

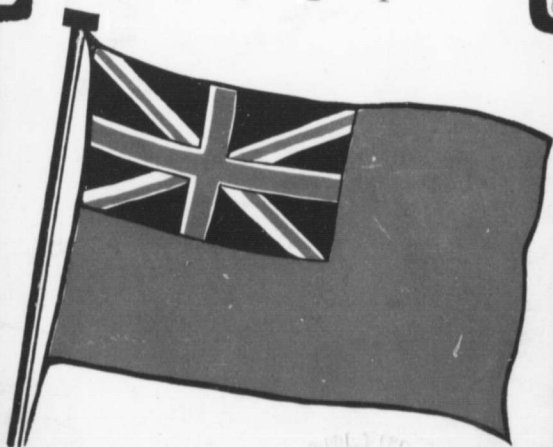
Volume XXVII.

Number 1

O.A.C REVIEW

October

1 9 1 4



\$1.00 a Year

15c a Copy

AGRICULTURAL
EXPERIMENT
STATIONS



FREE! FREE!! FREE!!!

To Farmers and Farmers' Sons

SHORT WINTER COURSES AT THE ONTARIO AGRICULTURAL COLLEGE, GUELPH.

The only expense to you is board at reasonable rates while in Guelph and reduced railway fare.

STOCK AND SEED JUDGING

January 12th to January 23rd, 1915. Judging Horses, Sheep, Cattle and Swine, Slaughter tests, lectures on Breeding, Feeding, etc. Judging grains and seed of other farm crops; selection, germination, purity, etc.

FRUIT GROWING

January 26th to February 6th, 1915. Varieties, Nursery Stock, Spraying, Fertilizers, Pruning, Marketing, etc. Classes in Apple Packing

POULTRY RAISING

January 12th to February 6th, 1915. Poultry Houses, Breeding and Mating, Judging, Feeding, Winter Eggs, Fattening, Dressing, Marketing, etc.

DAIRYING

Three months' Course in Factory and Farm Dairying—January 4th to March 19th, 1915. Summer Course in Butter and Cheese Making. Course in Cow-Testing and Ice Cream Making.

BEE-KEEPING

January 12th to January 23rd, 1915. Care and Management, Swarming, Queen Rearing, Diseases and Treatment, Quality of Honey, Marketing, etc.

For full particulars write for our Short Course Calendar, which will be mailed on request.

G. C. CREELMAN,

President.

The Manufacturers Life Insurance Company

Twenty-Seventh Year.

Premium Income, 1913	- - - - -	\$ 2,996,878.91
Interest, Dividends, etc.,	- - - - -	\$ 980,208.73
Paid to or Set Aside for Policyholders	- - - - -	\$ 2,725,443.16
Reserves for Policyholders	- - - - -	\$15,155,320.00
Assets	- - - - -	\$17,588,515.89
Surplus over All Liabilities	- - - - -	\$ 1,518,986.41
Insurance in Force	- - - - -	\$80,619,888.00

The full Annual Report will be gladly mailed on request. A postcard will do it.

The Manufacturers Life Insurance Company

WARNER E. BROLEY □ □ GENERAL AGENT
ELORA - ONT.

CANADIAN PACIFIC NEW LIMITED TRAINS

"THE CANADIAN"

Between

MONTREAL, TORONTO, DETROIT, CHICAGO Via CANADIAN PACIFIC and MICHIGAN CENTRAL RAILROADS

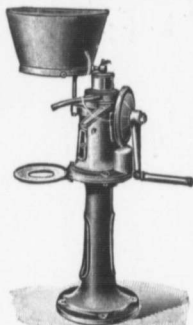
via Michigan Central Gigantic Steel Tubes between Windsor and Detroit. Leaving Montreal 8:45 a.m.; Toronto 6:10 p.m., arriving Detroit 12:35 a.m. and Chicago 7:45 a.m. daily.

Equally good service returning.
Through Electric Lighted Equipment.

TORONTO—WINNIPEG—VANCOUVER

Toronto-Vancouver Express No. 3 leaves Toronto 5:55 p.m. daily. Vancouver-Toronto Express No. 4 arrives Toronto 11:45 a.m. daily. Manitoba Express No. 7 leaves Toronto daily except Sunday 10:50 p.m., arriving Winnipeg second day. Ontario Express No. 8 leaves Winnipeg 9:25 p.m. and arrives Toronto 5:15 p.m. daily except Tuesday.

For further particulars apply to Canadian Pacific Ticket Agents or write M. G. MURPHY, D. P. A., C. P. Ry., Toronto, or J. Hefferman, C. P. & T. A., 32 Wyndham St.



THE PREMIER Cream Separator

occupies the "premier" position in the separator world
by reason of its

*Efficiency Durability
and Simplicity*

The best results with the least labor
at the Fall Fairs

The Premier Cream Separator Co.

WINNIPEG

TORONTO

ST. JOHN, N.B.

Carters Tested Seeds, Inc.

133 King Street East, TORONTO, ONT.

In most sections of Canada the early Fall is the best time of the year in which to sow down new areas of grass or to renovate existing turf. Ground that needs fertilizing is best treated at this time of the year also, and if earth-worms are troubling your greens or lawn, the warm, damp, muggy days of September and October are the most suitable for eradicating them. We beg to offer you the under-mentioned specialties which have given such astonishingly good results in all parts of the Dominion and the United States:

- Carters Finest Grass Seed for Putting Greens, per bush., \$8.75; from 10 to 20 bush., at \$8.50 per bush.; 21 to 60 bush., at \$8.25 per bush.; 61 to 1,000 bush., at \$8.00 per bush.
- Carters Fine Grass Seed for Fairgreens, at \$1.00 less per bushel than the above prices.
- Carters Complete Grass Manure, used at the rate of two ounces per square yard, per ton, \$80.00; \$42.50 per half ton, and \$4.50 per bag of 100 pounds.
- Carters General Purpose Manure, used at the rate of six hundred pounds per acre, and recommended for large areas of grass, Fairgreens, etc. Per ton, \$60.00; \$32.50 per half ton.
- Carters Anti-Clover Manure, feeds the grass, but checks leguminous weeds, \$85.00 per ton; \$45.00 per half ton, and \$5.00 per bag of 100 pounds.
- Carters Worm Killer effectually kills the earth-worms in turf; used at the rate of one-half pound per square yard. Per ton, \$65.00; half ton, \$35.00; per 100 pounds, \$4.00.
- Pulverized Sheep Manure, per ton, \$29.00; per 100 pounds, \$1.90.
- Carters Invieta Lawn Grass Seed, a fine cheap mixture, per bushel, \$6.25.

