




THE O.A.C. REVIEW

MARCH, 1911



Let The PEERLESS Way Show You How to Make a Success of Poultry Raising in Canada


THE PEERLESS WAY of co-operative raising and marketing of poultry will absolutely guarantee success to every poultryman who will carry it out complete. Whether you have never kept poultry—whether you have kept poultry and made a failure of it—whether you have kept poultry merely in a haphazard way—or whether you are now doing well but might do better—The Peerless Way can help you to greater profits. For The Peerless Way shows how to hatch—feed—care for—fatten and kill and HOW TO MARKET.

 Send right away for a full description of this money-making method. Let us explain to you just exactly why The Peerless way will get you more profits, and let us send you our big, plain-spoken Free Book containing


SOME FACTS, THEIR PROOFS, AND AN INTERESTING OFFER

that will enable you to put The Peerless Way to work for yourself at a cost so low as to be scarcely worth considering. This book is very frank; it tells you just what you can do, and what you cannot do, and if you have any leaning whatever towards poultryraising as either a business or a side-line, you will be interested in the straight-forward way it comes out with information that is vital to your success.

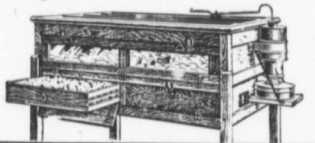
IT WILL COST YOU LITTLE TO ADOPT THE PEERLESS WAY.

 You don't need a great lot of cash to make the right kind of a start in poultryraising; the knowledge of what to do and what not to do is far more essential. But you do not need to be an expert; for we are ready to supply you with all the necessary knowledge. If you have just a little money, and a pretty fair amount of common-sense, added to enough diligence to look after things properly, The Peerless Way can make poultry profitable for you.

CO-OPERATION IN RAISING AND MARKETING


 The Peerless Way is a great deal more than merely a system of poultryraising; it is also a practical method of co-operative marketing—a system that will make you independent of combines, and enable you to obtain top-notch prices for large

or some quantities of eggs and poultry by showing you how to market to the very best advantage.

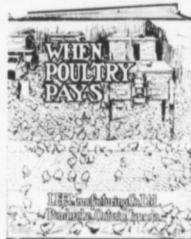


The Peerless incubator (guaranteed for years) that has helped 15,000 Canadian Poultrymen to greater profits.

THE PEERLESS WAY HAS OVER 15,000 SUCCESSFUL USERS

 Over fifteen thousand poultrymen in Canada have made a success of poultryraising by The Peerless Way. They have started with no elaborate equipment—nor have they given up a big tract of land to their poultry yards. They have simply done what you, or any other capable person, can do—adopted our system, followed the plain, practical method it teaches, and used freely the advice of our experts. Most of them, without knowledge or experience, have stepped into the business that guarantees high dividends on a small investment. Some of them are devoting only part of their time to it, and a few of them are devoting all their time to it—though mighty few of them gave it all their time on the start. But every man who has consistently followed our plan has achieved success.

This Book is FREE. Use the Coupon.



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Address.....


Town.....Province.....

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YOU CAN HAVE FREE ADVICE FROM OUR POULTRY ADVISORY BOARD

 If you are a user of The Peerless Way, you are entitled to consult our poultry experts at any time without charge. The Peerless Way covers everything in poultryraising that it is possible for any method to cover; but if, at any time, a point comes up that is peculiar to you alone, all you have to do is to write us. Our experts will consider your case individually and write you personally. This service is free to every member of the Peerless Family.

WE WILL SHOW YOU HOW TO MARKET YOUR POULTRY AND EGGS

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ONTARIO.



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No. 9

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Call on your local IHC dealer and see the various styles in which these wagons are made. You will find one among them that will meet your exact need. Or, if you prefer write direct to nearest branch house for booklets and full information.

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LOOK FOR THE I. H. C. TRADE MARK. IT IS A SIGN OF EXCELLENCE AND A GUARANTEE OF QUALITY.

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Schumacher Feed

(Corn, Oats and Barley)

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Prime Condition**

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This Machine MAKES ALL SIZES OF TILE from 3 ins. to 16 ins. in diameter, and from 12 in to 24 ins. long.

All Tile are packed perfectly hard. Our Patent Packer does the work.

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Book shelves, secretaires, tables, chairs, all kinds of students library, den or large easy chairs, in leather or cloth.

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If we could sell them any cheaper we would,
But we can't, Neither can anyone else.

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The Rexall guarantee on each wrapper.
The United Drug Co., Limited, and the Rexall
Store selling the preparation guarantee it to
give satisfaction. If it does not, go back to the
store where you bought it and get your money.
It belongs to you and we want you to have it.



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You
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Phone 256.


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Of course not! Yet how careless you
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When eyes smart, pain and begin to
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beware of

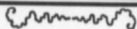
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Clothing, House Furnish-
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fabrics.

G. B. RYAN & CO.

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gentlemanly ideas of
good form.



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BIG STORE**

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PRINTING OF THE BETTER KIND.

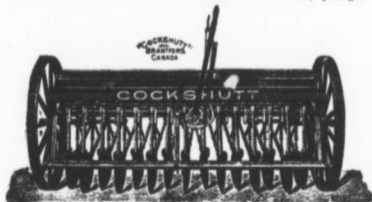
LONG DISTANCE PHONE 175

LONDON, ONT.

BIGGER CROPS — BETTER GRAIN MORE MONEY—Is that what you want?

LIKE lots of other farmers at this time of the year, you are thinking of buying either a Disc or a Hoe Drill. Read this advertisement carefully before you decide—study the principle of this Cockshutt Disc Drill—get our Drill booklet and go into this matter thoroughly, because here is a machine that will help you get better crops.

Cockshutt
New
Model



The Lightest Draft Disc Drill

Made
with
13
and 15
Discs

THE particular advantage which the Cockshutt Disc Drill possesses, is that it sows the grain 6 inches apart—not 7 inches, as is the usual method. Close seeding gives the grain a better chance to germinate—to sap all the nourishment of the soil. Thus the grain grows up closer and firmer—holds moisture better—resulting in a bigger yield and better grain. Close seeding does not mean that you have to sow more seed—you simply plant the same quantity of seed

as you would with old style machines, but you plant with more discs. Farmers who have used this Cockshutt Disc Drill report an increase of from 2 to 5 bushels an acre; in other words,

this Cockshutt Disc Drill will easily pay for itself in one season, and still leave you a nice profit over and above. Read all about the other advantages it has—then write us and get our very instructive booklet about it. The discs on this machine are 6 inches apart—not 7 inches, like old style machines. Footboard runs the whole length of the machine, which makes it optional with the driver whether he walks or rides. Footboard can also be used for carrying seed bag to the field. The frame is built of high carbon steel, the corners being re-inforced by heavy malleable castings and steel corner braces. The castings pressure bar and short, self-aligning axles are rivetted to the

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The space between the grain boots and discs gradually widens from bottom to top, preventing mud and trash stopping the discs from revolving. No matter how wet or sticky the soil these

discs will always revolve and cut. Scrapers are provided so as to keep discs clean on each side. The feed on this Cockshutt Disc Drill is a positive force feed of great accuracy, and is driven by a short steel chain from the axle, each half of the feed being driven separately. The seed box is made of choice seasoned lumber and the cover locks automatically. We use metal bridges between feed cups to prevent grain from clogging, so that the last seed per acre as when the grain box is full. You can't realize all the advantages and improvements of this Drill until you read full explanations in our booklet. Don't buy a Drill of a kind until you read it.

Works Exceptionally Well

Cockshutt Plow Co., Fergus, Ont.
Gentlemen,—The 13 Disc Drill I purchased from your agent, W. J. Shaw, works exceptionally well in all kinds and conditions of soil; it is impossible to clog this Drill in marshy or dry land, it is also lighter in draft than any other drill I have ever used, and I have farmed for over fifty years. I used this drill with a very light team, and sowed over one hundred acres this spring.

WALTER THOMSON

READ THIS LETTER — THEN WRITE FOR BOOKLET

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Thorndale.

(Signed) JOHN MORDEN

COCKSHUTT

PLOW
COMPANY
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RESERVES, \$6,900,000

ASSETS, \$95,000,000.

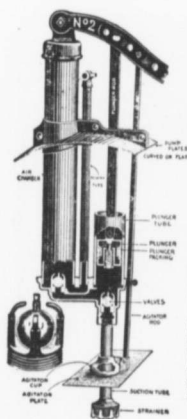
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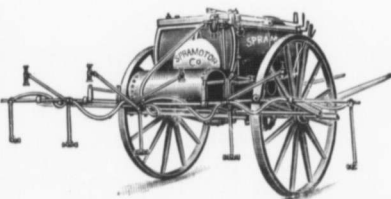
R. L. TORRANCE,
Manager

Guelph Branch



The sectional cut shows why **The Spramotor Hand Sprayer** is so effective, simple and durable. It will last as long as required for painting, white-washing, orchard, potato, and mustard spraying. There are more Spramotors in use in Canada than all others combined. It has agitator, which thoroughly mixes the paint or chemicals before they are applied, which acts independently of the motor. It has brass independent ball valves, which remain tight in use. The plunger has stood ten years' test.

Free catalogue.



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Full particulars on application.

Spramotor Works

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PAYS DEBTS;

WIPES OUT THE THREATENING MORTGAGE;

SUPPORTS WIDOWS AND ORPHANS;

MAKES THE COMFORT OF OLD AGE SURE

GET A POLICY IN

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Insurance Company

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Parasiticide.**

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Write for Descriptive Booklet.

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WALKERVILLE, ONTARIO

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The O. A. C. Review is published by "The O. A. College Students' Publishing Association," O. A. College, Guelph, Canada, monthly, during the college year.

Annual subscription—Students, \$1.00; ex-students, in Canada, 50c; others, \$1.00; single copies, 15c. Advertising rates on application.

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TORONTO HAMILTON WINNIPEG

THE O. A. C. REVIEW

THE DIGNITY OF A CALLING IS ITS UTILITY

VOL. XXIII.

MARCH, 1911

No. 6

The Outlook for Apple Growing in New Brunswick

A. G. TURNEY, FREDERICTON, N. B.

AT the outset, let me say that any belief that New Brunswick cannot grow apples commercially arises from an ignorance of the extent to which man may contest and direct the energies of nature, and from an unwillingness to recognize, or from an ignorance of what has already been clearly demonstrated, not only here, but in far more severe climates, such as that of Russia. Large sections of the province are excellently adapted to apple-culture and to get some idea of the outlook for the industry, let us first briefly enumerate some factors concerning the present status of the industry in America.

United States authorities concede that country's production of apples to be inadequate to the demand and that this deficiency which has increased steadily the past few years is already a large one. Moreover, they state that the demand is increasing at the rate of 1,000,000 barrels per year. Since the United States' apple crop has declined from an average annual production for five years, 1900-1904, of 42,500,000 barrels to only 26,000,000 barrels for the five years ending 1909, it would appear that nothing short of a strong revival of apple growing in that country will

make up the deficiency, let alone keep pace with what the increasing demand would be were "fair" prices maintained. "Better Fruit" is my authority for saying that it is quite probable that the decline in apple growing in the United States will soon be followed by a period of revival until the supply is again adequate to the demand. That may be, but it is sufficient for our purpose that such a revival cannot be consummated in less than fifteen or twenty years, and that the United States' product will not figure very largely on the apple markets of Europe during that time.

Turning to Canada, what do we find? The situation in Ontario, so ably dealt with in these columns by Professor Crow, and at various times during the past year by other authorities, shows: That her annual amount of apples available for export to Europe has steadily decreased and furthermore that the increasing home and Western Canada markets bid fair in a few years to leave no Ontario apples for European export unless there comes a great improvement and increase in apple growing in that province. It seems to me that Ontario like the United States will not be in a position to cater much to the European apple markets for

some years to come. What then of Nova Scotia? The situation there is certainly different from that in Ontario and the United States. True, it is, that the New England States are producing much the same standard winter varieties—but then they have a very large consuming population to cater to which Nova Scotia has not. Last year this Maritime Province produced upwards of 850,000 barrels of apples, the bulk of which were sold on the English markets. Nova Scotia produces the standard winter varieties, Northern Spy, Greening, Baldwin, King, and Nonpareil to perfection; her logical market is across the water; she has thousands of acres yet to be planted to apples. Is it not evident that her apple lands, by virtue of the situation on the American continent to-day, and by virtue of their natural advantages and proximity to the English market should capture that market for the standard winter varieties? I believe that so long as Nova Scotians can produce the winter varieties successfully, they will not easily be induced to consider the growing of the earlier kinds. Yet, we must admit that there is a considerable demand on the English market for a class of apples to cover the season from autumn until the winter varieties are fit to eat, say from October 1st to January 30th. This then is the link in the chain which New Brunswick by nature is the best adapted of all the provinces to fill. Competent leadership and the necessary capital applied to the apple lands of New Brunswick and Nova Scotia during the next decade should result in our establishing a hold on the English market which apple producing regions to the west of us, by the time they had apples in quantity to export, would find it very hard to weaken. While Nova

Scotia has a well-established and very flourishing apple industry to-day, we in New Brunswick have to confess to none. Nevertheless, apple growing here is past the experimental stage, in fact is a proved success, and there are a number of features here which would make the establishment of commercial apple growing a much shorter and easier task than it has proved to be elsewhere. To begin with, the varieties we are adapted to grow and to which we must confine ourselves if we wish to gain a reputation as an apple province are the Duchess, Dudley, Wealthy, Alexander or Wolfe River, Fameuse, and McIntosh Red. Most of these are early bearers and will be yielding returns five years before many of the later sorts. They are mostly shorter lived trees and should be planted much closer together, yielding greater returns to the acre. Again, the Duchess, Dudley, Alexander and Wealthy grow practically scab free, are self-fertilizers and regular annual bearers, great points in their favor. Many people are too prone to ignore the earlier season apples, pointing out that their perishability and poorer prices do not class them with the winter varieties as money makers. We must, however, consider that a variety like the Duchess or the Wealthy can be produced for 60 or 70 per cent. of what some of the winter apples may be produced, and surely this cost of production is as powerful a factor as the selling price in determining what varieties are most profitable. The experience of the past few years entitles the earlier varieties to more attention and I have no doubt that in New Brunswick their production for the European market will bring us acre for acre just as large if not larger profits than the winter varieties are producing else-

where. Moreover, the selling price is not as low as some would have us believe. Since Red Astrachan and Duchesse apples sold last autumn in Winnipeg for \$2.25 to \$2.50 per box, which is equivalent to \$1.25 or \$1.50 f.o.b. St. Catherines to the grower, and No. 2 Duchesse sold at \$5.00 per barrel, we may well consider that with our all water transportation to the British Isles and our pre-cooling facilities in St. John there will yet be many thousands of dollars brought into New Brunswick by these hitherto despised varieties. The Fameuse and McIntosh Red, while not so cheaply and easily produced, are as high a selling apple as there is grown in Canada and quite large areas of our land show similar climatic and soil conditions to the Ottawa and St. Lawrence Valleys where these varieties originated and do so well. At the recent apple show in St. John the most noticeable feature about our apples was their exceedingly high color and natural beauty of appearance. R. W. Starr, the veteran pomologist of Nova Scotia, tells me that these same varieties grown in the Annapolis Valley are some ten days slower in maturing than when grown in the St. John Valley. We have no desire to claim that we can grow all the standard Canadian varieties to as high perfection as they are grown in Ontario, Nova Scotia and British Columbia, but what we do claim is that New Brunswick grown Duchesse, Dudley, Alexander, Wealthy, Fameuse and McIntosh Red cannot be excelled by any of these provinces in point of size, color and flavor.

I feel sure that successful commercial apple-growing in New Brunswick will involve the adoption of "close planting" the trees according to the variety, being planted at the rate of from sixty to as high as two hundred per acre.

Under such conditions we shall be able to give the greatest possible care to our orchards at a minimum of labor and expense and the economics of time, labor and money from planting to harvesting will be immeasurable. Under such a system of close planting of early bearing prolific varieties, orchards will be set out, yield immense returns per acre for from twelve to fifteen years and be replaced with new trees ere many of the long keeping varieties have reached full bearing.

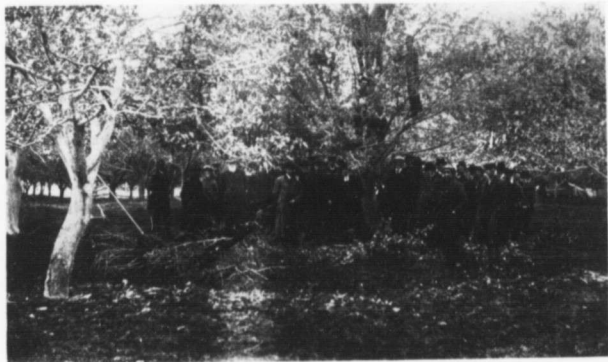
New Brunswick's premier apple lands are to be found in the Lower St. John Valley between St. John and Fredericton and are only from twenty to eighty miles by river transportation from St. John, the national winter port. The valley is one of great scenic beauty and fertility and the very best of its apple lands, buildings included, may be procured for from ten to twenty-five dollars per acre. To the man who desires to grow apples commercially, I do not know in all Canada of a country where a start may be made with as little capital, where the prospects and markets are better or the environment more ideal. To my mind, were it not a regrettable fact, I should have believed it absolutely impossible that British Columbia of late years should have attracted so much capital and so many people from the old country to her fruit lands, yet, in the face of the great geographical, social, and natural advantages possessed by Nova Scotia, New Brunswick and Ontario, she has accomplished it. In the East we have a less rugged, a more beautiful country; we are within a week's journey from the best market in the world and the old home of our immigrants. We do not have to resort to artificial methods such as irrigation and frost fighting appliances, and our apples are

better flavored. There is only one answer to this, British Columbia is awake and the East is asleep. The signs of the times are, however, not without hope—the East stirs uneasily in its sleep—presently it will rub its eyes—and then let us hope that it will open one and with just one eye open and its great natural advantages, British Columbia, wide-awake as it is, will not have a look-in.

