs. Cooper. A vote taken by ballot, resulted in Mrs. Sargeant's favour, and she was duly declared elected to the office. It was the unanimous wish of all present that a letter of regret and appreciation be sent to Mrs. Elam.

The matter of a county cook-book was discussed next. As this matter had been brought up in each local club, and all were in favour of it, a committee was formed to go into details. Mrs. A. J. Conner, Convenor, Mrs. S. Worthen, Mrs. Roy

Cooper, Miss. R. Brown, Mrs. Cramer and Mrs. Glidden were elected for this work.

Mrs. Holmes reported that she would order house bulbs as soon as each club sent in its orders to her. Orders should be given to the agriculture convenor in each club who will forward same to Mrs. Holmes.

Mrs. LeBaron read an article from the Canadian Red Cross magazine on the chances of forming home nursing classes. If these classes could be carried on in each locality, they should prove very instructive and beneficial. Mrs. LeBaron also suggested that it might be possible to endow a bed in the Sherbrooke Hospital to be used by needy patients who otherwise could not afford hospital care.

Mrs. Sargeant read a paper on "Mal-nutrition" which had been read at Beebe at the last meeting. This paper will be copied and sent on to the different clubs.

A very cordial invitation was given by the Tomifobia members for the next meeting. Owing to the

Women's Institute Work Being Extended

THE four branches of Women's Institutes in Bonaventure County are establishing an enviable reputation for themselves through their splendid work "For Home and Country." Through the untiring efforts of the Provincial Superintendent, Miss E. M. Roach, a Convention was held, October 2nd, 3rd and 4th at New Carlisle. Following is a report of this Convention:

"The Convention at New Carlisle opened at 9.30 a.m., October 2nd., 1923. Official delegates from the various branches were: Miss Doyle, Miss Fraser, Cross Point; Mrs. McWhirter, New Richmond; Mrs. MacPherson, Port Daniel and Mrs. Hughes, New Carlisle besides many members of the W. I. Branch at New Carlisle. Miss E. M. Roach, Supt., of Q. W. I., and Miss E. M. Poole, Demonstrator, Q. W. I. from Macdonald College were present.

Mr. Lampman of the Poultry Department, Macdonald College, spoke Tuesday p.m., on "Macdonald College". The various branches of the work in the Department of Agriculture were taken up and carefully explained. Much stress and emphasis was put on the value of the Winter Course—November 1st to March 15th.—In this Course certain periods of time are devoted to each branch in agriculture. Mr. Lampman's talk was most interesting and instructive.

When Miss Roach spoke in her usual efficient manner on the "Value of Household Science Education" she pointed out the benefits derived from such an education, not only from the standpoint of "Economy", but also of beauty, and the making of a home the place it should be, and the mission it should fill. Then, too, the many openings readily available for students having received instruction in Household Science—teachers, d'etitions, demonstrators, managers of tea rooms and cafeterias and many others; but perhaps the most important of all—successful homemakers.

"Organization and its Value" the talk delivered by Mr. C. E. Lampman, Wednesday evening was most impressive. After explaining what an organization is, he cited many instances where organization had been most helpful, not only to the community as a whole, but to the individuals comprising each community.

Short addresses combined with music formed the program for the last evening.

Mr. Harold McQuat, Principal of the school at New Carlisle, spoke briefly on the History of the Women's Institutes and the work being done by that large organization.

Mr. C. E. Lampman gave an interesting talk on the "Possibilities of Poultry Raising."

Miss E. M. Roach gave a most inspiring address on the "W. I. organization and the mission it is endeavouring to fulfil."—How School Fairs in some districts are wholly under the control of the W. I.; where in many communities help is given to the poor, hot lunches are provided in the schools, Community Halls are being erected and equipped with dishes for convenience when social affairs are held. These are only a few of the many undertakings of the W. I.

Mr. King, Inspector of Schools, on the Gaspe Coast, gave a short, but interesting talk on what is being done in the schools and the plans to be carried out in the near future. "What the W. I. Can Do for the Schools" was the subject of his address, and this was summed up in the following manner:

- I. Visiting of school occasionally.
- II. Attending meetings of School Board in order to know what is going on in the various classes.
- III. Providing a Loan Fund to benefit some girls unable to meet the expenses of an education; this money to be returned when in a position to do so.

Then followed remarks from Mrs. Hughes, President of New Carlisle W. I. and Mrs. Dow, President of Women's Institutes of Bonaventure County.

This brought the meeting to a close.

The large attendance both during the day sessions as well as the evening is significant of the keen interest and appreciation of this organization in that community.

**A Happy New Year
to all !**

Quebec Agricultural Statistics for 1923

Quebec, December 6th 1923.—Hereafter is a summary of the agricultural inventory which is carried on every year, by the Provincial Bureau of Statistics. At the end of the month of June last, agricultural correspondents were chosen, in each municipality, by the official agriculturists, to inquire from the farmers the areas under cultivation, the number of farm animals, that of poultry, the crop of maple products, etc. The following is the result of this inventory.

The cold and tardy spring of 1923, has greatly hindered seeding, and for that reason there has been a decrease almost everywhere in the cereal areas compared with that of last year.

There is also a marked decrease in the number of horses and farm animals, a decrease which may partly be attributed to the crises which agricultural industry has been going through for the last two or three years.

Field areas.—At the end of the month of June last, the following areas under cultivation were registered: wheat, 74,478 acres; oats, 1,819,920 acres; barley, 124,771 acres; flax, 3,000 acres; rye, 13,499 acres; peas, 40,874 acres; beans, 15,692 acres; buckwheat, 156,031 acres; corn for husking, 32,394 acres; mixed grain 112,210 acres; other cereals, 7,390 acres; potatoes, 157,817 acres; root plants, 33,948 acres; fodder corn, 91,283 acres; the prairies, 3,952,301 acres.

Farm animals and poultry.—Horses, 341,651; milch cows, 968,705; other cattle, 813,046; sheep, 822,997; swine, 797,726; hens and chickens, 6,096,680; other poultry, 385,576.

Maple products.—It is estimated that the maple syrup crop amounted to 1,250,250 gallons, and that of maple sugar amounted to 8,215,475 pounds. There was an area of 45,744 acres in orchards; that of small fruit or berries was 8,143 acres; that of the gardens 16,135 acres, while that of Canadian tobacco was 15,289 acres.

It has been calculated that the number of silos in the Province of Quebec is 6,717, having an aggregate capacity of 328,597 tons.

NOTE.—The preceding statistics only apply to the exploitations of 10 acres or more. No account is taken of the farm animals, poultry, etc., in the villages, towns and cities.

The average yield, as well as the value of the crop and that of farm animals will be published in the subsequent Bulletin, probably at the beginning of the year 1924.

The figures given above are taken from a calculation which was made by the Bureau of Statistics, based on nearly 36,000 answers from farmers, that is 26% of the possible answers, since 137,619, agricultural exploitations were ascertained in the Province of Quebec.

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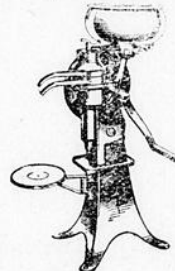
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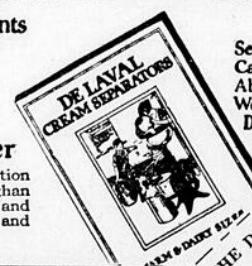
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