All F. O. B. Toronto.

We shall be very pleased to send particulars of any of these specialties together with samples. New supplies from Enzland have reached us just prior to the outbreak of war, and we can promise immediate and personal attention to all orders so long as our supplies last.

Yours obediently,

CARTERS TESTED SEEDS, Inc.

Montreal Branch: Coristine Building.





UNDERWOOD

The Underwood is used more extensively in Canada than all other makes of typewriters combined.

550 Underwoods are sold every day. The Underwood is the "aristocrat" of the typewriter world.

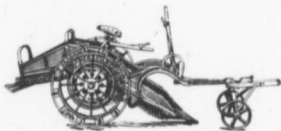
United Typewriter Co., Limited

EVERYWHERE IN CANADA.
Head Office, Toronto.

**World's Oldest and Largest
Makers of Potatoe Machinery**

CUTTERS, PLANTERS, SPRAYERS,
DIGGERS, SORTERS.

Each machine a leader in its class—backed by the endorsement of its thousands of users.



Aspinwall Elevator Potato Digger, substantially built, light of draft. Gets all the Potatoes.

ASPINWALL MFG. CO.
Guelph, Ontario.

TRY IT.

**The Livingston Brand Oil
Cake Meal**

THE OLD RELIABLE

Successfully used in the feeding of live stock for many years.

Fattens Cattle, Increases Yield of Milk and Cream

Three Grindings—Fine Ground, Pea Size and Coarse Ground.

TRY IT ALSO

Linseed Meal and Flax Seed

If your dealer cannot supply you, write us direct.

THE DOMINION LINSEED OIL CO., LIMITED.

Manufacturers,

BADEN, ONTARIO.

MONTREAL, QUEBEC.

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

KRESO

AN IDEAL DISINFECTANT, GERMICIDE, DEODORANT,
ANTISEPTIC AND PARASITICIDE

For Hospitals, Veterinary and Domestic Use. Write for
Descriptive Booklet

Parke, Davis & Co.

Manufacturing Chemists and Biologists,

Walkerville, Ontario

EASTERN DEPOT, 378 ST. PAUL ST., MONTREAL, QUE.



Your Filing Cabinet Should Attend to *Its* Business and Let You Attend to *Yours*

Each Office Specialty Cabinet is a sentinel keeping guard over one's interests. You hardly notice its presence, but you would realize its absence if it were not there.

You should have the Office Specialty Filing Equipment Catalog in your office to aid you in selecting the exact equipment to meet your needs. Ask for Catalog No. 9160.

MAKERS OF HIGH GRADE FILING CABINETS

OFFICE SPECIALTY MFG. CO.
 AND OFFICE FURNITURE IN STEEL AND WOOD
 CANADA

Head Office: 97 Wellington St., West Toronto.
 Branches: Montreal, Halifax, Winnipeg, Regina,
 Calgary, Edmonton, Vancouver.
 Factories: - - - Newmarket, Ont.

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

Full Milk Cans with **Pratts,** Animal Regulator

Pratts

Preparations for Horses, Cows, Hogs and Sheep

Pratts Healing Ointment (for Man or Beast), 25c.-50c.
Pratts Worm Powder, 50c.
Pratts Veterinary Colic Remedy, 50c.-\$1.00.
Pratts Liniment 25c.-50c.-\$1.00.
Pratts Distemper and Pink Eye Remedy, 50c.
Pratts Animal Regulator, 25c. to \$3.50.
Pratts Dip and Disinfectant, \$1.50.
Pratts Healing Powder, 25c.
Pratts Heave, Cough and Cold Remedy, 50c.-\$1.00.
Pratts Fly Chaser, 60c.-\$1.00.
Pratts Bag Ointment (for Cows), 25c.-50c.
Pratts Spavin Remedy, 50c.—1.00
Pratts Spavin Paste, 50c.
Pratts Cow Tonic, 50c. to \$2.50.
Pratts Calf Tonic, 50c. to \$3.50.

S-10

Cows give more and richer milk while the percentage of butter fat is increased. The reason is that Pratts Animal Regulator, being composed entirely of pure medicinal roots, herbs and barks, acts on the system so as to cause perfect digestion. Perfect digestion, of course, means that all food eaten goes to build up health and strength, instead of being partially wasted by imperfect assimilation.

25-lb. pail, \$3.50; also in packages at 50c. and \$1.00.

Pratts Dip and Disinfectant is a coal tar preparation which is non-poisonous and mixes with hard or soft water. For Ticks, Mange, Ringworm, Cuts, Lice and Fleas, \$1.50 a gal., 90c. a ½ gal., 50c. a quart.

Pratts Healing Ointment for sores, cuts, scratches, burns, scalds. Heals naturally, and leaves no scabs. Excellent for human use, too. At your dealer's, 25c. and 50c. a box.

"Your Money Back If Not Satisfied"

PRATT FOOD CO.
of Canada, Limited

Dept. 7 TORONTO



Your Studies in PRACTICAL DAIRYING

will be far more interesting and helpful if you make yourself familiar with the best of all time-and-labor-saving devices.

Louden Equipments

These equipments represent an intense and intelligent endeavor, spread over 47 years, to make farming easier and more profitable—to improve conditions for man and beast.

LOUDEN EQUIPMENTS consist of steel tubular cow stalls and stanchions and steel feed and litter carriers. Send for the LOUDEN Catalogue "Complete Barn Equipments." You will find it both interesting and instructive.

See LOUDEN EQUIPMENTS at the O. A. C.

Louden Machinery Co., Guelph, Ont.

To Live In To Work In
To Make Money In

ONTARIO

is still the best Province in
the Dominion

Ontario has great agricultural opportunities for fruit farms, dairy farms, mixed farms, or for very cheap farm lands in the clay belt. In planning your future and in talking to your friends keep these things in mind.

HON. J. S. DUFF,
Minister of Agriculture, Toronto, Ont.