To my mind British Columbia with its lands already at fancy prices, with its higher cost of production and enormous transportation expense can never seriously compete with the Maritime Provinces on the European market, **if we exert ourselves at all.** Now is the

time for the Provinces of New Brunswick and Nova Scotia, each keeping to the production of the varieties for which they are best adapted, between them to take a large and commanding place in the supplying of the European apple market from September to May of every year.

It is a matter of great satisfaction to be able to say that companies to develop our fruit lands are already being organized and will soon be in active operation, and I am confidently expectant that the development of fruit growing in the St. John River Valley will be the most remarkable feature in the next ten years of Canadian horticulture.



"A DEMONSTRATION IN PRUNING."

The Fruit Growing Industry in British Columbia

J. F. CARPENTER, VICTORIA, B. C.

BRITISH Columbia has again received a large number of medals and diplomas for fruit exhibited at the Old Country fairs. Following right after the first Canadian Apple Show held at Vancouver, where in competition with fruit grown in some

organization among the growers are the principal factors co-incident with the enviable reputation that British Columbia fruit has obtained in the markets.

In 1901, the total orchard area of the province was 7,500 acres; in seven

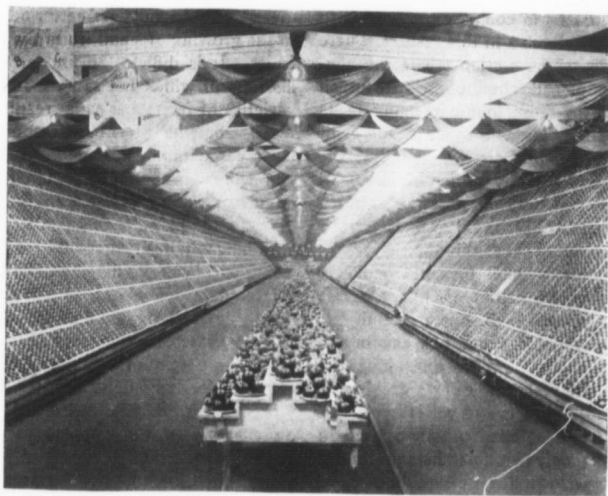


Photo by G. H. E. Hudson, Kelowna, B. C.

FIRST CANADIAN NATIONAL APPLE SHOW.

of the best fruit growing districts of the Western States, British Columbia product carried off the main award, this result was to be expected. Natural conditions adapted to the growing of high-class fruit, careful attention to details in the handling of the orchard, putting up an attractive pack and or-

years it is estimated that this area has increased to 100,000 acres. Ten years ago British Columbia did not produce enough fruit to supply her own population, last year the Okanagan District alone shipped out over 500 cars of fruit and six hundred cars of vegetables. The actual extent of land adapted to

the growing of fruit has not been ascertained but by conservative estimate at least one million acres south of the 52nd Degree will produce all the fruit of the temperate zone. While there is no doubt but that a considerable area of this land will be developed with other branches of agriculture, there is every indication that the orchard area of the province will be greatly increased during the next few years.

A person who has no conception of the natural adaptations of the fruit districts in British Columbia for fruit culture might consider it should be an easy matter to compare Ontario with British Columbia in this respect. There is at least one section where the conditions of soil, climate, etc., are much similar to those found in many parts of Ontario, and as a consequence, fruit growers in this district find that the same fruits and varieties of fruit and the same cultural practices, which are made use of in Ontario, give good results there. But this district represents only a small percentage of the fruit land of British Columbia. The great diversity of climate and the unique climatic conditions existing in the mountains, valleys and along the Coast, are responsible for a great variation in the fruits and varieties of fruit grown and cultural practices used in districts only a short distance apart. Fruit is grown at an elevation of 3,800 feet and at all the intermediate points down to sea level. Some districts have an annual precipitation of 100 inches while others have only 10 inches or less.

The winter is quite severe in some districts while in other districts, such as are found in proximity to the Coast, the grass and incidentally the weeds grow all winter. The length of growing season and heat units vary

greatly in the different districts. This year during one of the summer months, in a portion of the irrigated section an average of 15 hours per day sunshine was reported for one month, other districts would not have one-third of this. These varying conditions make fruit growing a very interesting study in British Columbia. In districts where annual precipitation is high and the average amount of sunshine comparatively low, as is to be found along the Coast, a more careful selection of fruits and varieties of fruit is required, than in the irrigated sections and as a rule these Coast districts are better adapted to the growing of small fruits than tree fruits. It is difficult to find any two districts in which the same fruits and varieties of fruit give equal results.

A factor which has been responsible for a large number of good orchards and which has, no doubt, acted as a stimulant to the industry in the province, is the planting of large tracts of land by capitalized companies with the intention of sub-dividing and selling at a later date. This has been practiced mostly in the irrigated districts and as it necessitates a large expenditure of money to obtain an economical supply of water for irrigation purposes, these large companies are welcomed. As an example of the immense cost of building irrigation ditches and insuring a plentiful supply of water, the Central Okanagan Land Company of Kelowna have under construction an irrigation plant which is costing in the neighborhood of \$300,000, and which will supply water for 12,000 acres of land. These companies plant out with the best varieties of fruit for the markets consistent with the adaptations of such fruit to their respective districts. They engage experts to take charge of the planting and subsequent care of

the orchard who pay strict attention to all the practices necessary to building up an ideal commercial orchard. At the present time nearly 100,000 acres of land in the Okanagan District are being developed by capitalized companies. The Coldstream estate at Vernon was possibly the first company to plant on an extensive scale seven years ago, and their plantation, a pho-

a first-class orchard in all respects, most of the growers have orchards which are a credit to them and of which they have every reason to feel proud.

In the marketing of the fruit they come in direct competition, both in the local and distant markets with fruit from the best fruit-growing sections of the Western States, including Hood River, Wenatchee and Yakima, and in



Photo by G. H. E. Hudson, Kelowna, B. C.
YOUNG APPLE TREES, UPPER BENCHES, KELOWNA, B. C.

to of which is shown here, demonstrates what is being accomplished by these companies in the development of fruit orchards. The majority of fruit growers in the best fruit growing districts are growing fruit only and devoting all their attention to the care of their plantation. As they are dependent on the returns from their orchards for a living, and as they know that it is to their advantage financially to have

order to compete successfully they have to put up a grade of fruit as good as or better than is being produced by these well-known fruit districts of the states. That they are doing this was proved at the first Canadian National Apple Show, and is being demonstrated in the markets. The growers find that in order to obtain these results they have to study and make use of all the modern information relative to the

care of the orchard and the handling of the fruit, and we find that most of the growers are well informed as to the different practices which are essential to the growing of high-class fruit.

Organization of the growers has had a big influence in bringing the fruit industry to its present condition. Nearly 75 per cent. of the fruit growers ship their fruit through co-operative associations and fruit exchanges. While organizations as in other sections have been a failure in some cases, from these failures the growers have gained experience which has been valuable to them in the management of their present associations. Organization is gradually gaining strength and at the present rate it will only be a few years before practically all the fruit will be handled through organized companies. Economy in the handling of the fruit, putting up of the uniform pack and even distribution in the markets has had much to do with the success of these shipping associations.

The Government is rendering a valuable assistance to the fruit-growers in many ways. During the shipping season a market commissioner is at work in the prairie provinces, studying the demand and supply of these markets, and keeping the growers informed with

a view to securing good prices and guarding against the over-stocking of any one market by even distribution. Five men are permanently engaged doing educational work among the growers. Prominent men from other districts are brought in frequently to assist in this work. Besides this staff there is an inspection department whose whole work consists of the guarding against the importation of destructive pests and the spread of pests already in the province. The Government are worthy of commendation in the methods they are using to protect and develop all branches of the agricultural industry which has now taken its place with, if not ahead of, fisheries, lumbering and mining, and which will, in time, add a great deal to the wealth of the province.

The fruit growing industry in British Columbia is still in its infancy, and if it continues to develop as it has done in the last few years, it will always play an important role in the agricultural resources of the province. The use of modern cultural operations, planting to suit the markets, shipping of high-grade fruit and organization among the growers is sure to have a big influence on the success of the fruit growing industry in any district.



What About Beekeeping?

MORLEY PETTIT, PROVINCIAL APIARIST.

ABOUT twenty-five years ago a sixteen-year-old lad got interested in the bees on his father's farm. They were just as busy and attractive as any other bees, but they lived in box hives, and had to pay the penalty of their industry with their lives over the sulphur pit in the fall.

For eight years this boy worked on

making a comfortable living for himself and his growing family he was able to bank \$5,000.00. He is now managing four hundred colonies with a capital investment in the business of less than \$4,000.00. He employs one young man for five summer months, works hard himself for about the same time and in winter does enough to a'd di-



APICULTURE LECTURES AT NATIONAL EXHIBITION, 1910.

the farm and fussed with bees until at the age of twenty-four he dropped general farming and specialized in bees. About the same time he took unto himself a wife. His apiary was then one hundred colonies in more modern hives and he devoted his attention entirely to them. During the next ten years his number of colonies varied from one hundred to two hundred, and besides

gestion. His net income from bees at present is more than \$3,000.00 per annum.

"Yes, but is not this an exceptional case? Could not such men in Ontario be counted on the fingers?"

Yes, and perhaps one hand would do it. But whose fault is it? The man in question has ability which is excellent,—but not exceptional. His loca-

tion is also excellent,—but not exceptional, there are hundreds of others as good, not occupied. His colonies are just bees, but he studies them, understands them, controls them, in the same business-like way as the expert in any other line manages his specialty. It is an age of specializing, and the sooner the young man with ability finds his specialty the sooner he finds success.

Men, and women too, enthuse over combining poultry and fruit, poultry and bees, fruit and bees, or poultry, fruit and bees, and then the poor general purpose manager has to make all his plans and arrangements for two or three businesses, instead of one. His

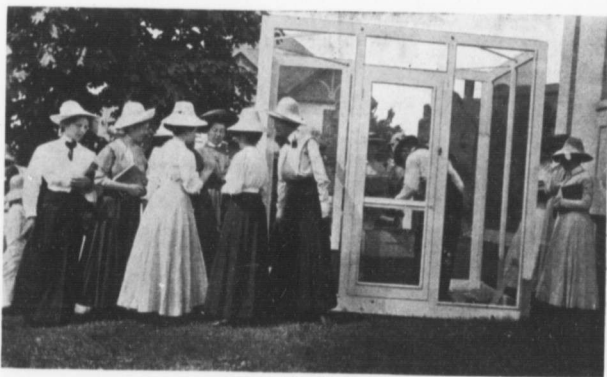
When asked what business would best combine with bees, one successful beekeeper said "More bees," another said he didn't know unless it was a skating rink.

About one man in a hundred makes a real success of beekeeping. Why not be the hundredth man?

What are the elements of success in beekeeping?

Briefly they are these:

1. A natural disposition which likes bees, and which bees like. Horsemen tell us that some men are "poison to a horse." Others take naturally to them, and in their hands the horse thrives and does good work. It is the same with bees.



STUDYING BEES AT THE O. A. COLLEGE.

experience in the hen-house on Monday is of no use to him in the apiary Tuesday, and the two days are entirely lost, so far as concerns the orchard or garden on Wednesday. On the other hand, if one apiary will not keep him busy, let him start one or two more apiaries, then each day's work helps fit him for the next, and his interest is concentrated instead of being divided.

2. A good location, where climatic and other conditions are favorable to bees and where honey bearing plants bloom in profusion.

3. The right kind of bees to gather the honey and the right kind of hives to keep them in.

4. With these three the beekeeper must combine energy, industry, self-sacrifice, concentration, system, forethought, and all the other qualities, na-

tural and acquired, which go to make up success in any business.

Opportunities are open on all sides. Every state in the union, every province in the Dominion has its bee industry of greater or lesser importance. In Ontario bees are kept from Gleggarry to the Lake of the Woods, and from Point Pelee to the Cobalt.

Last fall I received a letter from a man at White Wood, something like this:

"Mr. M. Pettit:

"Dear Sir,—I consider it my duty to give you my experience in beekeeping up here in the Nipissing District, three hundred miles north of Toronto and seventeen miles north of New Liskeard. I got two hives of bees from Old Ontario three years ago. They were shipped by rail to Liskeard, then by boat forty-five miles, then by row boat two miles, then had to be carried a mile and a half to destination. The first season there were three swarms and about fifty pounds of comb honey. I packed the five hives in rough boxes for winter with about ten inches of sawdust. They wintered in fine shape, never saw bees winter better in Old Ontario. The second year wintered seven in fine shape, and increased the third year to twenty-six, which I have just put away for winter. Had six hundred pounds of honey. The honey resources and the amount of honey they can gather is something wonderful. I have leased my farm and am going to devote my time exclusively to beekeeping. A—."

A photo of this farthest north apiary appears with this article.

The other day a man passed from this life at the town of Beeton, who in his younger days was called the "Bee King" of Ontario. The town was named after his industry. He travel-

led as far as the Holy Land in the eighties in search of new races of bees, and brought back some which have since proved valuable.

A man in Woodstock, now spending his declining years as an invalid, was once called the "Comb Honey King" of Ontario, because he was the pioneer exhibitor of that article which makes such a tasty display in the honey building from year to year at the National Exhibition.

Numbers of others could be mentioned who have become noted and have made comfortable incomes from this industry.

About thirty years ago a number of enthusiastic beekeepers assembled in Toronto and organized the Ontario Beekeepers' Association. The Ontario Government was persuaded to give this association an annual grant of money which has been increased to \$500.00 at the present time, and the membership has grown to over 300 with branch associations in a dozen different counties.

Nearly twenty years ago the Ontario Government passed an Act making it legal to inspect bees for disease, and illegal to keep diseased colonies on the place without making an effort to cure them. One inspector was appointed, but the work grew out of his hands, until now a dozen practical beekeepers and some students of the O. A. College, go about amongst the beekeepers in the summer time, more as instructors than inspectors, showing them how to overcome their worst enemy, American Foul Brood, and his deadly cousin European Foul Brood.

About seven years ago a committee appointed by the Ontario Beekeepers' Association began to collect reports of the honey crop and pass judgment on the situation, deciding what the for-

tunate consumer of this tasty article of food should be allowed to pay for the same. The price of honey which had been precarious was increased 50 per cent. and brought near to the price of other food products.

In 1910 Apiculture was established as a Department of the Ontario Agricultural College, and is now dropping into line with the older departments. It has no building at present, but oc-

Visitors to the excursions and Short Courses are finding the place, and asking questions about bee management and about the possibilities of a Short Course in beekeeping.

The place occupied by beekeeping on the curriculum, at present consists of a course of twenty-five lectures in the fall term to the First Year students. A Short Course is to be held the first week in May, 1911, and



FARTHEST NORTH—APIARY NEAR NEW LISKEARD.

cupies quarters at the rear and in the basement of the Macdonald Institute, not because of any special relationship to that Institution, but because this space happened to be available. The Apiculture office is at the back of the Nature Study Class Room. The basement room is being equipped as a laboratory, where students can learn hive construction, the extracting of honey, rendering of beeswax, and all other indoor work in connection with beekeeping. The apiary situated in the grounds at the rear, now consists of 30 hives or so, and is growing. It is used for experimental and practical work.

there is a possibility of a four weeks' Short Course in January, 1912.

The bee enthusiasts amongst the students have organized an Apiculture Club for the study of more advanced knowledge in beekeeping. This club consists at present of fifty members, belonging to all the years of the student body. Meetings are held weekly and lectures by successful beekeepers from different parts of Ontario are listened to with a great deal of interest. In view of the possibilities of beekeeping as a business and the fact that no other College is going into this work quite so extensively, it is difficult to tell

to what dimensions this work will grow.

All these steps of progress taken by the individual, the Association, the Department of Agriculture, and the students of the O. A. C., are doing their part in placing beekeeping on the business basis, which it is beginning to occupy in Ontario. It is but a low estimate to say that there are 5,000 beekeepers in Ontario keeping 100,000 hives of bees; that the honey crop for 1910 was five million pounds, worth at lowest market prices one half million dollars.

Many a business has been kept from financial ruin by the saving of a by-product, formerly wasted. A leakage of no mean proportion on the average Ontario farm is the nectar of flowers. The saving of this by-product, together with the increased yield of fruit and seed, often means the difference between failure and success to the farmer beekeeper. By advancing the interests of Apiculture we have the double satisfaction of causing two blades to grow where one grew before and of saving several extra blades from being wasted.

SPRING.

After long months of waiting, months of woe,
 Months of withered age and sleep and death,
 Months of bleak cerements of iced snow,
 After dim shrunken days and long drawn nights,
 Of pallid storm and haunted northern lights;
 Wakens the song, the bud, the brook, the hill,
 The glory of being and the petalled breath,
 The never wakening of a magic will,
 Of life restirring to its infinite deeps,
 By wave and shore, and hooded mere and hill;
 And I, too, blind and dumb, and filled with fear,
 Life—gyved and frozen, like a prisoned thing,
 Feel all this glory of the waking year,
 And my heart, fluttering like a young bird's wing,
 Doth tune itself in joyful guise to sing
 The splendor and hope of all the splendid year,
 The magic dream of spring. —*Wilfred Campbell.*

The Farm Home And Its Environments

WM. HUNT, LECTURER IN FLORICULTURE.

THERE is no questioning the fact that the surroundings of many of our farm homes are not as bright and pleasing as they ought to be. In many instances the immediate surroundings of the farm house are the most neglected part of the farm. Too often the plot of land surrounding the house, instead of being made as bright and attractive as possible with plants and flowers, is allowed to be overrun with weeds, as well as being a favorite resort for chickens and stock. In the early pioneer days of farming these conditions were excusable, but under the improved conditions of the present time a change should come in the improvement of the environment of the farm homestead.