H. A. MACDONALD,
Director of Colonization, Toronto, Ont.



CONTENTS

VOL. XXVII. OCTOBER, 1914 NO. 1

	Page
Editor's Page	viii.
Alberta's Schools of Agriculture—By Principal W. J. Elliott	1
Rugby, 1914—By S. H. Gandier	7
Why Is a Field Agent?—By A. M. McDermott.....	9
Agriculture In Argentina—By Allan B. Hobbs.....	10
A Summer with the Plant Breeders—By J. P. Sackville	13
Editorial	16
Canada's War Footing—By Andrew Cory	18
Climatic Adaptation of Apple Varieties—By M. Kelleher	21
Farm Efficiency—By E. W. Weston	24
Experiment and Progress—By B. E. Foyston.....	27
The College Poultry Plant—By J. P. Hales.....	28
Queries	31
Off to the Front	32
Athletic	33
The 1914 Macdonald Graduates.....	33
Locals	34

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

THE EDITOR'S PAGE

THERE are now about four hundred students assembled at this College no two of whom have passed the summer in the same place or watched the succession of seed-time and harvest from the same viewpoint. Since College closed, their combined experiences total nearly two hundred years. They have jostled in crowded cities and enjoyed the tranquility of quiet country places. They have witnessed peace centenaries and read of the clash of armed millions in battle. They have picked peaches in Essex; judged field-crops in Bruce; trolled for bass in Muskoka and collected butterflies in Alberta. They have looked on the palisades of the Hudson; gazed across the prairies of Manitoba; beheld the solemn grandeur of the Rockies; played golf on the veldt; sniffed the spicy breezes of the Orient and viewed the relics of the medieval splendor of Europe. They have strolled down a thousand shady lanes and dozed in the shade of a thousand apple trees. What a volume could be compiled from their experiences! What an exhaustless source of pleasure such a volume would be!

If you have had an interesting experience, give it to the *Review* that we all may enjoy it. What interests one will interest a thousand. If you have run across a bit of verse that made you stop and read it, remember that it may come in handy for filling out the bottom of a page. If you have thought yourself through a problem and arrived at a strong conviction, air that conviction through these pages. If we have published anything that you disagree with, disagree with it in writing. Start a controversy. Controversies are interesting. This magazine is yours. Make it a clearing-house for your ideas.

In this number we publish the first of a number of articles on the schemes of agricultural education adopted by the various Provinces throughout the Dominion. They are written for the *Review* by prominent men, and are brimful of information and inspiration. Don't miss any of them.

1924
1914
10
1924
1916
8
22/24

THE O. A. C. REVIEW

THE DIGNITY OF A CALLING IS ITS UTILITY

VOL. XXVII.

OCTOBER, 1914.

NO. 1.

Alberta's Schools of Agriculture

By W. J. Elliott, Principal

Olds School of Agriculture



W. J. Elliott, B.S.A., is an O. A. C. graduate who has won distinction in the West, but who hasn't forgotten his football days at college. He is an enthusiastic champion of the farm boy. Read what he and others are doing for the farm boys of the Sunny Province.

denly occurred to him one day that if the lawyer had his own school, the doctor his school, the civil engineer his school, the school teacher his school, then why not a school for the young man who is going to farm. Agriculture is the most important calling of all. It is the only real source of wealth, and if Canada is so utterly dependent upon the man on the land, then why not a school where he may learn a little bit more about the business that is to be his for life.

On first thought it might be claimed that the Agricultural Colleges are doing this thing, but we believe that a careful survey of actual conditions will reveal the fact that a large percentage of the graduates of our Agricultural Colleges prefer to go into professional life rather than return to the farm. We, of course, do not criticise the Colleges for this fact, for there is certainly a demand for professional men along many lines of agricultural endeavour. Nor do we blame the young man who, after graduation, finds some useful line of work that calls him off the farm. The fact remains, however, that many of our college graduates do leave the farm. Now, Alberta's Farm Schools which come directly under the Minister of Agriculture are taking up the problem of helping the farmers' boy to help himself in a new way.

EVERY once in a while the privilege is given to some keen thinker of bringing forth a new idea, and then every one wonders why the idea was not thought out long ago, because it is so logically the common sense thing. Such an idea came to the Hon. Duncan Marshall, Minister of Agriculture for the Province of Alberta. Those who know Mr. Marshall will realise that he has, perhaps above anything else, a thoroughly practical knowledge of the thousand and one details of his very important agricultural branch. It sud-

MANY FARM BOYS LACK EDUCATION

It is a fact that in Alberta there are many young men on the farms who came to the new land of the West with their parents, at a time when there were very few schools, and at a time when the family purse was not stout enough to employ hired help.

Thus the boy got very little or possibly no public school training after coming to the province. These facts are to be regretted, yet they are part of the price that is paid by the "pioneer boys" who give their lives to help their parents win a home for themselves.

Alberta like the rest of the provinces of this new Dominion has literally thousands of boys who are to be the future farmers, and who are deficient as far as the public school standard is concerned. These boys range from 16 to 25 years of age. They will not go to the public school even though later financial success would make this possible.

We could not expect a boy of 20 years of age to stand in a class at the public school with a ten year old boy in knee pants. Then where can he go? The high school standards will not admit him; the colleges hold their standards of admission above his head. The facts are then, that the man who is to become the tiller of the soil and on whose shoulders the burden of Canada's prosperity must rest, will have to do without a training. No, that will not be the case in Alberta.

ALBERTA'S SCHOOLS

The Minister of Agriculture has established three Schools of Agriculture in the Province that are primarily for the farmers' boy—for the boy who is to be the future farmer of the Province. These schools belong to him. He has a right to go to them, and at them he meets others just like himself. There

are no standards of admission, the only thing being a willingness and a conscientious effort to do, on the part of the boy. The atmosphere of the school is an agricultural atmosphere, the instructors have the word "Practical" written high and clear above every lesson that is taught. The idea of the education is first to give the boy a clear view of the importance of his calling, so that he may grasp the idea that every business on the face of the earth comes second to that of Agriculture. And, in the second place, the School seeks to give such information as will be useful to the boy as soon as he returns home. No lesson is given in the classroom that is not immediately followed by practical work in the laboratory, the stock judging room, the seed testing room or the blacksmith and carpentry shop.