There is a strong feeling rapidly gaining ground among the progressive element of our farming population that such conditions are not as they should be. This is evidenced by the fact that the leading agricultural periodicals of to-day frequently contain good practical articles on beautifying the surroundings of the farm home. These are often written by farmers themselves. There are very few farms where a lawn or grass plot, or where a few trees, plants and flowers cannot be had to beautify and make the surroundings more pleasing and home-like. A few shade trees, shrubs, vines, and flowers, judiciously planted, add very much to the appearance of a farm home and are not costly.

Trees, Shrubs and Vines.

In addition to the lawn itself, a few shade trees planted near the side of the house are indispensable. These give

a restful appearance to a lawn that no other feature does. The sugar maple and the American elm are two of the best trees for this purpose. A Norway spruce or two planted where they will not obstruct the view, and where they can grow and attain their full beauty of size and form, give an added beauty, where the lawn is spacious enough to plant them. A group or two of flowering shrubs, three or five in a group, may be planted toward either side of the lawn. These will help to break the too bare and open appearance some lawns present. Lilacs, Mock Orange, Spirea Van Houttei, American Golden Currant, Rhus cotinus (Smoke Tree), Caragana arborescens, Japan Quince, and the Hydrangea paniculata, will make a good selection of hardy flowering shrubs. Several varieties of Lilacs can be had with white, lilac, or purple flowers, if a variety of these useful shrubs is required. One or two cedars or Arbor vitae may be added to plant here and there, but are not very picturesque, especially on a small lawn.

A climbing rose or two, such as the Crimson Rambler or the pink Dorothy Perkins, planted around the verandah, will take away the bare appearance sometimes presented. Other suitable climbers for this purpose are the Aristolochia siphon or Dutchman's Pipe, Clematis, Japan Honeysuckle, or the common Virginian Creeper. These can be used if the surroundings are not suited for roses, or if a denser shade is required. The Aristolochia is the most dense growing climber suitable for this purpose.

The trees, shrubs, and vines, are the most important features on the farm lawn and are permanent when once established.

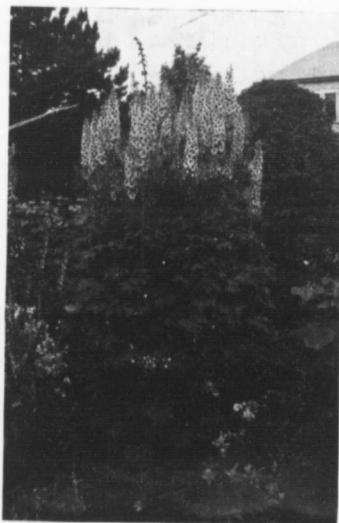
The Mixed Flower Border.

It is not advisable to attempt too much in the way of plants and flowers around the farm home. The mixed flower border is one of the decorative features, however, that is specially suited for the farm garden or lawn. In it can be planted almost all of the plants and flowers that the average farmer will have time to attend to. The border should be mainly planted with hardy herbaceous perennials. These old-fashioned garden plants that have graced the gardens of famous homes in the old land for generations are still the ever popular class of plants there, not only for farm gardens but also for the gardens of the wealthy. The original types of these flowers have been vastly improved during the past few years, so much so that it is difficult to imagine that they have been derived from the same species as were grown in gardens centuries ago. The list of plants given is specially selected as being of a decorative nature, as well as hardy and enduring, and suitable for cut flower purposes. A few cut flowers

are always acceptable in any home.

The border should be located toward the side of the lawn, not immediately in front of the house. A border six or eight feet wide and forty or fifty feet in length is quite large enough for a good collection of these useful hardy perennial plants. Perennial Larkspurs, Hollyhocks, Golden Glow, and perennial Sunflowers should be planted at the

back of the border for a background. Paeonies, Columbines, Dicentra or Bleeding Heart, German Iris, Oriental Poppies, Pyrethrum roseum, Sweet William, Campanulas, Shasta Daisy, Foxgloves, the Lemon Lily, *Lilium candidum* (Madonna Lily) and *Lilium elegans*, should be planted in small groups along the middle of the border. A bush rose or two may also be planted here and there. A few clumps of the



A BUNCH OF OLD FASHIONED PERENNIAL LARKSPUR.

English Garden Daisy, Garden Primroses, Cerastium or Snow in Summer, Moss Pink Phlox, Sweet Violets, the blue Forget-Me-Not, and other dwarf growing perennials should be dotted here and there in groups in the front of the border. A clump of Lily-of-the-Valley to plant in a shady spot must not be forgotten. All of these should be planted in the spring, except the Paeonies and Dicentra. These and

the lilies are best divided and transplanted early in the fall. Some bulbs of Narcissus or Daffodils, Tulips, Dutch Hyacinths, Crocus, Snowdrops, Chionodoxa, and Scillas, should be dotted here and there in small groups, ten or twelve bulbs in a group. The taller growing kind of bulbs, such as Narcissi and Tulips, are best to plant along the centre of the border, and the others near the front as they are of a dwarfer habit. All of these bulbs should be planted about the middle of

nial border are perennial weeds, especially the couch or spear grass. Keep these weeds well forked out from among the plants. Many a fine border of perennials has been abandoned and ruined by not attending to this important operation.

The after care of the border consists of clearing off the rubbish and digging out any weeds there are as early in spring as possible. Any weeds there are should be carefully forked out and the grass edges of the border trimmed



SCHOOL TEACHERS' CLASS IN PLANT PROPAGATION—TAKING CUTTINGS.

October. Plant plenty of Narcissus bulbs—they are pretty, hardy and enduring.

A nicely arranged border of these hardy plants will be found to be one of the most attractive and interesting features of the farm garden. Plant so as to have a variety of color, and so that the plants will vary in height and not look too formal.

The greatest enemies of the peren-

nially with a spade. The plants themselves will not require much trimming the first year or two. After they have been planted two or three years the clumps may require to be edged or trimmed back. The pieces of old plants cut off will make nice young plants for filling up other parts of the border where necessary, or perhaps given to help a neighbor start a border. A light coating of well rotted barnyard

manure may be forked in in early spring with a potato fork, taking care not to disturb the bulb roots. A spade should not be used too freely in the mixed flower border, as it often disturbs the roots of the plants too much. Keeping down the weeds and tying and staking any of the taller plants is about all the care required during the summer. The border may be left during the winter just as it is, without any attention. The tops of the taller kinds may perhaps be cut off and laid over the tenderest plants late in the fall. Very few of the plants, however, require protection in winter.

A collection of perennial plants can be obtained by sowing seed in boxes or in a small seed bed out of doors in May or June. The young plants should be transferred to the border the following spring. Perennials raised from seed usually take two or three years before they produce much flower. The small divisions of the roots before mentioned make the best plants, and are more to be relied upon as to quality and type of flower produced.

In addition to the perennials and bulbs mentioned, odd plants, such as Geraniums, Petunias, Verbenas, or even some annuals such as Shirley Poppies and Phlox Drummondii may be planted or sown in the open places in the border. A few Gladiolus bulbs, one of the best summer flowers for the farm garden, may also be planted where there is room for them, but all of these last will do better if planted or sown by themselves.

A row of Sweet Peas and a few Asters and Stocks and other annuals could also be sown in some other part of the garden. They do not succeed well when mixed with perennial plants.

Window Boxes.

Another feature of farm home decor-

ation may be a window box or two. A box or two of Nasturtiums alone looks very pretty in the windows. Good soil and plenty of water—especially after the plants are well started—are the main essentials required to have good window boxes.

Pot Plants for the Window.

A few Geraniums and Begonias with a Calla Lily or two and a good collection of potted bulbs, such as Roman and Dutch Hyacinths and Narcissi, will brighten the window in winter. The double and the trumpet varieties of Narcissi are best for this purpose. They will come into flower from Christmas until April if potted in October or November. A pot or two of sweet smelling Freesias would be a good addition to the list.

These are some of the principal means and materials by which the surroundings of the farm home may be made more attractive. There are many difficulties and hindrances to success with plants and flowers on the farm when compared with conditions in the city. Much depends on the interest shown by the occupants of the home in overcoming these difficulties as to the success attained. The want of experience when so much attention is being given by our colleges and schools to these matters should not long be an excuse for dull, cheerless looking farm homes. The young people of the present day have every opportunity to acquire knowledge on all matters pertaining to the farm.

Women's Institutes.

The Women's Institutes should also be a great factor in this work of improving the surroundings of farm homes. The subject of how to make "The Farm Home Beautiful," should be a frequent topic for discussion at their meetings. The beautifying of

home surroundings is a matter in which women are particularly interested. This subject has been taken up by Women's Institutes and a great deal of good has already been done. There is little in connection with the care of the farm flower garden that cannot be successfully attended to by the ladies or the younger members of the family.

Schools and Fall Fairs.

These also can do a great deal to help in this matter by interesting the young people as much as possible in them. The trees, shrubs, etc., already mentioned are just as suitable for the adornment of the schools as for the farm home, and in most cases are as badly needed. The additional training now given to most of our school teachers in school gardening, landscape gardening, and floriculture, should in the course of a few years have a great influence on these matters for good. Brighter and more cheerful surroundings at school and at home would doubtless do a great deal in helping to solve the momentous question of "How to keep the young people on the farm." Possibly the unattractiveness of the surroundings of many farm homes and schools from a landscape and floral point of view may be a partial answer to this question. The schedule of prizes for plants and flowers at our Fall Fairs is usually very meagre. The Women's Institutes, and the women in general, could well take up this matter and make this one of the most attractive features of the Fair. Many ways would suggest themselves for this purpose, such as children's competitions in Window Boxes, Flower Gardens at Home, best essays on these subjects, and plant and cut flower competitions from seed and bulbs distributed to them to grow at home or in

school gardens. All of these are essentially the sphere of work best suited for women, and they would make a success of it. Our Horticultural Societies have done good work in this respect. Their work is, however, of necessity confined to cities and towns chiefly. It is already bearing good fruit and has doubtless been the chief factor in the improved appearance of the surroundings of city homes, as well as the city generally. The Women's Institutes could take the place of the Horticultural Societies in the rural districts in this work.

The greatest charm of the rural scenery so much admired by visitors to England is the beautiful surroundings of the farm homes, and the picturesque farm cottages. Why cannot these surroundings be more common around our Canadian farms? There is no reason why this cannot be. There are no difficulties that cannot be surmounted in the matter, if only the proper factors and influences are set to work. Some of them have been touched on slightly in this article of "The Farm Home and Its Environment."

Plants and flowers are great educators. Their influence is for good. They brighten and cheer the home and its surroundings and make it more home-like.

The following extract from Longfellow's poem on "Flowers," seems particularly appropriate to this subject:

"Stars they are, wherein we read our history,
As astrologers and seers of old;
Ye not wrapped about with awful mystery,
Like the burning stars, which they beheld.

Wondrous truths, and manifold as
wondrous,

God hath written in those stars
above;

But not less in the bright flowers under
us

Stands the revelation of his love.

Bright and glorious is that revelation,
Written all over this great world of
ours:

Making evident our own creation,
In these stars of earth—these gold-
en flowers.



"CHINESE PRIMOSE"—A GOOD PLANT
FOR THE WINDOW.

Indoor Cucumbers

A. H. MACLENNAN, B.S.A.

CUCUMBERS under glass in Ontario are generally grown as a spring crop in the lettuce house following a second or third crop of lettuce. They may be grown for the Thanksgiving and Christmas trade if the house can be kept at a temperature of 65° or over, but the cost of keeping such a high temperature with a declining sun, which gives a slower growth, is too great even at the exceeding high prices paid. At the early stages of

seed in January to follow the second crop of lettuce. Most growers, however, take a third crop before planting the cucumbers. Some leave spaces at the distance of planting for the cucumber, and put the plant in when ready. By this method we get two crops, but neither are of first class quality. The best method is to plan to have your third crop out of the house by the end of March. If you do this you can then



TRANSPLANTING THE YOUNG PLANTS.

growth, insects and fungus diseases are more numerous, gaining access from outdoors through ventilators and open doors, some things we do not have reason to fear with the spring crop if we give careful attention to details.

If we desire to grow for the winter trade, our cucumber seed should be started about August 1st. Plants will then be ready for the permanent bed in less than four weeks, and should produce cucumbers two months later. If, however, we use the house for lettuce during the winter, we may start

start your cucumber seed by the first of March.

Cucumber seed requires a very high temperature at which to germinate. It should never be below 65°, and is best at 70°-80°. If low temperature obtains the seed will rot or if they do start the seedling will be spindling and yellow and unsuitable to plant. Where no house is available with a suitable temperature, or if one must start their plants in the lettuce house it is best to make up a hot-bed in one part of the house and in this start your seeds.

In sowing seed for cucumbers several methods are used. Some growers use an ordinary flat 24x16x3 inches, and fill to within an inch of the top with sand. In this sand they start the seed, planting one-half inch apart each way, and as soon as the plants show any leaves they are carefully transplanted to four inch pots—if growing two plants in a pot, setting plants two inches apart, or three inch pots if only putting one plant in a pot. Great care must be taken not to break any of the small roots, as any injury gives a severe check to the plant. Some use compost and sand, three to one, in place of sand. Others put the seed directly in pots. They cover the hole in the pot with a piece of tile, then place in it about two inches of turfy or regular compost. A certain degree of roughness of soil is enjoyed by cucumbers. The seeds are then placed in the soil, three or four seeds in a pot, and carefully watered. When three or four rough leaves are showing, fill the pots up carefully, leaving only room to water. If you intend to grow one plant at each place, leave only the strongest, and if two, the two strongest.

Watering, moist atmosphere, and heat about 70°, are the main points to be carefully looked after in growing young cucumber plants. The atmosphere should be kept moist by spraying the young plants two or three times a day as weather requires. Young plants should be well watered after being transplanted, and then only give enough for plant's need. Never have the soil soggy. Never have the leaves wet late in the day or at night. Ventilate whenever possible. Even on bad days we should ventilate a little. If weather is warm, start to ventilate before house reaches 75° and try to hold at 80°. Keep seedlings in the sun

so that they will be strong and healthy. Change pots around so that centre and outside ones will be interchanged. By this we keep an even growth on all the plants. Spread out to make stalks. Stand pots in one inch of sand to hold moisture.

Two kinds of bed are in use in growing cucumbers—the solid and the raised bench. On a raised bench, you do not require to think about bottom heat as the heating system supplies it; but in the solid bench you must make what is practically a hot-bed. Put in four to six inches of fresh horse manure, and then six to eight inches of good soil. If using the same soil as grew lettuce, you must dig in well-rotted manure.

Plants should be set in the permanent bed when they begin to run. If it cannot be done at once, they should at least be staked and tied. Never allow the plants to become pot-bound. When plants are set permanently, they should be watered thoroughly, then leave for a time so that the soil can dry out. Too much water makes a heavy top and poor root system, which on excessively hot days would cause wilting. They should be set according to the method of training. In most houses of twenty feet width there are three benches. In benches less than five feet wide, it is customary to put only one row of plants. The commonest American method is to place the rows two feet apart and two feet apart in the rows where there is only one plant at a place, or three and a half to four feet apart when two plants are left at each place. Another method is to plant one foot apart in the row and two feet between the rows. The English method is to place the plants five feet apart in the rows and in a two-bench house have only two rows.

Methods of training follow the methods of planting. In the first method mentioned, the main stem is allowed to run to the top of the trellis and is then pinched off. The first three or four laterals are barren, being meant for branches, and should be rubbed off. All other laterals which come from every leaf are allowed to grow to the first group of leaves past the fruit and are then nipped. These leaves will send out new laterals which are dealt with in a similar manner. The second method differs in that the laterals are nipped just past where the fruit shows. The English method nips the main stalk eighteen inches above the ground. This causes the laterals to show and four or five of the strongest are made the main stems. These are trimmed at the top of the trellis. Few fruits grow on these, but they quickly send forth laterals which bear the fruit, and are nipped beyond the first leaves past the fruit.

Various kinds of supports are used. Some use an A-shaped trellis. This is made of 1x2 inch, or 1x3 inch, or 2x2 inch lumber, bottom end resting on the ground and fastened at the top. On these wires are stretched horizontally eight to ten inches apart. Some use an 1x1½ inch slat which rests on the ground at the plant and is fastened to a horizontal wire at the top which is on a level with the eaves. In this slat are nails at definite distances, two at a place, one straight extending out one-half inch from the wood, the other nail being longer and is bent at right angles to form a loop. This last nail is moveable and can be turned back to permit the stem of the plant being fastened in the loop.

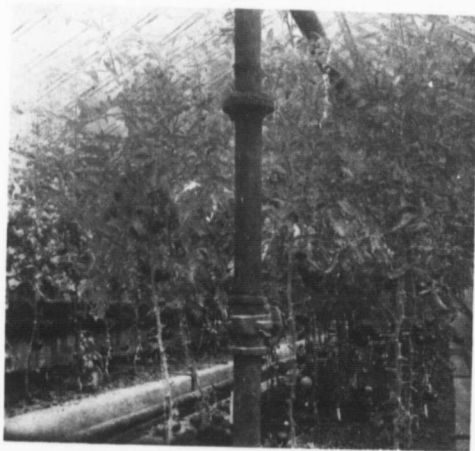
Sun, moisture, and sufficient available food, are what are from now on the ideal conditions requisite to pro-

duce healthy growing plants. Keep the house damp and warm. Spray the plants two or three times a day, according to the sunshine. Top-dress with rich soil and manure. The little feeding roots of the plant are near the surface, absorbing moisture and food, and if we wish to keep the plants working full time and producing all possible fruit we must feed abundantly. Top-dress when first fruits begin to swell, then once every two weeks, for four times. As days grow warmer, the plant requires more water. The soil is filled with roots and plenty of warm water should be applied once a day, on raised benches twice a day. Careful attention here gives longer life and greater productiveness to the plant. Examine the soil frequently to make sure that there is plenty of moisture down deep in the soil where many of the roots are. Spray the foliage in the day time to keep off the red spider, starting at the ground and working up, so as to strike the lower side of the leaf. As the season gets on and artificial heat is removed, we must be careful that plants are dried off before night so as to give no conditions favorable to disease.