THE COURSE OF STUDY

Prime importance is given to Live Stock, as the permanent success of Western Agriculture is wrapped up in this. The boys are taught to judge draft horses, dairy and beef cattle, the various types of hogs, etc., and while these animals are being discussed, matters are taken up with regard to the various Alberta feeds that are available and suitable. Next in importance to the Live Stock work comes the work with Grain judging, Weed Seed identification, and a thorough discussion of Alberta's soils and how to handle them. The iron and wood repair work is another very important phase of the education. A carpentry and blacksmith shop has been provided and all kinds of farm repairing is done by the boys. They are first taught the use of both iron and wood tools, the care of a forge and fire, etc. The boys make door hooks, mend chains, make cleavices, whittle trees, wheel barrows and

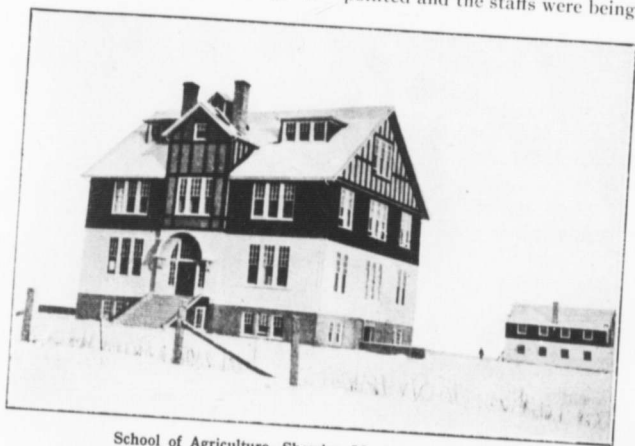
wagon boxes. This includes the cutting out and making the wood work, and the making and shaping of all irons for same.

In addition to the above the boys are given a thorough course in Business English, and work in Chemistry, Physics, Botany and such subjects as are directly and closely related to agriculture. For instance, the boys are shown the cattle being fed on the farm and learn that they receive certain proportions of oats and barley, cut oat bundles and wild hay. The boys then go to

ordinary feeds on an Alberta farm; and without knowing it, is actually studying the chemistry of cattle feeding. It is just in ways of this kind that all of the lecture work of the classroom is made of actual value to the boy in a practical way.

ARE THE SCHOOLS WELL ATTENDED

The natural question to ask is, "how were the Schools of Agriculture received by the farmers and farmers' sons?" When the principals were appointed and the staffs were being called



School of Agriculture, Showing Mechanics' Building.

the classroom and an instructor in chemistry shows them the same oats, barley and roughage. The chemical composition of each is discussed in terms of feeding cattle. The boy learns that to put fat on animals he must feed the starchy foods like barley and wheat, and that to produce milk the oat is the grain that is used above all others. In this way, the discussion of the composition of the feeds on the farm is so interwoven with the actual work that is going on on the Demonstration Farm that he becomes familiar with the

together last fall, the Minister of Agriculture suggested that if 15 to 20 boys were received at each school, he would be entirely satisfied. The schools have certainly been appreciated by the farmers, and the attendance of boys has proven beyond the question of a doubt that these are the schools that the farmers want for the education of their boys.

In the three schools, 176 boys were enrolled for agricultural instruction. We doubt if there is a province or state on this continent that can show such

a record. One hundred per cent. of the boys came directly from the farms. In this way it will be clearly seen that the agricultural schools are not encroaching upon the work of the public schools or collegiate institutes. They have drawn their students from a class of boys who heretofore have received no instruction. At the Olds School, 37 boys were registered the first day, and inside of two weeks a total of 61 boys were admitted. More seats had to be ordered and more equipment secured. Before Xmas the principals of the schools were advising the farmers not to send any more boys, as the schools had practically all that they could possibly handle.

Present indications would suggest that there will be in the neighbourhood of 260 boys at these three Schools next winter. The school term only runs five months in the winter beginning October 27th. and lasting until the end of March. At the present writing the Olds School alone has received signed up applications from 42 boys and 18 girls from last year's class who wish to take a second year; and in addition 33 boys and 6 girls have registered for the first year. This makes a total of 99 registered for next year's work at the Olds School alone. Indications are that by the time of the opening day the school will be refusing to register any more students.

Indeed, the schools are regarded so highly by the farming communities that the Minister of Agriculture is literally besieged with delegations asking that additional schools be established at other points in the Province.

HOUSEHOLD SCIENCE BRANCH

In addition to the work that is given for farm boys, a course is offered in Household Science for the farmers' daughters. The course is not limited

to farmers' daughters, because girls from the surrounding towns as well are taking advantage of same. This branch covers a study of foods, sewing, cooking, laundry work, hygiene, sanitation, home care of the sick, and work in home gardening, poultry and butter-making. Here again the work is made as practical as possible. Somewhat of an idea may be gained with respect to the practical nature of the work when it is said that Mr. Pat Burns, the noted cattleman and packer of Western Canada, after going through the buildings, and seeing the boys and girls at work, declared that it was the most practical institution he had ever visited, and offered on the spot \$100.00 scholarships for the best stock judge, for the best grain and weed seed judge, for the best cook and the best lady sewer.

So apparent is the usefulness of the schools that already the Minister of Agriculture is planning large extensions in the way of buildings to accommodate next year's quota of students.

ADVANCED AGRICULTURAL COURSE

It will be seen by the foregoing that the course as offered by the Alberta Schools of Agriculture is designed particularly for the boy who is going back on to the farm. There, of course, will be a small percentage of students who wish to go on for advanced work. The Schools of Agriculture, therefore, fit in with a regular continuous system of agricultural education in the Province. The two years as given at the Schools are about equivalent to the two years offered by Guelph and Manitoba Agricultural Colleges, with particular adaptation to western conditions. Students who complete the two years course at one of the Provincial Schools will be admitted directly into an advanced degree course as offered by the Provincial University.

EXTENSION WORK

The staff at each school is composed of thoroughly practical men, and during the seven months of summer when the school is not in session, these men devote their entire time to agricultural extension work. In short, this extension work may be said to cover any practical assistance to the farmers in the district covered by each school. It is needless to say that a good deal of this extension work is carried on through the farmers' sons who attend the school during the winter. The animal industry instructor has outlined a series of experiments to be conducted by 20 of the students along the lines of the summer feeding of hogs.

The agronomy instructor has an experiment outlined in connection with alfalfa, and approximately 20 of the students will undertake this experiment.

In addition to this, the students of the school have formed an Experimental Union, and under this Union a great many varieties of grains and grasses will be tested out. The agronomy instructor of the school is the secretary of the Union, and will be in a position to give practical advice at all times.

COW TESTING ASSOCIATIONS

Cow Testing Associations are being started, and so great is the call for assistance in this line, that it will require the balance of the staff to visit the students and farmers once per month to weigh and test the milk of the cows that are entered in the Cow Testing Association. It is an interesting fact to note that 20 boys of the school and 11 of the girls have signified their intention of keeping the records of the herds at home, with a view to securing the advantage of the Cow Testing Association. It will thus be seen that the staff are kept directly in touch with

the farming community surrounding each school.