The cucumber has male and female flower, the former being produced much more profusely than the latter. We can always tell the female flower by the little pickle just back of the flower. Our American White Spine varieties require to have the female flowers pollinated, else they turn yellow and drop off. Some growers think that if bees are close to the house outside they will enter and pollinate the flowers, but as the pollen is suitable only to make bee bread—the food of the young brood—they do not care particularly for it, especially when the other flowers come. The weather also

may prevent them. For this reason, many growers keep a hive of bees in the house. Some place them in the peak of the roof near the ventilator, which gives them access to the outside, but the best method is to fit the hive into the side of the building and have two entrances, one to the house, the other outside. At night close the ventilators and the outside exit of the hive and force the bees to work among the

red spider and thrip. These are got rid of by constant, careful spraying of the under sides of the leaves. White Fly is destroyed by means of hydrocyanic gas, one-quarter ounce cyanide of potassium, one-half ounce of sulphuric acid, and one ounce of water to every one thousand cubic feet of space. Use earthen jars for holding and spread them about the walks. Place the water in the jar and then the sulphuric acid.



GROWING UNDER GLASS.

flowers in the early morning, leaving them in until 11 o'clock. A strong hive must be used, as many bees will be killed against the glass when first put into the house, and they should always be carefully watched to see that they are strong and healthy. Or the flowers may be hand-pollinated with a camel's hair brush. English varieties do not need to be pollinated except for seed. Pollination causes malformation of the long fruit, and the seeds spoil the fruit for slicing.

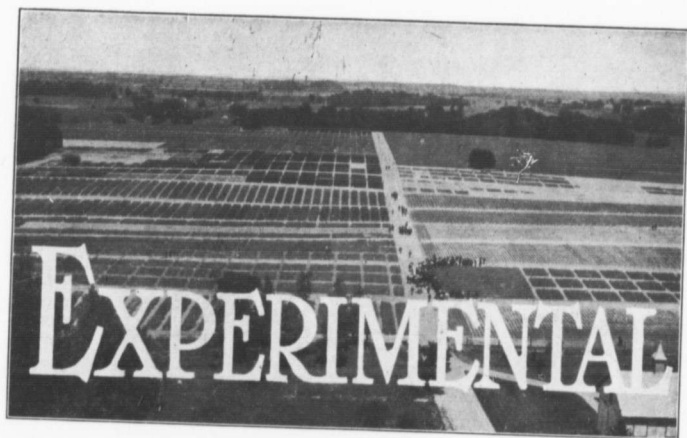
The commonest insect pests are the

Have the cyanide in small paper bags. Start at the farthest end to drop in the bags and move quickly. As soon as you are done, step outside and lock the door, as the fumes are deadly. Leave till morning. Then open the ventilators and leave the house for one hour. Always fumigate on a dark calm night.

Varieties.

American — Rawson's Hothouse,
Davis' Perfect, Farquhar's Perfection.

English — Everyday, Telegraph,
North Pole.



Plant Improvement

T. G. RAYNOR, B.S.A.

ONE of the problems which is becoming of increasing interest to the farmers of Canada to-day is, how may we increase our crop production? How may we secure maximum results with a minimum of outlay? The solution lies in the improvement of plants by selection. As in the improvement of stock the art of breeding has been epitomized in the word "selection," so in the improvement of plants, selection is a most important factor. It is by no means the only factor. Without suitable environment, plenty of moisture and available plant food, selection alone would count for very little.

Everyone is quite familiar with the work of Professor Zavitz and his corps of helpers who have done so much in recent years by giving the farmers of Ontario improved strains in varieties of the different cereals they are using

these years so extensively. The history of Dawson's Golden Chaff Wheat, Mandscheuri Barley, Siberian Oats, and O. A. C. No. 21 Barley is quite current talk and their use is becoming more extensive. Then there are other strains in a more or less embryonic stage, which Professor Zavitz is just introducing to the public. Other experimenters, too, are contributing their quota to the great work. Dr. Chas. Saunders, of Ottawa, and Professor Klinck, of Macdonald College, are doing their part.

Besides our experimental experts who are telling their own story from time to time we now have a number of farmers scattered here and there over the Dominion who through the Canadian Seed Growers' Association are doing some fine work. Among them are some ex-students of the College.

Most of The Review readers are

already familiar with the method of crop improvement as practiced by the C. S. G. A. The selection of the plants is done in the field or it may be done from the sheaf, if the operator prefers. The aim is to get the best plants available and to use the seed for a breeding plot the following year. Thus the best is taken from the best each year and it is in this way that improvement is made and held.

Mr. Simpson Rennie, who was one of York County's best farmers, says that during the last 15 or 20 years he was on the farm he rarely if ever changed his seed. Even with a good fanning mill selection which most farmers bank on, he was able to grow the one strain of seed without changing and when he left the farm he was getting better yields than when he first commenced with the variety of cereals which he was using. In Compton's Early Corn he developed a longer ear with straight rows, which yielded far better than when he commenced with that strain.

Mr. Rennie's experience corresponds with what Professor C. A. Zavitz is giving out to the public from time to time as his experience along similar lines in his experimental plot work.

In my experience in attending Farmers' Institute meetings and seed fairs I have met five or six men who have been growing the one kind of potato for over 25 years, and whose only selection was the best tubers from the field or bin. In each case they claimed that their potatoes were better at the end of that time than when they first began with the seed. Then experiences with the potato are contrary to the teachings of some of the Experimental Stations and Experts, by whom it is claimed that potatoes go back in yield and quality

after 20 years selection. This I believe is the teaching of Dr. Nilson's Experimental Station at Svalof, Sweden. The practice of the average farmer, too, is that potato tubers need to be changed frequently when used as seed.

However, if the cases of farmers cited above holds true in potatoes, and there seems to be no reason why their word should be doubted, then how much more true must it be for the cereal crops. This is what many members of the C. S. G. A. are finding out from personal experience with various forms of crops.

Mr. T. D. Hankinson, Gravesend, an O. A. College ex-student, is improving Longfellow Corn, and believes that since he has taken up the work he has also increased the yield of his whole corn crop by fully 20 per cent. This year taking his report on his breeding plot which summarized is as follows:

Rows	Bushel of hard ears per acre.	Percentage of hard ears per acre.	Percentage of soft ears per acre.	Percentage of soft ears per acre.
Best one....	162	93.3	...	6.7
Poorest	98	70.4	5.6	24.0
Average	133	86.5	1.	12.5

This figures out that the increase in yield of the best row over the poorest was 65 per cent and nearly 21 per cent. over the average. Evidently the poorest row gave a yield quite above the average for the province. If all corn fields could be brought to the standard of the best row it would mean an increase over the province of 40 per cent. in corn production.

In potatoes Mr. Alf. Hutchinson, of Mt. Forest, is doing some good work. He is producing some different strains of Empire State, one of which seems to be quite blight resistant. Superphosphate, too, seems to be benefiting Mr. Hutchinson's potato crop and its

beneficial effects could be seen on all his crops except mangels.

Mr. C. R. Gies, of Heidelberg, has been doing good work with Dawson's Golden Chaff Wheat. He has increased its yield per acre so that after 11 years' experience in selection he is now getting an average yield of over 45 bushels per acre. He is securing a very good market for it too. A farmer living near Paris bought 100 bushels from him for seed this fall, and was well pleased with the seed obtained.

Mr. Wm. Lewis, of Dunsford, another member, is profiting by growing Siberian Oats. He gets from \$1.00 to \$1.25 per bushel for all the seed oats he can grow. A practice which Mr. Lewis has found to be very helpful is to treat his seed for smut with formalin solution. It has been effectual in limiting the amount to smut to a minimum in his oat crop.

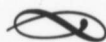
Mr. Chas. Pearce, of Wellington, also a member of the Association, some years ago commenced to select from Stole's Evergreen Corn with a view to securing an early maturing corn. In this he has been successful in producing a corn 10 days earlier than Stole's Evergreen, and much more prolific. It is called Pearce's Early Evergreen, and is becoming very popular with the canners for use in supplying their growers with seed.

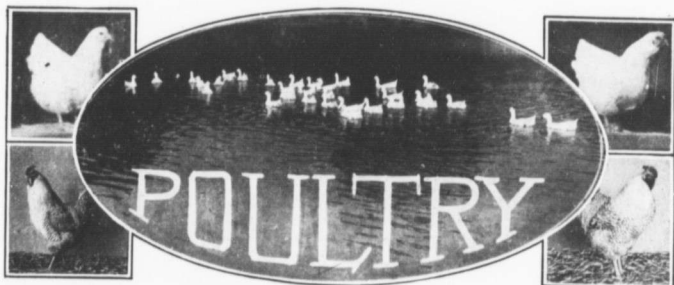
The corn is much reduced in size as compared with Stole's Evergreen.

When we read of the results attending the efforts of the Svalof Experimental Station, Sweden, where they have grown from 70 to 90 bushels per acre of wheat on a considerable area, from plants improved by selection from individual plants, it points to greater possibilities in increased yields of farm crops in Ontario. Of course it will be remembered that the above results are combined with good cultivation, fertilizers, drainage, etc.

Over 50 years ago a Mr. McDonald, on Cape Breton Island, selected some of the earliest and best heads of red clover growing on his farm. The result was that he got earlier, stronger plants which approached the perennial type. This man used to have his family pick over on a table all the seeds he intended to sow and hung them up very carefully in a dry place from the rafters of his dwelling. It paid him.

The results obtained by the men whose work I have cited should stimulate student readers of the O. A. College Review, when they return to their farms to be ambitious enough to improve the seeds of their respective localities by some system of profitable selection. It will pay many times over.





Rearing Chicks

G. T. WOLTZ, '13.

IT has often been said that to hatch a chick was comparatively easy, but to successfully rear him was a different story. Undoubtedly much of the success or failure in this work is due to the hardness of the breed; but even with the most hardy breeds, a certain amount of practical experience is necessary before you are justified in looking for the best results. Experience is education, but education need not be experience. It doesn't matter how good your theory is, if you don't know how to put it into practice. This applies directly to the rearing of chicks. You may be able to work your theory out on paper and make it appear very promising, but when you try to work it out on a batch of chickens you strike a snag, and naturally wonder where the trouble lies. It is true that a certain amount of information may be gathered from different articles in the poultry journals; still, after you have read all of these and carefully summarized them, what have you got? Merely a conglomeration of different opinions, and the reader naturally sits up and asks himself the question,

Which of these writers is the most reliable anyway?

It is not my purpose in writing this article to say which is the best method to raise a chick. In reality there is no best method. There are a few absolute essentials which must not be overlooked, but apart from these you must use your own judgment in applying things to the conditions as they exist with you.

If we wish to be successful in the work of rearing chicks, we must study their likes and dislikes, because when we consider that a great deal of the future usefulness of the bird depends on the care it receives while young, it will be very much to our advantage to give it every care possible.

Brooding.

There are two common methods of brooding chicks. The artificial and the natural. I think I am justified in saying that any person possessing a fair amount of good judgment, will not experience much difficulty in rearing chicks by the natural method or allowing the hen to assume part of the responsibility of brooding the youngsters. It is with the artificial

method that most difficulty is met with, so I will deal only with it.

The three great requisites in artificial brooding are; warmth, ventilation and exercise. Probably the greatest difficulty met with is in controlling the heat. As a general rule no regulator is used, and without this the chicks are almost sure to suffer from too much or too little heat. The amateur studies the construction and care of the incubator, taking it for granted that it is perfectly easy to run the brooder. A little later he sends a communication to a poultry journal asking why his chicks are dying off. If chicks are either seriously chilled, or decidedly over-heated, injury is sure to result, and often followed by death. The continual change of temperature is the curse of the "Philo System" of brooding. With no heat other than what is generated by the chicks' own bodies, they are sure to crowd, the stronger ones trampling down the weaker in order to reach the centre of the brooder where a higher temperature exists. During severe changes of the weather they will be subjected to severe chills, resulting in bowel trouble. Even with the heated brooder it is hard to prevent chicks from crowding. When the manufacturer turned out that style of a brooder heated by a drum in the top, he thought it the height of perfection because as in the case of the hen, the heat came from the top. The folly of this system was soon manifested. The chicks entering the hover from the chilly atmosphere outside, and feeling the heat coming from above, would try to reach as high an altitude as possible, with the result that the weaker ones again suffered. My experience has taught me that the brooder heated from both the top and the bottom is by far the most

successful. As soon as the chicks realize that the heat is universal, they settle down with a perfectly contented mind.

One advantage of the heat regulator has been mentioned in a previous paragraph, but not only is it necessary for maintaining an even temperature: It is extremely necessary for ventilation as well. Small chicks exhale poison from their lungs as well as older fowl, and unless some means is provided for a change of atmosphere, there is sure to be a marked increase in the mortality.

Then again we must not forget the importance of furnishing them with exercise. Even small chicks should have their run covered with some good litter, and by scattering some dry chick feed around in this litter once a day, they will very soon get into the habit of scratching around in search of food, and in this way they get the best kind of exercise that it is possible to give them. This is one of the essentials in the production of healthy stock, and if the brooder is well ventilated and kept clean and free from dampness, there is no reason why anyone should have any serious difficulty in the artificial brooding of chicks.

Food Ration.

A knowledge of the science of feeding is very useful in working out a suitable ration for chicks. In order to get the best possible results, we must have a balanced ration; or a ration that will supply the different food elements as required by the body. The following is a ration which I have found to be very good. The first food should be finely chopped hard boiled eggs, mixed with stale bread crumbs slightly moistened with milk. After the first

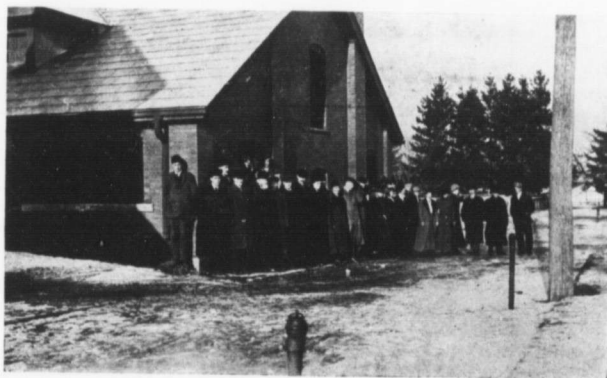
day or two, the hard boiled egg may be substituted with pinhead oatmeal. If milk can be procured for a reasonable price, keep a supply of boiled milk before the chicks as it is greatly relished by them. After the first ten or twelve days, feed a mash of equal parts of cornmeal, bran and middlings, with a little meat scrap added. The quantity of middlings fed will have to be regulated according to its action on the chicks' bowels. In addition to this a little grain should be scattered about in the litter to give them exercise. Green feed of some kind, grit and charcoal should be kept before them continually as well as a free supply of pure water. Some of these things may seem of little importance to some, but we should try to satisfy the chicks' every desire, and thus get the best gains from them that it is possible to get. The amount of food to feed mostly depends on the nature of the chicks, as some will consume much more than others. Always try to avoid over-feeding as it often has very disastrous results.

Housing.

As soon as chicks are old enough and the weather will permit, they are taken from the brooder and placed in small colony houses in the orchard, or somewhere where there is plenty of shade. While it is important that the houses should be comfortable, they need not be expensive. The chief point is to have them so constructed that the temperature will vary slowly with the fluctuations of the weather.

The colony house system is almost universally adopted to-day because they can be transported from one place to another, thus giving the chicks a greater range, and change of feeding grounds. The advantage of the free range is inestimable, providing you can guard the chicks against such enemies as the crow, skunk or weasel.

After all, when we think the matter over carefully, the enormity of successful chicken rearing isn't so awfully great. If we love the work, and the chicks, and study their likes and dislikes, we are sure to have a more or less marked degree of success.



SHORT COURSE IN POULTRY, JANUARY, 1911.

THE O. A. C. REVIEW

REVIEW STAFF.

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S. H. HOPKINS, Locals.

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Editorial

When it was announced by the Athletic Executive early in February that the athletes of Macdonald College had arranged to visit Guelph, all the students of O. A. College looked forward to the event with interest and expectation. Naturally, interest was strengthened from the fact that this was the first athletic meet to be proposed between our College and another agricultural institution. Heretofore, the great distances between our Canadian Agricultural Colleges have been responsible for our limited acquaintance with each other, both athletically and otherwise.

It seems, however, that the Quebec students have found a solution, which to a certain degree, will solve the difficulty. An annual athletic meet between O. A. College and Macdonald would surely prove successful from a number of view points. Would not such an institution tend to promote

the closer union of Canadian Agricultural College and Canadian Agricultural students? Would not greater ambition for athletic prowess be created? Would not athletic competition between two such colleges arouse a keener, more lively, more enthusiastic interest than that between colleges whose curricula and courses of instruction are widely different? Then again, the unqualified success which attended the visit of the Macdonald students, the pleasure afforded both to the visitors and to the entertainers, and the holiday air of the occasion, made a pleasant break in the monotony of the term. The success of this first meet undoubtedly indicates even greater success for future similar events, were an annual athletic meet to become a permanent function between these two agricultural institutions.

It would appear then that such an arrangement would be desirable for various reasons. The meet could take place at Guelph and St. Anne de Belle-

vue alternately. While this matter is still fresh in the mind of the Athletic Executive, it should at least consider the advisability of making some permanent arrangement whereby the present harmonious relations existing between the O. A. College and her sister institutions, might be fostered and improved.