CO-OPERATION WITH DEMONSTRATION FARMS

A point that might be brought out in this connection is with reference to the co-operation between the Government Demonstration Farms and the Schools of Agriculture. The Schools of Agriculture occupy 20 acres of land on the corner of the Demonstration Farms. The balance of the land is handled under the direction of the Supt. of Demonstration Farms, who conducts each farm as a more or less commercial proposition. Herds of dairy cows representing the various breeds and including milking Shorthorns are found on each Demonstration Farm, and milk of superior quality is shipped to large centres like Calgary and Edmonton. The Demonstration Farms are not handled entirely in the way of experiment stations, but rather follow out the experiments of the various stations and test the grains, grasses, etc., in a commercial way. It is an interesting point to note that these Demonstration Farms are paying their own way, a thing that is perhaps very unusual with Demonstration Farms in the Dominion of Canada.

The students thus have at all times a Demonstration Farm run along ordinary farm lines and operated as a paying proposition. The instruction gained by observing the work as it is carried on is thus made all the more valuable. The manager of the Demonstration Farm gives instruction to the boys under the heading of "Farm Management," and needless to say, his talks are borne out by the actual work on the farm.

ECONOMY OF EQUIPMENT

The School of Agriculture does not need to carry an expensive equipment

in the way of the various classes of stock for educational purposes. The stock that is used for judging purposes is just the ordinary stock that is carried on the Demonstration Farm. A team of horses may be drawing straw, ice, hay, grain or anything on the farm, and at noon the harness is taken off them and they are sent to the stock judging room for the use of the students. In this way the operation of the Schools of Agriculture is very much less than it otherwise would be.

It might be added that of the 20 acres under the supervision of the

Schools of Agriculture, about 15 are set aside for experimental plots, where the various classes of grains, grasses, shrubs, shade trees, fruits and berries, are tested out in the interests of the farming community. All those who visit the Demonstration Farms and the Schools of Agriculture are high in their praise of the practical nature of the work that is given to the students and of the useful information and help that is available for the farmers living within the district covered by one of Alberta's Schools of Agriculture.



Benjamin Franklin once said: "You can drive a horse to water but you can't make him gargle his throat," or words to that effect. The same is true of humans. A man or woman can't work 14 hours a day for 365 days in a year without growing gray hair, wrinkles and crowsfeet faster than Yellow Dent Corn. If farm folks, and town folks, too, would take their noses off the grindstone oftener, they would live longer and their tempers would be sweeter. All work and no play makes Jack a dull boy and a sour boy and a grouchy boy.

An incubator advertisement says that the old "setting" hen is going out of business and will soon be replaced by the blue-flame brooder. We don't know about that. It will be some time before the "setting" hen will be retired from circulation. The incubator is all right, but nobody would ever mistake it for a mother. The incubator can't gather its offspring under its wings and fight a chicken hawk to the ropes, and it can't turn up a fat, juicy worm and feed it to one of the children. We have an idea that the "setting" hen will be in our midst for some time yet.

Rugby, 1914

By S. H. Gandier, Manager

WITH "war in the air" rugby should experience its most successful season because it is the game which most nearly approaches actual war-fare from a tactical standpoint, and, no doubt, in the estimation of anti-rugbyists, from other standpoints also; but for the benefit of the unjust critics of rugby I want to state emphatically that injuries sustained in this game are not greater in number than those inflicted in some other sports such as lacrosse, hockey and even modern basket-ball when the numbers participating are considered. The number constituting a rugby team is almost double that used in most other games, and for that reason injuries appear to occur with greater frequency.

This year we again play in the Junior Inter-Collegiate Series. The league games do not commence for three weeks after College opens and preliminary games will be arranged to give the team every chance to "get going" before we meet Toronto. Efforts are being made to form a league including the second team. If this does not materialize several trips will be arranged and it will be worth while to catch a place on the seconds. Local games will be arranged for a third team and everybody will get a chance.

Late in August, I forwarded a letter to each of last season's rugby men urging them to do something to promote physical condition before returning to College. If they have followed my wishes, a good deal has already been done to encourage the manager and the College regarding this season's campaign. In a week the team should be in condition to indulge in one hour's

hard play without feeling undue ill effects. There is nothing more discouraging than to have the development of condition lagging on for weeks and there is no excuse for it. We hear a good deal about over-training and players going stale. My experience is that the average rugby season is too short for players to reach that stage. At O. A. C. players become stale from under-work rather than from too much of it. The season of 1914 taught me the absolute necessity of condition. In 1912 our back division was largely responsible for our success though the forward line was fair. In 1913, we had the same back field and a strong line but the regular backs proved a miserable failure because they simply would not get down to business. This year *every player must be in shape*, otherwise men inferior in other respects will be used. Right here I want to make a personal appeal to all rugby men. As your manager I put a great deal of time and attention on the game which could easily be used in other directions. At times I neglect my own personal affairs in your interests and so do others of the College staff who assist me. In return I ask that you give us your very best efforts and if every man does this we will at least have nothing to regret after the final game. I have learned to make no prophecies regarding rugby but the taste of the championship games of 1912 is still with me and I am anxious that we "come back" in 1914.

SEVERAL POINTS OF DETAIL ARE WORTH MENTIONING

Practice hour is from four thirty to

six every afternoon. Punctuality is necessary.

Protect yourselves with the necessary clothes and pads the first day. This lessens chances of injury and it is early in the season that injuries are most easily sustained. If you have a weak knee or ankle bandage it well from the start. Do not take any chances.

New men whose ability we do not know sometimes fail to turn out for days or weeks after the commencement of the season. This is not fair to themselves nor to the College. All first year men who have played rugby are urged to come out at once. Students of all years are on the same level on the rugby field and new men are given every chance. Of course we know nothing of their ability until we see them in action and then it may take several days to convince us. There are always several freshmen on the first team.

Do not become discouraged if you are not placed on the first team at once. Second team men are shifted to the firsts at any moment during the season.

Practicing night after night may become irksome and monotonous but remember that nothing worth while is ever accomplished without perseverance and effort, and this applies to the development of a rugby team more than to

other games. The captain and manager expect you to be in your place. If you are not there someone more faithful will get a chance. *We must have men upon whom we can depend at all times.*

Football players cannot all get into residence. Many of those rooming out will have their meals at the new dining-hall and less inconvenience than formerly will be experienced in turning out every day for practice.

Players are expected to observe the ordinary rules of temperate living. The use of tobacco in any form is discouraged. We find it impossible to adopt an elaborate system of training and a good deal is left to the judgment and common-sense of the men.