Our readers, on opening the pages of this Review, will notice that especial attention has been

The Short Courses

given in the leading articles to Horticultural subjects. We believe this number will prove itself of great value and will be indeed timely. The success of the Short Course in Horticulture this year was very marked and but serves to prove the increasing interest being shown in this line of agricultural work. A special feature of the Short course in fruit growing was the instruction given in the packing of apples by a Hood River expert. This was the first time such instruction has been given in Ontario and the results fully warrant its repetition in the years to come. Equally great was the success of the Short Course in Stock and Seed Judging. While the attendance was probably somewhat less than the previous year, we cannot help but realize that the number of short courses being held throughout Ontario, under the supervision of District Representatives is ever increasing and many who otherwise would travel to the O. A. College remain in their home town and receive similar training. Thus, we feel safe in saying that more men receive the value of the short course training than at any previous time since the movement was inaugurated. The short courses deserve all

the success they are obtaining. They are being supported, and will continue to be supported by those, for whose benefit they are held, for they are a real need. It is essential, that to obtain success, men exchange ideas, and in this way receive the best information that, not only experience, but science can give.

According to the constitution governing the actions of the Students' Publishing Association, a

The Election of the Review Staff

meeting of the Association shall be held between March 1st and April 15th, for the purpose of electing the officers of the Association Executive. The present Review Staff, constituting the officers of the Association, hold office until June, but we deem it wise to bring this matter before you at this early date. No recommendations were made by the staff last year, as it was felt that the election should be left entirely in the hands of the students. This, we believe, is in the best interests of the Review and insures a deeper interest being taken in its welfare and progress by the student body. These elections will probably take place towards the end of the month. A definite date will be posted later on The Review Bulletin board. Watch for it. In the meantime, we would urge each and every student to carefully consider candidates suitable for the various positions. A list of the officers and the year from which they must come is to be found in the College Hand Book. Look this up and be prepared to elect the best man available. Above all, remember that the success of the Review for the coming year depends upon you—as an elector—not on the other fellow.



COLLEGE LIFE

Conversazione

There was a sound of revelry by night,
 And Belgium's capital had gather'd then
 Her beauty and her chivalry, and bright
 The lamps shone o'er fair women and brave men.
 A thousand hearts beat happily, and when
 Music arose with its voluptuous swell,
 Soft eyes looked love to eyes which spake again,
 And all went merry as a marriage bell.

—Byron.

THE annual conversazione, the most brilliant function of the College year, has come and gone, bringing with it its attendant train of excitement, eager preparation and joyous realization and leaving in its wake a host of pleasant memories.

It was a function that would have done honor to a college of far greater magnitude than our own and the students of both institutions are justly proud of it.

As in previous years the function was held in Macdonald Hall. The junior class, with the able assistance of the Macdonald girls spent considerable time preparing for it and when the evening arrived the hall had taken on a very festive appearance.

The gymnasium where the pro-

gramme was rendered was most attractive. The numerous rustic baskets filled with feathery green and delicate pink roses which hung from the rafters were very effective in the subdued light of Japanese lanterns. The banks of ferns in the windows, on the mantelpiece and platform all did their share to transform the old gym. into a dream which was original and unique.

The third floor, where the refreshments were served, vied with the "gym" for first place. At either end of the long hall and in the centre crossing the well were large arches of feathery evergreen on which artistic poinsettia shading numerous lights, seemed to grow.

The long tables were beautiful with shower bouquets of brilliant red carna-

tions and dozens of brass candlesticks with red candles, which shed a soft glow over the dainty refreshments.

An exceedingly attractive feature was the arrangement of the rendezvous. This year they were decorated to represent flowers and named accordingly. One of the most effective was the "Rose," with groups of palms and ferns and huge bowls of fragrant bridesmaid roses. Another one equally

side halls were numerous cosy corners and easy chairs, but space will not permit of more detail.

At eight o'clock the guests commenced to arrive and were received by Dr. Creelman, Miss Watson, wearing a gown of pale grey ninon and carrying a Richmond roses, and Mrs. Fuller, in a black lace gown with shower of Killarney roses. In a short time the halls were thronged with the many guests



CONVERSAZIONE COMMITTEE.

H. S. Fyrie. R. H. Murray. W. H. Wright. E. A. Weir. W. L. Graham.
Miss E. McKirm. A. M. Bosman. Miss A. Gardiner.
J. H. Auld. P. O. Vansickle.

attractive, the "Poinsettia," was situated in the students' sitting room, and at the end of this hall the stately "Chrysanthemum." In the dining-room, yellow was the predominating color. In the centre of the room were groups of Callas and palms while at either end were rendezvous the "Daffodill" and the "Poppy."

All the corridors were artistically decorated with evergreens and in the

from far and near, including representatives from many sister colleges.

At nine o'clock the promenade commenced and all went merrily to the inspiring strains of Fralick's orchestra. A pleasing feature of the programme was that those taking part were students and ex-students. Miss Freeland, always popular among the students, was at her best and received a well-deserved encore. Mr. Cooper delighted

everyone with his selections while all were unanimous in their praise of Mr. Close's perfect rendition of Raff's "Cavitina."

After the last concert number the orchestra played in the "gym." and the beautiful maidens and handsome cavaliers tripped the light fantastic to the entrancing strains until an early hour when the guests reluctantly departed.

Much praise is due to the energetic and untiring efforts of the committee especially the fairer members and their helpers, who deserve the credit for much of the success of the event. The committee was as follows: Misses Gardner and McKim, and Messrs. Bosman, Murray, Graham, Ryrie, Weir, Wright, Auld and Van Sickle.

Union Literary Society.

An enjoyable evening's entertainment was provided by the Union Literary Society, on January 21st, when the first meeting of the term was held.

A pianoforte solo, a selection from the Scottish minstrelsy, by Miss Eva Beard, was cleverly and tastefully rendered.

Dr. J. Hugo Reed, the genial and popular Honorary President of the Society, in thanking the members for the honor conferred upon him in electing him to the position, made, as might be expected, one of his usual humorous speeches. His witty advice to the fair sex upon things matrimonial created much amusement and paroxysms of laughter.

Mr. G. S. Taylor delivered, in hearty fashion, the old Irish Song, "Off to Philadelphia."

The debate of the evening—"That the means of subsistence for the human race will in the future be insufficient, rendering poverty, famine and starva-

tion inevitable," brought forth much argument.

Mr. Landels, the leader of the affirmative, in the course of a clear, lucid speech sought to prove that the world lacks in sufficiency of means of subsistence for the human race, by setting forth the arguments that the death rate is diminishing in greater ratio than the birth rate, there being thus an increasing world population. This, he said, was due to improved medical service. He further sought to show that area of productive land and its capacity for production remains a constant factor, and that man is entirely dependent upon nature.

Mr. Rebsch, the leader of the negative, in the course of his speech, which though carefully prepared, lacked slightly in force, attacked the main argument of the affirmative and proceeded along scientific lines to show how in human history nations disappeared because of their adopting unnatural modes of life. War and disease, as of old, he also maintained, would tend to regulate human increase.

Mr. Spry, the supporter of the affirmative, in his fluent speech, also proceeded along scientific lines to meet the arguments brought forward by the negative side. He sought to prove that the world's supply of nitrogen was decreasing, the ultimate result being that plant and animal life would decrease. He also sought to show by reference to astronomical observations that the earth is tending toward greater extremes of heat and cold, these conditions being favorable to a decrease in animal and vegetable life.

Mr. Sackville, delivered a fluent and carefully prepared speech, and set forth some good arguments. He pointed out that in almost every coun-

try the agricultural resources were being greatly improved and developed by science. He further emphasized the possibilities of intensive farming by apt illustrations from small countries like Denmark and the Netherlands. He also referred to the economic side of agriculture and to its importance as a potent factor in preserving the food supply of the world.

The debate was awarded by the judges to the negative. It must, however, be pointed out that the affirmative had by far the most difficult case to prove.

Miss Alice Jackson with a vocal solo, sweetly rendered, delighted the audience.

Mr. E. A. Howes, who is always good on French Canadian selection, recited in excellent style, "A French Canadian Courtship." In response to an encore he gave with equal excellence of rendering, "The Wreck of the Jule Laplant."

This was followed by an excellent pianoforte solo by Miss Irene Smith.

Mr. Wm. Squirrel acted as critic of the evening's performance, and in a few well-chosen words dealt with the merits and demerits of the speeches delivered.

The singing of "God Save the King" brought a pleasant evening's entertainment to a close.

The Skating Party.

The successful issue of the skating party given by the class '12, last year, was ample reason for a repetition of the same this season, and the date was set for February 1st. One would naturally think that the students would scarcely have recovered from the effects of the "conversat" which took place but a day or two previous, nevertheless, a glimpse of the crowd in the Royal City

Rink on the night in question would have dispelled all traces of such an idea. The third year men well remembered the good time they had last year and were out again to make the party a success. Finding themselves lacking in numbers, men from the other years were invited to make up the deficiency, so that once the programmes were filled and before the first band was half over there were few indeed who did not make the corners conspicuous by their absence. And so it was during the entire programme. Everyone skated, everyone found a partner, everyone seemed to enjoy it. The music was all that could be desired; and since good music, dainty refreshments, good ice, and good partners makes a strong combination, is it any wonder that such an event passed off as successfully as it did.

The Cricket on the Hearth.

The Union Literary Society executive are to be congratulated indeed upon securing the services of the Dickens Dramatic Club of Toronto, for the evening of Friday, February 10th. The newly remodeled stage in the "gym" was well equipped for an occasion of this kind, and with the scenery brought by the company the actors had a splendid opportunity to do their best, and so it seemed. The play was interesting throughout and was well staged from start to finish and was well deserving of a better house than it received. However, this was not the fault of the play. College social functions have been coming thick and fast and for that reason the attendance was not all that could be desired. Nevertheless, the student body will be only too pleased to welcome to their midst on any future occasion the Dickens Amateur Dramatic Club from Toronto.

Alumni

O. A. C. Ex-Students Banquet in Ottawa

THE remark is frequently made that "small beginnings often lead to great ends." The truth of this saying was demonstrated in Ottawa by a recent occurrence. About a month ago some nine or ten ex-students of the O. A. College gathered together to discuss old times, and incidentally to devour sundry good things which had been provided for the occasion. So enjoyable did the gathering prove that a suggestion that something on a larger scale be attempted, which would include ex-students living outside the City of Ottawa, found immediate favor.

The result was a most enjoyable banquet which was held on Thursday evening, January 19th. Those in attendance numbered forty. The classes represented ranged from that entering the College in the autumn of '1875, to that which began its history but two years ago.

Dr. Jas. Mills and Dr. J. G. Rutherford were the principal speakers of the evening, and both indulged in many reminiscences of episodes of long ago, during their residence at the College.

During the evening a resolution was unanimously adopted that an O. A. College Alumni Association, with headquarters at Ottawa, be formed. Following the adoption of this resolution the following officers were elected: Honorary President, Dr. Jas. Mills; Honorary Vice-Presidents, Dr. Jas. W.

Robertson, Dr. J. G. Rutherford, and Dr. G. C. Creelman; President, G. H. Clark; Vice-President, E. D. Eddy; Secretary-Treasurer, R. J. Allen; Committee, R. S. Hamer, S. Kennedy, and H. Sirett.

It is the intention of the association to arrange for an annual banquet, which will have for its object the bringing together of ex-students of the O. A. College resident in, or in

the vicinity of, the City of Ottawa.

Appended hereto is a complete list of those present at the banquet.

Dr. Jas. Mills, 1879-1904, Ottawa.
 Dr. J. C. Rutherford, '75-'76, Ottawa.
 H. S. Arkell, '04, Ottawa.
 Geo. A. Putnam, '90-'02, Toronto.
 J. B. Spencer, '94, Ottawa.
 J. W. Kennedy, '07, Apple Hill.
 F. C. Nunnick, '10, Ottawa.



AN O. A. C. PYRAMID.

- R. S. Hamer, '07, Perth.
 T. G. Bunting, '07, Ottawa.
 W. J. Hartman, '07, Bozeman, Montana, U. S. A.
 R. J. Allen, '09, Ottawa.
 Chas. Murray, '08, Ottawa.
 C. R. Bradley, '88, Carsonby.
 W. D. Monk, '90, South March.
 C. I. Halliday, '06, Ottawa.
 T. H. Gamble, '06, Ottawa.
 T. H. Binnie, '07, Toronto.
 C. R. Klinck, '06, Guelph.
 R. B. Cooley, '10, Macdonald College, Quebec.
 S. Kennedy, '10, Ottawa.
 O. C. White, '10, Ottawa.
 C. E. Craig, '01, Summerland, B. C.
 P. S. McLaren, '80 and '90, McGarry.
 J. M. McIlquham, '12, Lanark.
 B. F. Shaw, '12, Drummond.
 Jas. A. Hayes, '08, Sheffington, Que.
 H. Sirett, '09, Ottawa.
 J. A. McLean, London.
 A. D. Campbell, '09, Morrisburg.
 E. L. Hodgins, '09, Portage du Fort, Quebec.
 N. D. MacKenzie, '09, Alexandria.
 W. D. Jackson, '09, Carp.
 W. L. Bengough, '10, Grimsby.
 E. D. Eddy, '05, Ottawa.
 G. O. Higginson, '96, Hawkesbury.
 H. Groh, '08, Ottawa.
 J. J. Groves, '05, Antrim.
 Hugh Craig, '88, Carsonby.
 R. H. Grant, '80, Hazeldean.

Alumni.

C. Roscoe Brown attended the O. A. College with class '86. He is at present teaching in the Collegiate Institute, at Saskatoon, and is also Agricultural Editor of the "Weekly Phoenix."

E. G. de Carolios, of '03, has been manager of the Edwardsburg Starch Works, at Cardinal, Ont., for some time. He recently resigned to take

the position of manager of the Peau Park Farm, at Brantford.

That there are some people who believe firmly in the future of the Niagara Peninsula fruit industry is demonstrated by the fact that Mr. E. G. McCallum, an associate of the O. A. College of class '87, has sold his farm near Grimsby and has purchased six acres near the same town for which he paid eleven thousand dollars. By the practice of intensive farming, Mr. McCallum expects to make a good living off that small acreage. It is enterprising fruit farmers like Mr. McCallum who have developed the fruit industry of the Niagara District until its fame has spread over the length and breadth of the Dominion.

On January 31st and February 1st, 2nd, 3rd and 4th, in Essex County, was held the greatest corn show ever held in Canada. The following are some of the "Old Boys" who were there: Dr. G. C. Creelman, A. McKenny, Mr. McLean, A. P. McVannel, P. E. Angle, W. H. Dolson, C. R. Stevenson, L. S. Klinck, G. A. Putnam and S. E. Ford.

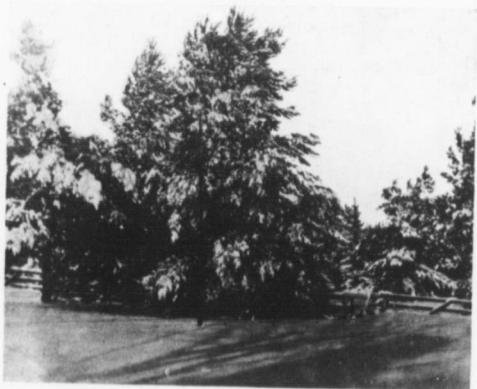
Quite frequently we hear of our graduates turning their attention to pursuits other than agriculture. Such was the case with Adam N. Davis, a graduate of '98, who is now a coal dealer in Cobalt. He landed there when the town was new and succeeded in making good. He is married and has a beautiful home.

C. E. Creig, '03, was at the O. A. College this month attending the short course in horticulture. He is farming near Summerland, B. C., and reports good times in that part of the country.

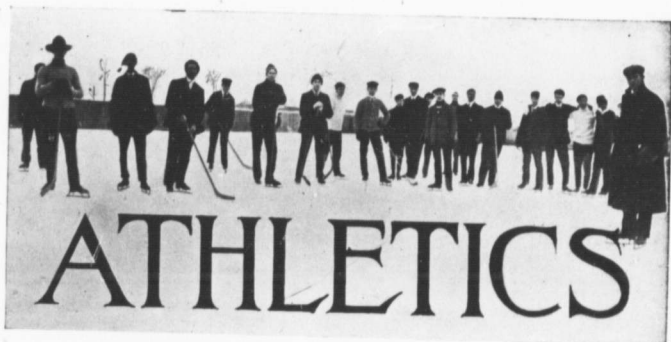
W. E. Whitter, '07, writes as follows from Lorneville Jct., Ont.: "Just a few words to the "Old Boys" that have scattered far and near over our fair Dominion.

"For two years I have been following mixed farming, just half a mile from my native village, and have been trying to put into practice the theories and principles learned at the O. A. College

in the days of yore. It has been my experience and also the experience of others, that farming does not pay without a helpmate, therefore, to overcome that difficulty I took unto myself a 'maiden fair.' I now have a sturdy young son, who, I hope, will some day, attend the institution which did so much for me."



O. A. C. CAMPUS, DEC. 30, 1910.



Basket Ball.

THE first exhibition game of the season was played between Hamilton and O. A. College on February 3rd. It was perhaps in every particular the best game of basketball seen here in some time. There were a large crowd of spectators present to witness the game and to say that they were satisfied with the result would be putting it far too mild, for excitement reigned supreme and there was one continuous outburst of applause in appreciation of the good plays thus showing the popularity of the game.

From start to finish excepting for a few minutes at the beginning when College seemed a little bewildered there was no let-up. Both teams were in excellent shape to stand the heart-rending pace.

In the beginning it was all Hamilton, for in the first fifteen minutes of play the score was 16-2 in favor of Hamilton, but just then College woke up and got busy, and at the end of the first half the score was 21-18.

After the usual five minutes' rest, play was resumed and in this half College had much the better of the play. Neff and Baker being able to score al-

most at will and indeed it seemed as though there was some magnetic attraction between the basket and ball, for every time Jack shot it was a sure point. But with all this stellar playing on the part of College, it was anybody's game right up to the call of time, when it was seen that College led by 1 point, the final score being O. A. College 40, Hamilton 39. O. A. College was represented by Main, right guard; White, left guard; Culham, center; Baker, right wing; Neff, left wing.

Galt vs. O. A. C.

The second exhibition game of basketball of the season was played between O. A. College and Galt, on February 9th. It was whispered around College that the Galt bunch were very fast and that a good game might be expected, but those who witnessed the game were very much disappointed to say the least, for even in the warm up before the game it could easily be seen that Galt were inexperienced in handling the ball and this fact was clearly demonstrated during the game.

College won the toss and chose the west end basket. Right from the start they began scoring and didn't stop until the end of the game. At the end

of the first half the score was 29-10 in favor of College. The second half was even less interesting than the first. In this half a Galt man had the misfortune to fall and sprain his wrist. He was forced to retire, Culham going off to even up. From now on O. A. College had everything their own way, and when the final bell rang the score was O. A. College 50, Galt 19.

Line-up—Main, right guard; White, left guard; Culham, centre; Baker, right wing; Bramhill, left wing.

Hockey.

In the Intermediate O. H. A., Lyons-G.A.C. lost the district to Preston, who went through the schedule without a defeat. Up until the last two games our prospects of winning were rather bright, for before them Lyons, O. A. C. were winning everything in sight. If we could but win from Berlin and also from Preston we would tie the latter team for district honors, but the game at Berlin, however, shattered all hopes, the home team winning by a score of 8-0. Then when Preston played here they also defeated us by a score of 9-0. In all the district games College was represented by three men and the Lyons by four.

In the Town League, College so far have played but two games, one with Page-Hersey and the other with Taylor-Forbes, both of which defeated us by small scores.

The game with Page-Hersey was an all-around good game of hockey. It was very fast and closely contested, although the score indicates otherwise. The ice was in excellent condition for fast hockey, and it was owing to the

good work of the Page-Hersey goalkeeper that the score was not more even, for shot after shot was rained on the goal, but was nearly always turned aside by Hebden. There was some very good team work displayed by both sevens, but individual rushes were the order of the night. The final score was 11-2 in favor of Page-Hersey.

Line-up—Goal, Pawley; point, Kedey; cover, Clement; rover, French; centre, Clark; right wing, Weld; left wing, McDonald.

The second game was with Taylor-Forbes, on the 7th February, which was very fast and interesting to watch, the final score being 4-3 in favor of Taylor-Forbes. Both teams put up a good fast game of hockey from start to finish, and there was little to choose between them at any stage of the game. The ice was in excellent condition for fast hockey. In this game also there was some nice combination on the part of both teams, but one man rushes were the order of the game, especially by the defence men who time and again got away for great rushes up the ice only to loose the puck or shoot on goal when a pass to centre would be more useful. To the goal keepers of both teams is due the credit of the small score for they repeatedly stopped shots which looked like sure goals. Bert Booth refereed to the satisfaction of all, his decisions being prompt and impartial on all occasions.

Line-up—Goal, Baldwin; point, Clement; cover, Kedey; rover, French; centre, Clark; right wing, McElroy; left wing, McDonald.





The Practical Value of Technical Training in Domestic Science in the Home

MANY people consider technical training in Household Economics a fad, not a necessity. More particularly was this the case in the pioneer days of the work, but such decided benefits have already arisen that even the most skeptical are rapidly becoming converted. The object of this article is not to discuss this question but merely to state a few of the practical benefits which have already been proven by the writer.

To my mind the arousing of interest is the greatest benefit of all. Housework is commonly considered a drudgery—and it is frequently made such. If it be approached from the right standpoint it becomes a pleasure and not a drudgery. When mental labor supersedes manual labor an occupation becomes a profession and it is quite possible to raise Domestic Science in the home to the dignity of a profession. Interest and pride of work are closely co-related. It makes a vast difference whether we are doing a piece of work merely to get it finished or because some one has told us to do it or whether we are doing it upon your own initiative

and with a desire to have it completed in the most finished manner. The knowledge obtained through the allied sciences of chemistry and bacteriology add materially to the interest. Let me illustrate this by a concrete example. Take the common commodity, vinegar. The untrained housekeeper will know that it is vinegar and will probably know the kind, but that is about all she will know. The technically trained housekeeper will know the chemistry and bacteriology involved in its manufacture and in figuring out just why there is an undue amount of the mother of vinegar present will forget the labor necessary in straining the vinegar and washing the strainer.

Technical training inspires a great degree of confidence. When a piece of work is to be attempted one does not stop to think whether one can do it, or whether one has done it before, but one simply does it. The trained housekeeper can follow a receipt intelligently and unless the manipulation is exceedingly difficult no difficulties are encountered even in an untried receipt. The ground work of methods

and proportions is so thoroughly understood that the probable results of a receipt are quickly known and if necessary, if these methods and proportions are violated, it can be revised in order to ensure good results. If a dish is not a success—take for example a cake—the trained housekeeper is not likely to wring her hands and bemoan her bad luck but will set about finding out the cause of her failure. She will look into the temperature of her oven and will satisfy herself as to the condition of her ingredients and the correctness of her methods of mixing. In all probability the error will be detected.

In Domestic Science as in other technical work the head and hands are trained to work together and by using one's brain considerable manual labor is saved. In the days of our grandmothers the housewife worked from early morning until late at night, but this is not the case now. By the use of more convenient appliances, by the manufacture of many articles outside the home and by the evolving of a systematic method of working the length of time needed for doing the necessary work has been so shortened that now the housekeeper has sufficient leisure to follow other studies and other pleasures.

How much does the average housekeeper know about food values? Practically nothing. She has very little idea

whether the food given, satisfies the needs of her family either in the amount supplied or the proportion of the different food constituents. It is highly possible, indeed it is frequently the case, that a woman may be what is termed a good cook without ever having had any technical training, that is, the food cooked is palatable, but there are different methods of arriving at palatability and the method used by the untrained housekeeper may have been one which would destroy practically all the food value of the dish. Until the housekeeper is trained in Food Values and Economic use of foods, the cost of living will always be one of the most discussed questions of the day.

Sometimes one is almost tempted to think that a Domestic Science training is not an unmixed blessing. To put it mildly it is rather wearing to live up to a reputation. Nothing short of perfection is expected from a Domestic Science graduate and for the sake of one's own reputation, the reputation of Domestic Science schools in general and Macdonald Institute in particular, one is spurred on to do the best possible work. While in training the value of the Domestic Science methods is realized but it cannot be appreciated to its fullest extent until it has been put into practice in the home.

Jessie A. Allen.



Among Ourselves

The Conversat.

THE conversat is a thing of the past. The decorations were very elaborate, yet simplicity accompanied with perfect detail seemed to prevail. Apparently beauty was striven for rather than gorgeousness in the planning of the decorations.

There were beautiful effects in the arrangement of potted plants and cut flowers in the lofty dining-room. Tall, white and brilliant colored natural lilies sprung from banks of choice ferns. Everything was designed to bring out rather than disguise the splendid architectural proportions. Bright, open wood fires burned cheerily in the pink-shaded, flower-filled drawing rooms and library. The gymnasium was perhaps the room most admired. Suspended from the rafters were square log-cabin baskets filled with clever counterfeits of pink roses massed with natural fern, the walls were festooned with green and a soft light was diffused from dozens of Japanese lanterns, each concealing an electric bulb. The whole effect was indescribably picturesque.

Refreshments were dispensed on the top floor which was a positive bower of spicy evergreen and flaming poinsettia. The guests were served from long tables attractively decorated in red carnations and all were happy to avail themselves of the refreshing punch and ices.

To enhance the effect a splendid orchestra discoursed excellent music on the first floor while an appropriate programme was rendered in the "gym."

To many of the youngest students the conversat had all the excitement of a new experience, but even to those familiar with the social whirl it was an occasion of unusual enjoyment, in such fairy-like surroundings. It was quite impossible to resist the prevalent spirit of pleasure.

R. E. F.

The Skating Party.

Even while the plans for the conversat had not yet been carried out there appeared on the bulletin board in the Hall an invitation for the Mac girls to a skating party from the Third Year men. A flutter of excitement went all around, and every one said, "How perfectly great," and looked forward in eager anticipation in spite of the conversat intervening.

When the evening arrived two special cars took the pleasure-loving girls down to the Royal City Rink and as soon as they got inside, they forgot the world and all else but the evening before them. No one could fail to detect the genial hospitality of the Third Year men, which seemed to pervade everything. As soon as the programmes were filled skating began. The ice was in splendid condition and the music excellent.

The evening passed altogether too quickly, which was shown by the shout that went up for more extras at the close. Some of the skaters could not even be persuaded to leave the ice while it was being scraped, and a general feeling of keen enjoyment was in evidence during the whole evening.

Dainty refreshments were served

during seven bands, so there was no over-crowding in the serving-room.

The next day the girls anxiously watched to see if Old Bruin, on com-

ing, from his winter sleep, would see his shadow and go back, indicating that we would have a longer winter and perhaps—another skating party.

E. A. M. B.

Much Ado About Nothing

B.—Did you get many stars these exams?

J.—Stars! Why, when I opened my report I thought I was looking at the milky way!

◇ ◇

K.—What kind of a pilay is it?

F.—O, Noah and his family used to sing the pieces from it on the ark.

◇ ◇

The boy stood on the burning deck,
He stood upon his head,
Because his arms and legs were off;
He waved his sword and said:—
I am Sir Norval,

Upon the Grampian Hills
The village smithy stands,
The smith a mighty man is he
And by him sported on the green
His little grandchild, Wilhelmine,
The doctors had given her up, sir,
The darling of our crew,
The Duke of Argyle turned deathly
pale

All for that bit of blue.
Now who will stand on my right hand
And keep the bridge with me?
The father answered never a word,
For a frozen corpse was he.
Wear your seal skin cap and mittens
When you call me on that day,
For I'm to be Queen of the May,
mother,
I'm to be Queen of the May.

Not having any family mottos to live up to, the Seniors have invented them, and are going to have them engraved on their note paper, silver, and everywhere else where mottos would be appropriate. Here are a few:

"To teach the multitudes to use more cereals."

"Not to throw skim milk to the pigs."

"To fry a golden brown and drain on crumpled paper."

"To make an attractive, appetizing and nutritious bread pudding."

◇ ◇

Miss B.—You would be a good dancer only for too things.

Mr. M.—What are they?

Miss B. (innocently)—Your feet.

◇ ◇

Darn—What is this?

Tiny—It's bean soup.

Darn—I don't care what it has been;
I want to know what it is now?

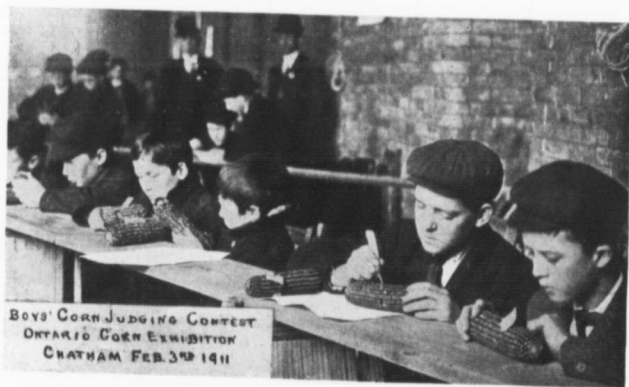
◇ ◇

Fleurie made an angel cake
For her darling Bruce's sake,
For her sake.
Bruce he ate it every crumb,
Then he heard the angel's drum
Calling softly, "Bruce, come."
Bruce went.

Schools' and Teachers' Department

Devoted to those interests of the Ontario Agricultural College which pertain particularly to the training of teachers for giving instruction in the schools of the Province along vocational lines—in Home Economics, Industrial Arts, Elementary Agriculture and Horticulture.

ELEMENTARY AGRICULTURE.



THE JUNIOR DEPARTMENT OF THE ONTARIO CORN GROWERS' ASSOCIATION.

The third annual Ontario Corn Exhibition, held at Chatham, from January 31st to February 3rd, showed again the remarkable interest that has been awakened in the counties lying in the Western Peninsula on the question of corn improvement.

One of the most promising features of this exhibition was the work of the **Junior Department**, organized this year with Mr. J. H. Smith, M.A., Public School Inspector, as Superintendent. With the schools of Kent and Essex joined in the study of this all-important field crop it was recognized that the best hope of permanent interest and progress was assured. The work undertaken by the teachers in this behalf has given an impetus to the introduction of instruction in Agriculture in the schools, which may be expected to bring about a wide adoption of school gardens throughout the Western Peninsula. There are not many parts of Ontario so thoroughly awakened to the benefits of agricultural education. In a measure this is evidenced in the salaries paid to teachers qualified for the service. In not a few schools in Kent lady teachers are receiving salaries of \$600.00, and in some cases \$650.00.

In the School Children's Corn Exhibits there were about 325 entries.

Competitions were held for the best five ears of each of the following: Yellow Dent, White Dent, Eight-Rowed Flint, Twelve-Rowed Flint and Pop Corn. A silver cup, valued at \$50.00, known as the **J. A. Fletcher Trophy**, was competed for. It will be awarded to the boy or girl in the Township of Tilbury East, who takes the prize three times for the best five ears of corn of any variety. Two shields were competed for also. The **Van Gunter shield** will be given to the school that succeeds in securing the highest credits for its exhibits three times. The **McCoig shield** goes to the school that can send up a winning team of boys for three years in a Corn-Judging and Scoring Contest.

This Corn-Judging Contest excited a good deal of interest. The picture shows some of the boys at the work. Thirty-one schools were represented by teams. They had been trained at their schools in the use of the official score card, and did excellent work; in many cases showing a grasp of the principles of selection possessed by few adults. Their appreciation of what constitutes good seed speaks well for the future prospects of seed improvement in many school sections. For the exhibits made this year, pupils selected their corn from their father's crop. In some cases children grew their own; this side of their work will be encouraged.

We reproduce here the score card used by the teachers in Kent and Essex. It is that adopted by the Ontario Corn Growers' Association and may be found useful as a guide in practical Nature Study in schools located in districts where corn is one of the important field crops. A training in observing, thinking and judging based on ears of corn may have educational value equal to any training derived from experimental work in other branches of science such as physics or chemistry. And in life-interest values, such studies must be acknowledged worthy of adoption in thousands of schools in Ontario.

SCORE CARD FOR SEED CORN.

As Adopted by the Ontario Corn Growers' Association—Suggested as a Guide for a School Study of Corn.

SCALE OF POINTS		Possible Score	Ear 1	Ear 2	Ear 3	Ear 4	Ear 5
TRUENESS TO TYPE							
	<i>The five ears in the sample should possess similar or like characteristics and should be true to the variety they represent</i>	10	.....	.....	.....	.....	.....
SHAPE OF EAR							
	<i>The shape of the ear should conform to the variety type. The ear should be full and strong in the central portion and not taper too rapidly towards the tip. A full strong ear indicates strong constitution and good yield.</i>	10	.....	.....	.....	.....	.....
COLOR OF KERNELS							
	<i>The color of the grain should be true to the variety and free from mixture. Differences in shade of color such as light or dark red, white or cream color, must be scored according to the variety characteristics.</i>	5	.....	.....	.....	.....	.....
COLOR OF COB							
	<i>In Dent Corn a yellow ear should have a red cob, a white ear a white cob. Where exceptions to this rule occur all cobs in the sample should be of uniform color.</i>	5	.....	.....	.....	.....	.....

SCALE OF POINTS		Possible Score	Ear 1	Ear 2	Ear 3	Ear 4	Ear 5
VITALITY, OR SEED CONDITION							
Seed Corn should present a healthy, vigorous appearance and give evidence of being capable of producing strong, vigorous growth and high yield. Starchy, immature or pointed kernels are objectionable, as are also kernels with chaff or cob adhering to the tip, or kernels from which the tip cap has been removed, exposing the black coloring of the germ. Blistered germs and shrunken, blistered backs are the strongest evidences of impaired vitality.....		15	.....	.....	.....	.....	.....
TIPS OF EARS							
In form the tip should be regular and the kernels uniform in shape and size. The proportion of tip covered or filled must be considered. Long, pointed tips, as well as blunt, flattened or double tips are objectionable.....		5	.....	.....	.....	.....	.....
BUTTS OF EARS							
The rows of kernels should extend in regular order over the butt, leaving a deep depression when the shank is removed. Open and swelled butts, depressed and flat butts with flattened glazed kernels are not desirable.....		5	.....	.....	.....	.....	.....
UNIFORMITY AND SHAPE OF KERNELS							
The kernels should be uniform in size and shape, making it possible to secure uniformity in dropping with the planter. The kernels should be not only uniform on the individual ear but also uniform with each ear in the sample. They should also be uniform in color and true to variety type. The kernels should be so shaped as to touch from tip to crown. The tip portion of the kernel is rich in protein and oil, and hence of high feeding value.....		15	.....	.....	.....	.....	.....
LENGTH OF EAR							
The length of ear varies according to the variety type and the characteristics sought for by the individual breeder. Uniformity in length is to be sought for in a sample, and a sample giving even length of ears should score higher than one that varies, even if it be within the limits. Very long ears are undesirable because they usually have poor butts and tips, broad shallow kernels, and hence a low proportion of corn to the cob.....		5	.....	.....	.....	.....	.....
CIRCUMFERENCE OF EAR							
The circumference of the ear should be in symmetry with its length. An ear too great in circumference to its length is generally slow in maturing, and too frequently results in soft corn. Measure the circumference at one-third the distance from the butt to tip of the ear.....		5	.....	.....	.....	.....	.....
FURROWS BETWEEN ROWS							
The furrows between rows of kernels should be of sufficient size to permit the corn to dry out readily, but not so large as to lose in proportion of corn to cob.....		5	.....	.....	.....	.....	.....
SPACE BETWEEN TIPS OF KERNELS AT COB							
This is very objectionable as it indicates immaturity, weak constitution and poor feeding value.....		5	.....	.....	.....	.....	.....