A rugby team is as strong as its weakest member. This is the spot that your opponents will attack. When we line up against Varsity I want fourteen men possessing as much rugby knowledge as possible, but especially do I want fourteen men in fine physical condition, men who are determined, enthusiastic fighters and never know when they are beaten. There is nothing so disgusting as a quitter. Now "dig in" to make the season of 1914 a successful one for yourselves, your manager and the College.



Sometimes music will drive the blues out of the hennery quicker than anything else. We had a friend who used to inspire his hens to nobler endeavor by playing an accordion solo just prior to the moulting period. If this didn't work, he would have his daughter play "The Maiden's Wish" on the reed organ. A hen that is continually in tears over some fancied grievance, like being kicked in the Adam's apple by the hired man or stepped on by a Clydesdale chunk, will never fresco the haymow with home-grown fruit.

Why Is a Field Agent?

By A. M. McDermott, '16

THE answer to this question involves a survey of agricultural instruction in the public schools of Ontario.

The Education Department of the Province is endeavouring to have agriculture taught in our rural Public and High Schools. The idea is gradually gaining a foothold in our education system as evidenced by the increasing number of schools qualifying for special grants. These grants are given under the Agricultural Instruction Act passed by the Federal Government in 1912. The giving of grants to school boards and teachers is based on (1) the special qualifications of the teacher in agriculture and (2) whether a School Garden or Home Plots is a part of their scheme. Grants are no longer given for school gardening alone but for teaching agriculture.

In 1912, 117 schools qualified for special grants for teaching agriculture; 177 in 1913; and 293 have notified the Department of their intention to qualify in 1914.

Prof. S. B. McCready has been appointed Director of Elementary Agricultural Education and it is owing to his persevering efforts that public opinion is coming to demand more and more an education for country children better fitting them for country life than will our present day program of studies.

Rural teachers are for the most part migratory beings—"here today and gone tomorrow." They are solitary creatures, separated by two or three English miles from their nearest co-workers. The majority of them are ladies. The worst we can say about them and the best we can say about

them is that they are ladies. And yet if a better era is to be ushered in for the little Red Schoolhouse it must come from the efforts of the teacher, thoroughly alive to the existence of a great rural problem and the place the teacher must occupy as a leader in her community.

Under these conditions a permanent force behind the teacher is necessary. The first of these forces lies with the trustees. They must be the main "stand-bys" of the teacher to make any school work a success. The next force is the field agent. Of course he must be familiar with all the departments of the teacher's work. He must, too, be familiar with rural life in all its details. Then he must have a store of knowledge of improved and scientific agriculture. The Seven Virtues are faith, hope, charity, prudence, justice, fortitude and temperance. The field agent must possess them all.

The term "field agent" came into being last year when Prof. McCready appointed from the roll of College students six men in this capacity in charge of respective territories throughout Ontario.

Their work is first of all to visit and inspect schools entered for special grants for teaching agriculture; to assist the teacher in any way; to encourage compliance with departmental regulations; to interview school boards; to give public addresses at local gatherings, such as Women's Institutes, Farmer's Clubs and others; to acquaint them with the scheme and help the school to a higher and a better footing in the section.

Already there is evidence of a better school through the new movement.

Agriculture, the chief home interest, being used in the education of the children of the home creates a more active interest in the school on the part of the people it serves. It also gives life on the farm a new value and a higher standard. Through it, too, the school is coming to be more of a social centre

and a part of the life of its community.

The work of a field agent and of all other agencies of a similar nature presents no easy task. The public must be educated, the teacher enthused, the school awakened. Agriculture as a part of the public school program of studies has come to stay.

Agriculture in Argentina

Will this South American Republic Outstrip Canada in Wheat?

By Allen B. Hobbs

ARGININA is running a neck to neck race with Canada in population, wheat, railways and live stock. Few of us know much about this country, but it is rapidly becoming such an important factor in the world's markets, not only in wheat, but also in several other lines, that we would do well to pay some little attention to this rival nation. Canada and Argentina are curiously alike in many respects, notwithstanding the striking contrasts that exist. In population we are running a neck to neck race. The last census of Argentina, estimated on Dec. 31, 1911, showed a population of 7,171,910. The last Canadian census, taken June 1st, 1911, gave the Dominion a population of 7,206,643. In immigration, too, both countries are bounding ahead. During 1912, Argentina received 547,043 immigrants, whereas Canada received only 395,804. Our total commerce is about \$200,000,000 greater than hers, but this is due entirely to our imports. In exports Argentina's trade amounted to \$446,180,000 last year, while Canada's was \$362,965,580.

EXTENT OF THE COUNTRY

Argentine has a much larger terri-

tory than is generally supposed. One can travel 2,285 miles north and south and about 930 miles east and west, without going beyond its boundaries. Like a wedge in form, it occupies most of the pointed section of South America, having an area of 1,135,840 square miles. Canada's area, on the other hand, is estimated at over 3,700,000 square miles, but this includes wide tracts of land far north and within the arctic circle. A good idea of the extent of Argentina can be got if we imagined some giant hand to lift it up and set it down on North America in the same relative position as it now lies in South America. Extending from the 21st to the 55th degree of latitude, south of the equator, that would mean, if shifted north, a country reaching all the way from Mexico, through 600 miles of Mexican territory, clear through the United States, 1,300 more miles, and into Canada 400 miles north of the boundary, or further north than Athabasca Landing.

A country of such vast distances, therefore cannot be described in a word or two, either as to land, climate, or people. It abounds in extremes. Along the eastern sea-coast and far inland

stretch the rich level pampas, on which Argentina's greatness so largely depends. To the westward, on the other hand, are the high plateau areas, the land rising higher above the sea level all the time, until the Andes are reached with their many peaks covered with eternal snow.

Along the full length of its western boundary, Argentina is extremely mountainous, the Andes range being a continuation of our Rockies, and with them forming the backbone of both North and South America. The table lands of Argentina, comprising a large proportion of the total area, are worthless for any branch of agriculture. In the wet season the many large basins and depressions in this territory become salty ponds, and in the dry season they are nothing but salt pans. Another part of Argentina which must be excluded from productive possibilities is the extreme southern corner, the desolate steppes of Patagonia.

ARGENTINA'S RISE IN IMPORTANCE

But while a great deal of Argentina's soil is light, sandy and barren, over 250,000,000 acres are claimed to be well suited for agriculture and stock-raising. The farm lands are being continually increased by irrigation, several large irrigation works being now in operation or under construction.