SCALE OF POINTS

PROPORTION OF CORN TO COB

The proportion of corn is determined by weight. Depth of kernel, size of cob, maturity, furrows and space at cob all affect the proportion. In determining the proportion of corn to cob weigh and shell every alternate ear in the exhibit. Weigh the cobs and subtract from the weight of ears which will give weight of corn. Divide weight of corn by the total weight of ears which will give the percentage of corn. The percentage of corn should be from 85 to 86. For each per cent. short of standard a cut of one to one and a half points should be made

Possible Score	Ear 1	Ear 2	Ear 3	Ear 4	Ear 5
10					
100					

Varieties of Corn Scored.....

Name of Scorer.....

TERMS FOR DESCRIBING CORN.

Shape of Ear—Cylindrical, tapering, very tapering. **Length of Ear**—Long (over 9½ inches), medium (7½ to 9½ inches), short (less than 7½ inches). **Circumference of Ear**—Large (over 7½ inches), medium (5½ to 7½ inches), small (under 5½ inches). **Color of Kernel**—Yellow, white, red, variegated. **Indentation of Kernel**—Smooth, dimpled, deeply dented. **Shape of Kernel**—Wedge, round, square, parallel-sided, pointed. **Length of Kernel**—Long, medium, short. **Number of Rows of Kernels**—Many (20 or more), medium (14 to 20), few (under 14). **Space Between Rows**—(At crown of kernel) wide, close; (at cob), wide, close. **Arrangement of Rows**—Distinct, paired. **Tips**—Covered, exposed. **Swell of Butt**—Deeply rounded, moderately rounded, flat. **Size of Butt**—Enlarged, uniform. **Size of Shank**—Small, medium, large. **Size of Cob**—Small, medium, large. **Color of Cob**—Red, white.

SCHOOL GARDENING IN WINNIPEG IN 1910.

(The following report is contributed by Mr. H. W. Watson, a student in last year's Summer School. Mr. Watson is active in promoting gardening in Manitoba schools.)

In spite of the dry season, the school gardens were generally quite successful. The number of schools participating in this variety of school-work had increased from three of the former year to nine.

The Horticultural Society this year greatly encouraged the work of the children. At its annual exhibition, September 1st, 2nd and 3rd, prizes were given for exhibits from children of all grades, in Vegetables, Potted Plants, Cut Flowers, and Window Boxes.

One of its members donated a silver cup to the school whose children won the greatest number of points. In addition to this, the Society gave prizes to each school for the best three Home Gardens in connection with the school, also for the best three cultivated by the children at home.

Principals and teachers invariably testify that this is the most enjoyable work ever attempted in connection with school life.



Our Johnston is a character of which
we should be proud,
His speech is very soft and low and
never nothing loud,
He is innocent and gentle, a sweet and
docile thing,
Just like the little woolly lamb that
hops around in spring;
He is modest and retiring with smooth
round baby face,
And would not think of eating unless
he first said grace.



An Up-to-Date Farmer.

He rises at 6:30, baths, and partakes of a little tea and toast brought up to him by the butler. He then sallies forth to the barn, microscope in hand, on the lookout for bacteria. He discovers several robust specimens in the morning's milk and forthwith delivers a lengthy lecture to the unbelieving herdsman, who has serious doubts as to his master's sanity. After breakfast he proceeds to study the market reports for the day, as he has three dozen eggs, a load of hay and a pig to send to

market. The question arises in his mind as to whether it would be better to sell the eggs or to consume them on the farm, but, after searching through Warrington's "Chemistry of the Farm" he fails to find the composition of eggs given, so he decides to eat them.

Then, after calculation, he finds that the manurial value of the load of hay amounts to 23.758 cents, and therefore he instructs his teamster to purchase bee-manure to that amount.

He also discovers that the pig has been raised at a loss of 5.63 cents and proceeds to take this debit out of the pig with a broom-handle.

He then proceeds to calculate a balanced ration for the noon-day meal and finds that pigeons-milk, 1 part, middlings, 2 parts, and horse-radish with the white of an egg will give excellent results, provided the pigeons receive a slightly more nitrogenous ration.

He then starts out to inspect the farm, not forgetting to take his botanical collecting box, butterfly net and cyanide bottle. Noticing a particular-

ly rare insect flying across his path, he careers madly after it, upsetting a hive of bees, and so astonishing a team of horses plowing, that they stampede with the plow, scattering it over the field in pieces and carrying away about twenty rods of fence. However, he captures the insect and carries it home in triumph, at the same time commenting quietly to himself about the plow and fence in the German language, learned at the O. A. C.

In the afternoon he drives in his automobile to the station to meet a professional landscape gardener, and obtains his views on laying out his front lawn, twenty rods by fifteen. He pays the man twenty dollars and decides not to follow his advice.

He then remembers that he has not liberated any chickens from the trap-nests for three days. So, after retiring to the henhouse, he kicks himself and proceeds to liberate the chickens, who firmly resolve never to lay another egg for him.

At supper time he dispenses with balanced rations and consumes a good square meal. He feels well satisfied with the day's work in consequence. He then receives the reports of his employees on the day's work and on the various experiments being conducted. He orders the execution of the cat which has completely ruined his germination tests. Lastly he calculates the number of cubic feet of air space in his bedroom and retires to slumber peacefully with the assurance that there are no species of *Fleabitibus jumpiensis* in his vicinity to disturb his well-earned repose.

D.—I hardly knew Henderson at the hockey match.

B.—Why?

D.—Because he had a "beard."

Darling visited London, England, some time ago. One evening he took a taxicab. When the chaffeur eventually woke him up the following conversation took place.

Darling—How much, Mr. Shuvver?

Chaffeur (after looking at dial)—One pound, eighteen shillings and fourpence.

Darling—Well, go back till you come to half a crown, that's all I got.



Mr. Crow (lecturing on Pomology)—I was recently asked to visit the site of the new prison farm, to decide on the location of the orchard, and on the variety of apple trees most suitable to plant.

Moorehouse—What variety did you advise, sir?

Mr. Crow—Spies, of course.

Doctor (cheerily)—Well, my boy, how are you to-day? Aches and pains all gone?

Campbell—Yes, thanks, doctor. But it hurts me to breathe; in fact the only trouble seems to be with my breath.

Doctor—That's alright. I'll give you something that will soon stop that.



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Talk No. 3

Economy In Laying

By

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Metal Town

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Roofs covered with "Eastlakes" 25 years ago are in perfect condition to-day. That is the only sure test of quality.

Read about these roofs—some may be in your neighborhood. Send for our illustrated booklet, "Eastlake Metallic Shingles." Write to-day.

N.B.—An "Eastlake" roof means clean rain water for household use.

We also manufacture Corrugated Iron, House and Barn Siding, Metallic Ceilings, Eavetrough, Conductor Pipe, Ventilators, etc.

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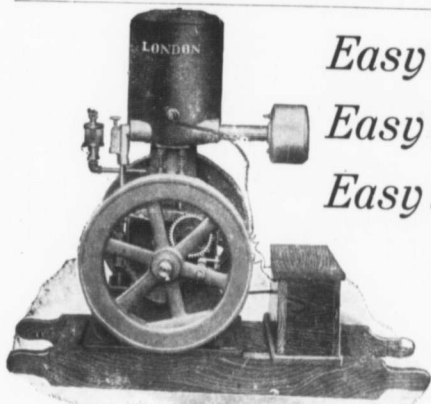
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A "LONDON" engine means a full water tank, plenty of cut wood, less time spent in doing routine chores, more work done,

less money for hired help, a full corn bin, a paying farm, and an opportunity to run your place on a business basis. The quicker you place your order the sooner you will get results from your engine.

LONDON GAS POWER CO. OF CANADA, Limited
LONDON, ONTARIO, CANADA

Please mention the O. A. C. REVIEW when answering advertisements.

Guelph seems to be the healthiest place in Ontario, at any rate the rate of morality is the lowest, according to the papers.

Fry (after helping himself to pudding)—Will you have some pudding, Powley?

Powley (after surveying both plates)—Er, which is the pudding?

Britton (finding Jarvis in bed at 8 a. m.)—Ah, my boy, you'll shorten your days by the life you are leading.

Jarvis—That's alright, I lengthen out the nights instead.

Freshette (examining anatomical specimens in the Institute)—Would you ever think there would be so many kinds of steaks?



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RUBEROID MAN



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Pronounce it RUE-BER-OID.

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EVERYWHERE

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ALL NO. 9 WIRE FULL GAUGE

Write for your copy of our catalog of Fence, Gates, Lawn Fences.
Agents wanted in unoccupied Territory.

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EVERY ROLL OF RELIANCE FENCE IS BUILT TO SELL ANOTHER!



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We also make poultry and ornamental fencing and gates—all of it of a quality that our customers appreciate and we are proud of.

Agents wanted in all unoccupied territory.

THE BANWELL HOXIE WIRE FENCE COMPANY, Limited,
Dept. AH, Winnipeg, Man. Hamilton, Ont.

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The human body does not improve with age. You may be insurable now, whereas next week or next year you may not.

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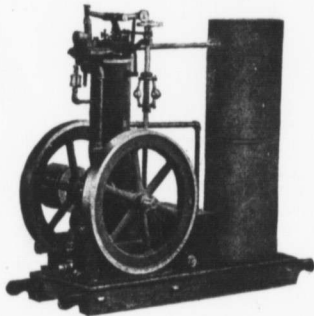
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Economic Questions.

What are the three varieties of labor?
Manual labor, hard labor and student labor.

What is Economics:

The art of living on fifteen dollars per week.

What are the causes of economic activity?

Icy sidewalks and orange-peel.

—Answers by Evans.

A student was seeking a position with a farmer last summer. He was offered the munificent salary of fifteen dollars a month and board, and asked if he would entertain the proposition.


He looked up into his enquirer's face with a smile and said—No, sir, your proposition entertains me.

Dr. Reed—This, gentlemen, is the skull of a nine-year-old horse.

Pickett—It seems rather small for a full-grown horse.


Dr. Reed—Well, you see this was his skull when he was a colt.

PURITY FLOUR



For bread,
for cakes,
for biscuits,
for pies—
the flour
that will win
and hold
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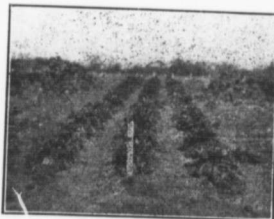
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View of Trial Plot at O. A. C., 1911
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**Keith's
 Prizetaker
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IT IS THE BEST !



30c. per lb., 5 lbs. or over @ 25c., postpaid.

You will now be planning out your wants in Seeds, etc., for the coming season. We would like to get some of your business. SEND for our price list, or write for samples of any SEED grain you may be in need of or for Red Alayke, Alfalfa, Clovers and Timothy. We are best known for our SEEDS FOR THE FARM, but our Vegetable and Flower Seed Trade is growing rapidly.

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No duty to pay, because it is made in Canada—short stopping distance means uniform quality. That's why Vanco gives results.

Vanco Lime Sulphur Solution Cleans the Trees and Saves the Fruit

Spray in the Spring if you want to harvest in the summer. Keep the fruit trees sprayed with VANCO LIME SULPHUR SOLUTION and you won't be bothered with San Jose Scale, Aphis, Bud Moth, Apple Scab, Leaf Spot, Pear Scab, and other parasites and fungi.

One barrel makes 12 barrels of the best spray for winter— and 40 barrels for summer spraying.

Guaranteed highest specific gravity, which is stencilled on every barrel.

Club Your Orders and Save Freight

Our book on spraying contains a lot of valuable information that you ought to have. Write for free copy.

Fertilizers

We also sell Nitrate of Soda, Muriate of Potash, Sulphate of Potash and Acid Phosphates.

CHEMICAL LABORATORIES LIMITED
VANCO

Chemical Laboratories Limited, Toronto
148-158 Van Horne Street

CHEMICAL LABORATORIES LIMITED
VANCO

Please mention the O. A. C. REVIEW when answering advertisements.

Weir (to advertiser)—I have called to collect a small sum of money from you which I think is outstanding. I am the new assistant business manager of our College paper.

Advertiser—Allow me to congratulate you, sir, on your appointment to a job of such permanency.

Lessen Your Labor

by using the
self-operating—up-to-date

ASPINWALL Potato Planter No. 3

Work accurate. Adjustment simple. Mechanical principles right. Durable—many in use from 10 to 20 years without a cent expended for repairs.

One person operates it.
Protect your crop with ASPINWALL SPRAYER. Orchard and Broadcast attachments furnished when desired, also attachment for Tomatoes and Cucumber Spraying. Write for catalog, also our new booklet, "The Potato." It contains information every farmer should have.

Aspinwall Manufacturing Co.
12 Main Street • Jackson, Mich., U. S. A.
World's oldest and largest makers of Potato Machinery

Canadian Factory, Guelph, Ont.

WE HAVE A VERY COMPLETE
STOCK OF

Entomological

and

Botanical Supplies

For Students

At Students' Prices

Alex. Stewart

CHEMIST

NEXT TO POST OFFICE

"Lots of People" like to insure in mutual life companies because in such companies they get the best results, and because the largest, strongest and best life companies in the world are, like the

MUTUAL LIFE OF CANADA

purely mutual. The sound financial standing of this Company is beyond question, as is also its ability to write policies on every safe and desirable plan on terms favorable and just to applicants.

GEORGE CHAPMAN, District Manager,

Office 8 Douglas Street,

GUELPH, ONT.

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A \$3,000 Stock Book Free

Contains 183 Large Engravings.

This book cost us over \$3,000 to produce. The cover is a beautiful live stock picture, lithographed in colors. The book contains 160 pages, size 6½x9½, gives history, description and illustration of the various breeds of horses, cattle, sheep, hogs and poultry. Many stockmen say if they could not get another. The finely illustrated veterinary department will save you hundreds of dollars, as it treats of all the ordinary diseases to which stock are subject and tells you how to cure them.

MAILED FREE. POSTAGE PREPAID.

Write for it at once and answer the following questions:

- 1st—Name the paper you saw this offer in.
2nd—How many head of stock do you own?

ADDRESS AT ONCE.

International Stock Food Co.

TORONTO, CANADA,
Sole Manufacturers of

INTERNATIONAL STOCK FOOD

THREE FEEDS FOR 1 CENT

INTERNATIONAL STOCK FOOD, 3 FEEDS FOR ONE CENT, is a purely vegetable MEDICINAL preparation composed of roots, herbs, seeds, harks, etc. It is equally good and very profitable to use with horses, colts, cattle, cows, calves, hogs, pigs, sheep or lambs, because it purifies the blood, tones up and permanently strengthens the entire system, keeps them healthy and generally aids digestion and assimilation, so that each animal obtains more nutrition from the grain eaten. In this way it will save you grain and MAKE YOU LARGE CASH PROFITS. You don't spend money when you feed International Stock Food. You save money because the GRAIN SAVED will pay much more than the cost of the International Stock Food. Refuse all substitutes and get paying results by using only the genuine International Stock Food.

THREE FEEDS FOR 1 CENT

Dan Patch Mailed Free

When you write for Stock Book mentioned above ask for a picture of Dan Patch 1:55, and it will be included free of charge.

International Stock Food Co.

TORONTO, CANADA.

The Canadian Route to the West

When you travel to Winnipeg, Western Canada or the Pacific Coast, be sure your ticket reads via the route that will insure you the most comfortable trip. The following reasons prove the superiority of the

Canadian Pacific Railway

1. The only through line; coaches, tourist and standard sleepers daily to Winnipeg and Vancouver.
2. The shortest and fastest route; unexcelled equipment.
3. The avoidance of customs and transfer troubles.

ASK ANY AGENT
FOR PARTICULARS



ASK ANY AGENT
FOR PARTICULARS

Commercial Cream Separator Oil

Brand No. 301.



This oil is manufactured at our works only. Beware of fraudulent imitations. This oil is free from gums and acids. Viscosity test very high. Low cold test, standing 15 degrees. There are no corrosive properties in this oil.



UNDERWOOD — the world's best typewriter — more generally used in Canada than all other makes combined.

75% of operators are trained on the Underwood.

United Typewriter Co. Ltd.

Toronto, Montreal, Winnipeg

Hamilton, London, Halifax, St. John, Edmonton

Official Calendar of the Department of Education for the year 1911

March:

1. School Boards in unorganized Townships to appoint Assessors. (Not later than 1st March).
- Financial Statements of Teachers' Associations to Department, due. (On or before 1st March).
- Separate School supporters to notify Municipal Clerks. (On or before 1st March).
31. Night Schools close (Session 1910-1911). Reg. 16. (Close 31st March).

April:

1. Returns by Clerks of counties, cities, etc., of population, to Department, due. (On or before 1st April).
6. Normal School Final Examination for Grade A students begins (Subject to appointment).
13. High Schools, second term, and Normal, Public and Separate Schools close. (Thursday before Easter Sunday).
14. Good Friday.
15. Annual Examination in Applied Science begins. (Subject to appointment).

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WE SHOW MANY EXCLUSIVE MODELS
IN MEN'S AND YOUNG MEN'S
SUITS AND OVERCOATS.

that cannot be procured in this locality outside of this store.

R. S. CULL & CO.

55 LOWER WYNDHAM ST.,
THE NEW CLOTHIERS.

Fowne's English Gloves,
Christy's English Hats.
Loosescarf American Collars.

McHugh Bros.

TOBACCONISTS

Dealers in High-Class Tobaccos,
Cigars, Cigarettes, Pipes, Pouches and
all Smokers' Articles.

Get a **BARON PIPE FILLER**—the
latest novelty for Smokers. Handy
and saves tobacco. 25c each. To be
had only at

28 LOWER WYNDHAM ST.

**BROADFOOT'S
RED CROSS
PHARMACY,**



Phone 381 - St. George's Square

MRS E. MARRIOTT, FLORIST.

Violets, Valley, Roses, Carnations,
always in stock.

Phone 378. 61 Wyndham St., opp. P.O.

FOR FIRST-CLASS WORK TRY

Lee Wing's Hand Laundry

57 Quebec St., Opp. Chalmers Church

Latest machinery — no frayed or
cracked edges to your linen when we
do your work.