Like Canada, Argentina has great wheat growing possibilities and a comparatively small population. In both countries a large percentage of the crop is exported and this condition will doubtless obtain for many years to come. United States and Russia are far in advance as to the actual wheat raised, but the United States has almost ceased to be an exporting country because of the tremendous increase in population. As a country's position in the world's market is measured by the quantities exported, Argentina and

Canada loom more largely in the European grain trade than our big southern neighbor. Argentina has an added importance, however, in her geographical position. With harvest in December, export shipments begin during the latter part of January. This new wheat arrives in Liverpool, London, Antwerp, and other European grain centres during March principally, thus fitting in admirably between the two crop seasons of northern countries. Argentina's rise into the front rank of wheat exporting countries has been rapid. In 1901 only 57,000,000 bushels were produced, of which one half was exported. By 1907, wheat production had risen to 200,000,000 bushels, about 150,000,000 bushels being exported. The 1912 crop ran about the same.

STRUGGLES OF SMALL FARMERS

Argentina has special difficulties to overcome in the race for agricultural supremacy. Chief of these is the low general intelligence of the people. In 1911 more than one half of the population over six years of age were illiterate. Argentines, that is natives, constitute three-fifths of the population, chiefly of Spanish extraction, the national language also being Spanish. Of the two and a quarter million foreigners living in Argentina, about one-half are Italians, one-third Spanish, with French, Russians and Servians next in order, and only 40,000 Anglo-Saxons. Only a third of the farmers own the land they cultivate and most of the grain growers are dependent on family labor. Nearly all the farmers begin their careers by renting land on shares, sharing the crop with the owners of the land. With little experience and less money, their lot is a hard one. The farmer and his family do all the work, while the landowner sells the crop. During the seeding and harvesting seasons the whole family work in the fields from daylight till

dark. This condition is little better than serfdom and naturally the farmers whole effort is to better his condition. With thousands of wheat growers the be-all and end-all of life is to get enough money to return to Italy (the native country of most of them), and buy a little farm or business of their own. The average holding of the small farmer is 247 acres and even those who own or rent larger farms are not much better off because they do not know how to till them properly. Farming proper has always had to contend against the hostility of the cattle kings of Argentina, who still own most of the best lands, and do not want their grazing and ranch lands broken up. Until a few years ago the livestock lords not only despised the small farmers, but also refused to sell or rent any land for the raising of crops. A few years ago, however, they hit on a shrewd scheme. They drew up a contract with the would be farmer, renting a certain number of acres of their grass lands for three or five years, on condition that the grain grower must sow alfalfa with the last year's seed. This arrangement stimulated wheat production for a time, but on those lands blessed by abundant rainfalls, alfalfa has tended to displace wheat. In 1895, only 1,750,000 acres were under alfalfa. By 1909, the acreage had increased to over 11,000,000 acres. The production of alfalfa, to be sure, fits in admirably with the stock-raising industry, and with greater attention to alfalfa there is no reason why the stock-bearing capacities of Argentina should not be trebled. How far the cattle industry will militate against wheat growing must be left to the future. The line which pays the best returns will of course have the advantage. In Southern Argentina, for example, cattle and sheep raising are a good deal more profitable than wheat growing. Apart

from the turning of wheat areas into ranch lands, the growing of alfalfa has added another difficulty to the farming industry. A class of "colonists" has risen who move every five years or oftener and rent fresh lands from the cattle barons. Such nomadic farming can never build up a nation, and when to this is allied a low order of intelligence and out-of-date methods of agriculture, the wonder is that Argentina produces as much as it does.

15,000,000 ACRES UNDER WHEAT

The wheat acreage of Argentina was fifteen millions in 1909, whereas the Prairie Provinces of Canada had only ten and one-half million acres devoted to wheat in that year. Both countries have almost unlimited natural possibilities. In one thing, however, Argentina can never rival Canada. That is in the production of strong wheats. The principle export wheat grown is the Barletta. This variety is somewhat like the hard winter wheat of Kansas, only a little softer, and the British and German millers do not regard it so highly as the hard wheats of Canada.

Argentina's soil, while rich, is decidedly inferior to our own virgin prairies. The advantage Canada has in fertility of land is reflected in the average yield per acre, which is considerably higher here than there. It is only fair, however, to note that Argentina's average wheat yield is being steadily increased at the rate of over 2 bushels in 10 years.

Her mild climate is usually cataloged among Argentina's assets. Peaches, apples, grapes and sugar cane are among her products. But Canada need not regret the rigors of her winter when the Spaniards and Italians flocking to Argentina are compared with the British, American and other sturdy races which are coming in such numbers to make homes for themselves in the Dom-

A Summer With the Plant Breeders

By J. P. Sackville '15

THIRTY-FIVE hundred bushels is a big crop of one variety of grain for an Ontario farm and when it is sold for \$2.25 a bushel it looks as if the Western prairies aren't in it for growing money-making grain. Mr. Klinck, of York Co., procured two pounds of O. A. C. No. 72 oats through the Ontario Agricultural and Experimental Union in the spring of 1910. In 1913 he harvested 3,500 bushels of grain from that two pounds; besides selling three bushels in 1912 for \$25.00. From the 3,500 bushels 2,500 bushels of clean seed was sold at \$2.25. The foregoing account is interesting, but the question is how was it possible to obtain this large yield and combined with it the extremely high price.

Eleven years ago ten thousand grains of Siberian oats were planted separately in rows in such a way as to allow for maximum growth and development. These plants at harvest time were all carefully studied and selections made from the best. This process was carried on for several years until the desirable characteristics were established beyond a doubt. Thus O. A. C. No. 72 oats came into existence. They are exceedingly popular with those who have been growing them and the demand for seed is likely to increase. Mr. Klinck got in on the ground floor and was in a position to realize a good profit.

With the idea of getting information on the work being done by the experimental department of the College in the way of plant selection and the improvement of the field crops of the Province the writer spent the summer with that department. It is not the purpose of this article to go into any lengthy description of the work being

done along these particular lines as this is fully taken up in the Annual Report by more competent men. It is rather to give the readers of the *Review* some idea of what was expected of him and of the impressions gained while working on the department.

There is one thing above all else that should not be lost sight of and that is the opportunity to *get experience*. If one spends five months on the work and fails to get that he has nothing; in other words, the remuneration is so small that it is essential that one obtain considerable knowledge to warrant the expenditure of time. The work, generally speaking, is not laborious; time restriction is not too severe and the heads of the department are willing and anxious to give any information possible. Everything, then, is favorable for acquiring a pretty fair idea of the work. In fact, it rests with the man himself, if he is eager to learn he has the opportunity.