We call for and Deliver Promptly.

We Have Them Shoes for street wear.
Shoes for evening wear
and shoes for all occasions. See our

Wauk-On Shoe at \$3.75

J. D. McArthur Successor to C. E. Rowen 16 Wyndham St

ERNEST A. HALES,

68 St. George's Square.
Sells the Best Meats
and Poultry.

Phone 191 Open all Day.

Royal City Mineral Water Works

Manufacturer of
HIGH-CLAS CARBONATED BEVERAGES

247 DROCK ROAD.

Phones—Works 582A A. REINHART
Residence 582B proprietor.

D. M. FOSTER, L.D.S., D.D.S.

DENTIST,

Cor Wyndham and MacDonnell Streets,

Telephone 14. Over Dominion Bank.

NOTICE

The best and most convenient Barber Shop for
O. A. C. Students.

WM. COON, ST. GEORGE'S SQ.

Street Cars every 15 minutes. Three chairs.
No waiting.

The College Boys Always Go to The
OPERA HOUSE BARBAR SHOP

First-Class Work
Guaranteed.

James Smith,
Proprietor.

MIDNIGHT SUPPERS.

Bacon, Oysters, Fancy Biscuits,
Olives, Pickles, Chocolates, etc.

J. A. McCrea & Son.

Lady Critic (criticizing Dairy Short Course students' debate)—This speech was not well enough prepared. Why, if I had a speech to give, I would sit up all night, if necessary, to properly prepare it.

Short Courser (gallantly)—And I would be quite willing to sit up with you, ma'm.

Lecturer—As far as possible, all departments at this College are now being run on a commercial basis.

Macdonald—Yes, even chapel service, I see.

French to Miss S. (during rink manager's absence)—Oh, you're leaving the ice early to-day.

Miss S.—There's no fun skating this afternoon.

The O. A. C. Students' SHOE STORE

We carry Shoes for the Young People. Our aim is to please and to give Students Dollar for Dollar worth of Wear for every cent invested. It will pay you to give us a call.

We carry popular price goods both in Canadian and American makes.

This is the Young People's Shoe Store. You will find the latest footwear at this store.

To all Students of O. A. C. we give 10% Discount on Footwear

Evening Shoes in Pumps or Slippers, Patent Gun Metal and Poplin, all the leading styles. Our stock is especially assorted to meet the needs of Students. When you buy shoes here they are insured by our guarantee. Money Refunded if goods are not satisfactory.

J. E. SCHMIDT

Successor to Knichtel Shoe Co.,

Market Square

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W. J. Henry, Manager

Opposite Winter Fair Building.



Everything in Jewelry.

Repairing a Specialty.

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OPTICIAN

Upper Wyndham St.

The Store of Quality

SNAP

THE ANTISEPTIC

Hand Cleaner

The best preparation known for removing dirt, grease, paint, ink and stains of all kinds. Its better than soap. Leaves the hands soft and clean.

Per Can 15c

BENSON BROS.

Students Wants

Gymnasium Shoes, Football Boots, Slippers and Rubbers.

The most complete and largest stock of Fine Fall and Winter Footwear in the city.

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THE GUELPH OIL CLOTHING COMPANY, Limited,

Manufacturers Oiled Clothing, Tarpaulins, Tents, Awnings, Stack and Binder Covers.

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Molasses Taffy, Walnut Cream and Maple Cream. Best in the City.
Fresh Everyday.

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Hair Cut, 20c.; Shave 15c. Close 8 p.m.

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FREDERICK SMITH,

PLUMBER, STEAM
AND GAS FITTER,

Sanitary Appliances. Estimates Furnished.
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High-Class Portraits.

SPECIAL RATES TO STUDENTS

Regal Shoes
For Men.

Sorosis Shoes
For Women.

W. J. THURSTON,

Sole Agent,

THE NEW SHOE STORE,

39 Wyndham Street.

KING EDWARD BARBER SHOP

Headquarters for a first-class
shave and hair cut or shoe shine.

CHAS. BOLLEN, - Proprietor.

SUEY WAH!

Hoop la! Come to the Big Laundry. Expert workmen. Hand work only. College calls made Monday, Wednesday, and Friday.

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FILE systematically so you can find them readily when required.
YOUR Our Check File Cabinets made to accommodate any quantity.
CHECKS They are really a necessity in any Office or Bank. Write us for particulars. Your correspondence solicited.

The BENSON-JOHNSTON CO., Ltd
HAMILTON, 8 John St. N. ONTARIO.



SNOWDRIFT, PEOPLES'
MAPLE LEAF

Three Well-Known Brands of Flour,
Ask for them and be sure you get them.

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LIMITED

GUELPH, ONTARIO.

Telephone 99.

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We execute the finest grades
of printing, plain or in colors,
promptly.

Kelso Printing Co.

St. George's Square,

Phone 218.

Opp. Post Office

"Eclipsed by None."

**Walker's Electric
Boiler Compound**

It removes the scale or incrustation from
boiler without injury to the irons, packings or
connections, and prevents foaming.

The only reliable boiler compound on the
market to-day. We also handle cylinder, engine
and machine oils, Lie sodium phosphate engine
supplies, etc. Specialty departments, Crystal
Separator Oil, Waxine Floor Oil. Correspond-
ence invited.

The Electric Boiler Compound Co., Limited
Guelph, Ontario.

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THE JEWELER

Entomological Supplies,
Magnifying Glasses, all qualities
Fountain Pens Rubber Stamps
O. A. C. and Macdonald Institute
College Pins.

The Clothes

made by SCOTT, the Tailor, are not
surpassed in Guelph, and Guelph is as
good as any of them.

J. A. Scott

26 Wyndham Street

FOR PARTICULAR MEN

We like to make clothes for the particular
man. Anyone can suit the fellow who is easily
satisfied, but it takes good workmanship, hon-
est materials and the best of tailoring experi-
ence and ability to suit the really careful
dresser. Ask the particular man what he thinks
of the last suit or overcoat we made for him.
It is likely he will tell you they are the best
he ever had, even for double the price. Suits
and overcoats \$18.00 to \$30.00.

R. J. STEWART,

Opp. Knox Church, 19 and 21 Quebec Street,
Phone 456.

**OUR BUSINESS
IS MEN'S WEAR**

Young Men, come here for up-to-date Cloth-
ing, Hats, Caps, and Furnishings.

Oak Hall Clothing is sold in 2,000 stores in
Canada. Come on in!

Cummings' Oak Hall Store

HEADQUARTERS FOR

HARDWARE

AND SPORTING GOODS
AT LOWEST PRICES.

G. A. Richardson

Upper Wyndham St., GUELPH.

OUR
GROCERIES

Are always Fresh, Wholesome
and Strickly First Class.

**JACKSON
& SON**

17 Lower Wyndham Telephone 112



**AGRICULTURAL COLLEGES
REFERENCES**

At Guelph, Truro, St. Anne de Bellevue,
Winnipeg, and the trade generally.

Horse Owners! Use



GOMBAULT'S
**Caustic
Balsam**

A Safe Speedy and Positive Cure
The Safest, Best BLISTER ever used. Takes
the place of all liniments for mild or severe action.
Removes Bunches or Hemorrhoids from Horses
and Cattle. **SUPPRESSES ALL CAUTERY
OR FIRING.** Impossible to produce scar or blemish.
Every bottle sold is warranted to give satisfaction
Price \$1.50 per bottle. Sold by druggists, or
sent by express, charges paid, with full directions
for its use. Send for descriptive circulars.
THE LAWRENCE-WILLIAMS CO., Toronto, Ont.



“SOVEREIGN”

(Trade Mark Reg.)

Sheathing Felt

Is really light-weight Ruberoid Roof-
ing. It is made of the same wool felt
in lighter weight, saturated and coated
with the same Ruberoid Gum.

SOVEREIGN Sheathing Felt is clean
odorless, waterproof, germ and vermin
proof, fire-resisting and practically in-
destructible.

Its insulating properties are far su-
perior to those of ordinary building or
tar paper. It compares with them
somewhat as a blanket does with a
sheet. The use of “Sovereign” Sheath-
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winter, and a yearly saving in coal
bills. Thus the small extra cost is
more than returned to you.

Ask the nearest Ruberoid dealer
for sample, or write us direct for
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**THE STANDARD PAINT CO.
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Makers of Ruberoid Roofing.
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Finest Commercial and

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Prompt Service

Best Workmanship

Wide Range of Stock Carried.

The Wallace Printing Co

47 Cork Street, GUELPH, ONT.

LEE LEE & COMPANY

Opera House Block

HAND LAUNDRY

Goods called for on Monday, and re-
turned on Wednesday. We guarantee
best work in Guelph.

Cut Flowers

Call on us when you want choice flowers, Roses, Carnations, Valley, Violets and all flowers in season.

We handle "Dale's" flowers.

Phone orders receive careful attention.

GILCHRIST'S,

Phone 436.

St. George's Square

Look! Look!

Suits Pressed	50c
Suits Cleaned and Pressed	75c
Pants Pressed	15c
Velvet Collars	75c to \$1.25
Dry Cleaning	\$1.25

Work done by practical tailors.

Chas. A. Kutt, 49 Quebec St.

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GUELPH'S NEWEST and BEST
CONFECTIONARY and
LUNCH ROOM

Special Lunches put up for Students to take to their rooms.

Ice Cream and Fruit sold all the year round.

Our special Saturday sales of candies of our own make appeal to everyone. We want every student to try our specials.

Students invited to use our store while waiting for the street cars.

SPA CANDY STORE

WYNDHAM AND MACDONALD STS.

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SKATES AND SKATE STRAPS

HOCKEY STICKS AND PUCKS

TOBOGGANS AND SLEIGHS

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SPORTING GOODS OF ALL KINDS

EXCELLENT VALUES IN

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\$250.00—\$275.00—\$300.00

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Stick to it. Guaranteed for a year, good for a life-time. Why buy inferior machines when you can buy the best for less money? All this year's models are fitted with a real free engine device which enables the rider to make a standing start at all times, even on an up-grade. If you would like to know more about a PERFECT MOTOR CYCLE, ask our Mr. Foster WEDNESDAY and FRIDAY EVENINGS.

SAVAGE & CO.

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WATERS BROTHERS

Students' Supplies



Phone 350

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BOTANICAL, ENTOMOLOGICAL, NATURE STUDY, EXPERIMENTAL and MANUAL TRAINING, DRAWING MATERIALS and OUTFITS, NOTE BOOKS, FILLERS, INKS, PENCILS, FOUNTAIN PENS.

Special Prices for Quantities.

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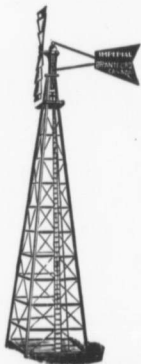
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Windmills!



Towers girded every five feet apart and double braced.

Grain Grinders.

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Gas and Gasoline

Engines.

Concrete Mixers.

Write for
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BRANTFORD, CANADA. Limited

OURS IS A SANITARY LAUNDRY

Disease germs find no resting place here.

Cleanliness in every detail is a rule rigidly enforced.

Every precaution is taken to insure our patrons the very best service in our power.

Our drivers are at the O. A. C. Monday, Wednesday and Friday mornings.

Guelph Steam Laundry

Phone 95 D. M. HUNTER, Mng.:

WE MANUFACTURE

PEEP SIGHTS

For use on home-made draining levels, as designed by Professor W. H. Day.

H. Occomore & Co.

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T. & D.'s

The College Man's Store, for GOOD CLOTHES and "Snappy Styles" in Hats and Furnishings. "T. & D." is the popular place. Good Quality and Correct Style at medium price is the "Reason Why."

"T. & D." Spring Suits,
\$10, \$15, \$18, \$20, to \$25.

Made to measure \$15 up.

THORNTON & DOUGLAS, Ltd.

Clothing Manufacturers.

THE MEN'S STORE, LOWER WYNDHAM

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Highest current rate of interest paid on Deposits. $4\frac{1}{2}$ per cent. paid on five year Debentures, and 4 per cent. for shorter terms.. Our Debentures are issued in any sum from \$100.00 up.

Both Deposits and Debentures are legal investments for Trust Funds.

Office hours, 10 a.m. to 4 p.m.

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Managing Director.

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*Armstrong**Carriages*

Manufacturers of up-to-date Carriages and Spring Wagons of all descriptions — Automobile Seat Bikes, Automobile Seat Top Buggies, Surries, Road Wagons, Delivery Wagons, Democrats, etc.

Write for catalogue and particulars.

The J. B. Armstrong Mfg. Co. Ltd.

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Get the plow that pays for itself in a season!

Hitch three ordinary horses to a Crown Gang Plow, and do as much plowing in a day, on any soil, as ever you had done with two plows, two men, and FOUR horses. Figure what that actually saves you in the course of a Spring plowing, and you will know why we say the Crown pays for itself in a season.

It turns a perfect furrow

Your land will be better plowed—evener furrows, of uniform depth and cut, once you use the

Frost & Wood

CROWN GANG PLOW

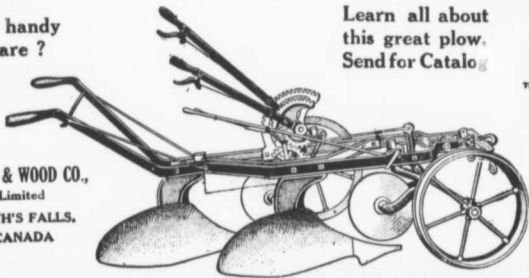
Hundreds of your fellow-farmers have found that this perfected two-furrow walking plow not only earns its cost—and more—in a season but goes on earning it year after year. For the actual saving mounts up to big figures long before the Crown Gang needs a single repair.

Everything about it is handy, practical, and lasting. The levers are placed just where they are handiest to operate. The wheels have dust-proof axle boxes, with easy-running ROLLER bearings. The shares have just the suck that makes perfect furrows and keeps the plow steady.

Notice how handy the levers are?

Learn all about this great plow. Send for Catalog

FROST & WOOD CO.,
Limited
SMITH'S FALLS,
CANADA



The Kandy Kitchen



you don't wake
up, boys, and
remember that
BOX
OF

BONBONS

next time you
Ring 71K
that girl will
be apt to
shake
you



27 WYNDHAM ST.

GUELPH, ONTARIO

POTASH MEANS PROFIT

During the fiscal year, ending March 31st, 1910, the consumption of Potash in the form of MURIATE OF POTASH and SULPHATE OF POTASH increased 89% over the previous year, which testifies to the beneficial effects attending the use of POTASH on all crops.

Order your Potash supplies early from reliable fertilizer dealers and seedsmen.

We cannot sell you fertilizers, being engaged exclusively in educational propaganda work, but it is our business to advise you how to Purchase and Use Fertilizers Economically.

Write us for free copies of our Bulletins, which include:—"Artificial Fertilizers: Their Nature and Use."

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"Farmer's Companion."

"Records of Fertilizer Experiments," etc., etc.

DOMINION AGRICULTURAL OFFICES
OF THE POTASH SYNDICATE
TEMPLE BUILDING, TORONTO, ONTARIO

The Royal Military College of Canada



THERE are few national institutions of more value and interest to the country than the Royal Military College of Canada. Notwithstanding this, its object and the work it is accomplishing, are not sufficiently understood by the general public.

The College is a government institution designed primarily for the purpose of giving instruction in all branches of military science to cadets and officers of the Canadian Militia. In fact it corresponds to Woolwich and Sandhurst.

The Commandant and military instructors are all officers on the active list of the Imperial army, lent for the purpose, and there is in addition a complete staff of professors for the civil subjects which form such an important part of the College course. Medical attendance is also provided.

Whilst the College is organized on a strictly military basis the cadets receive a practical and scientific training in subjects essential to a sound modern education.

The course includes a thorough grounding in Mathematics, Civil Engineering, Surveying, Physics, Chemistry, French and English.

The strict discipline maintained at the College is one of the most valuable features of the course, and, in addition, the constant practice of gymnastics, drills and outdoor

exercises of all kinds, ensure health and excellent physical condition.

Commissions in all branches of the Imperial service and Canadian Permanent Force are offered annually.

The diploma of graduation, is considered by the authorities conducting the examination for Dominion Land Surveyor to be equivalent to a university degree, and by the Regulations of the Law Society of Ontario, it obtains the same examinations as a B.A. degree.

The length of the course is three years, in three terms of 9½ months each.

The total cost of the course, including board, uniform, instructional material, and all extras, is about \$800.

The annual competitive examination for admission to the College, takes place in May of each year, at the headquarters of the several military districts.

For full particulars regarding this examination and for any other information, application should be made to the Secretary of the Militia Council, Ottawa, Ont.; or to the Commandant, Royal Military College, Kingston, Ont.

H.Q. 94—5.
9—09.

Dr. Publow Says:

De Laval Cream

Separators Are The Best

Picton, Ont., Nov. 18, 1910.

The DeLaval Separator Co.

Gentlemen:—

When one is connected with a State educational institution in dairy work, he is frequently asked by intending purchasers, "What is the best cream separator to buy?" They are usually given a number of names of the different makes, and told to give some of these a trial. Now that I have severed my connection with college work, I am at liberty to express my opinion at will, and while I know you are continually receiving excellent testimonials from users of your machines, still, I wish to express to you the satisfaction it has given me to use **DE LAVAL SEPARATORS** in over twelve years of successful work, in creameries, on farms and in dairy schools. My experience has taught me that you have the best cream separators on the market, and if I were to purchase a new one of any size to-day, it would be a **DE LAVAL**.

Yours very truly,

C. A. PUBLLOW, M.D.

The Dr. has simply added his testimony, born of the experience that qualifies, to that of the other Dairy Authorities the world over.

Now, as a Dairy farmer, do you know of any good reason why you should not buy a De Laval Cream Separator? There's an agent near you. Send for our catalogue.

The De Laval Separator Co.
173-177 WILLIAM STREET, MONTREAL, QUEBEC