Practically all the seed is made ready during the winter and early spring. Beginning in April the work consists of planting the spring grain, which usually takes over two weeks. In the plant-breeding division many different crosses and selections are planted side by side under as far as possible the same conditions to determine their comparative worth. When it is known that much of this grain has to be put in an exact distance apart, one single grain in each place, some idea of the work connected with it may be estimated. This grain, as well as the winter wheat, is hand-hoed when up a few inches. Each plot is marked by a stake on which is printed the variety or number. The printing of the stakes alone is a

standing job for wet days. In several plots of alfalfa each individual plant was cut and weighed separately and the color of the blossoms noted. The most important work during the season, however, is note taking. It is important that a check be kept on each plant during the entire growing season; hence the necessity of taking notes frequently. After the grain is headed the plots are scored every few days in respect to maturity, relative worth, length of head, straw, rust, height and several other points. Harvesting and threshing occupies three or four weeks

ments. For instance one sees several varieties of oats growing side by side. The growth of the different plots is noted from time to time until they are harvested. The yield at threshing time is noted and this information is altogether more likely to be remembered than if it were only seen in print.

The same applies to the different varieties of potatoes. It is interesting to compare their growth and yield. In other words one's interest is stimulated in the relative value of the crops and it is quite possible to learn more about them in two or three months than would



and is followed by cleaning. In brief the foregoing was the order of the work on the plant-breeding division from April until early in September.

Now the question comes: what is there to be gained by spending five months at this work? Possibly the greatest information to be gained is in noting the experiments that are being conducted over the entire grounds. It is one thing to read from an annual report of the many lines of work being conducted; it is another to actually see these crops growing. The same is true in regard to the results of experi-

be learned in the ordinary way in as many years. The scoring and selecting of plots tends to develop the faculty of quick decision and soundness of judgment and in addition one learns the characteristics of an ideal crop. In other words one naturally becomes a better judge of grain crops. These things come naturally to a man; they are part of his work and he acquires them unconsciously.

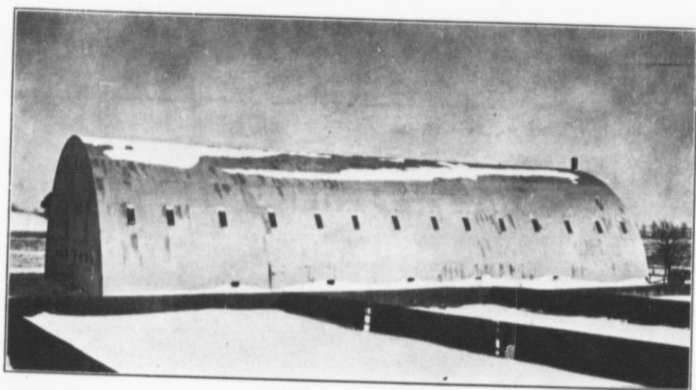
There are, however, other matters upon which impressions are gathered. It has been said that the grain crops of the Province have been on the in-

crease during the last twenty years. No doubt some of the credit for this may be attributed to the work done in seed selection at Guelph and the distribution of this improved seed through the Experimental Union. But why leave the work to the College alone? Farmers on their own farms with the expenditure of comparatively little time and practically no expense could increase the yield of grain very considerably. Mr. Drury of Crown Hill, Simcoe Co., had a vigorous growth of Banner oats during the hot, dry spell of June and July while many fields in his district were anything but a satisfactory crop. His success was due to the careful selection of seed. There is no room for argument regarding the value of sowing good seed. The plan outlined by the Canadian Seed Growers Association is both efficient and practicable. In brief it is the setting aside of say one acre of clean land, and commencing with this sowing pure, sound seed. Shertly be-

fore harvesting select sufficient of the more vigorous plants with plump grain to sow the acre plot the following year. The remainder of the plot serves as the source of seed for the main field crop. Continued along this way year after year the result is a plentiful supply of reliable, vigorous seed, which spells larger yields.

Not the least pleasant phase of a summer spent at the College is the opportunity of meeting a number of the boys who drift back more or less frequently, and the association with those that remain. Considerable experience is to be gained by being in close touch with the other departments of the College even though not directly connected with them.

The hundreds of visitors coming to the College in June; the live-stock and field crop judging courses in July; the teachers summer courses and conference all tend to give the grounds and buildings an air of College days even during the summer.



"There's a Good Time Coming, Boys!"

THE O. A. C. REVIEW

REVIEW STAFF

ANDREW CORY, *Managing Editor*

A. M. McDERMOTT, *Asst. Editor*

R. D. COLQUETTE, *Agriculture*

B. E. FOYSTON, *Experimental*

R. W. DONALDSON, *Horticulture*

J. P. HALES, *Poultry*

R. H. ABRAHAM, *Query*

J. R. DONALDSON, *Alumni*

S. B. STRUTHERS, *College Life*

T. B. COTSWORTH, *Athletics*

C. L. RAWSON, *Artist*

W. MALCOLM, *Locals*

GLADYS MANNING, *Macdonald*

Editorials

Company Attention!

CANADA is at war. The most stupendous tragedy of all time is being enacted; the British Empire is engaged in it and Canada is neither neutral nor non-combatant. Canadian soldiers are being rushed to the front. The Canadian Militia is being held in readiness and may be called out at any time. Should it be required elsewhere our inland cities would be left entirely without military protection: a situation which cannot be tolerated by any country in times of national stress.

That 400 young men should assemble at this College and proceed as though we were living in the "piping times of peace" is an anomaly which is simply unthinkable. A few weeks ago the question of forming a company of light infantry was discussed by members of the staff and some of the students. As their representative, Mr. Hart interviewed Col. Macdonald and also Capt. W. Simpson, who commands the 16th Howitzer Battery C. F. A., with the result that there is being or-

ganized at this College a supernumerary rifle company attached to that battery. This company will at present devote its time to manual and firing exercises and infantry drill, under the direction of professional instructors. It will come directly under the command of Capt. Simpson, but will be otherwise officered by College men who have yet to be appointed. In the appointments men with previous military experience will take precedence. Organization work has been almost completed and now that the students have arrived it is hoped that every man will interest himself in a work that is of such vital importance at the present crisis.

Enlistment is for the regular term of three years with the usual privilege of withdrawal upon giving due notice. When leaving the College a man may have himself transferred to the military unit of his own district. Accoutrements, arms and uniforms will be supplied by the Department of Militia. It is proposed to drill one

evening a week from 4:30 to 6 o'clock and on Saturday afternoons.

Enlistment in this company is purely voluntary but we are sure that at the present critical time the men of the O. A. C. will not be slow in availing themselves of an opportunity to learn at least the rudiments of military drill and rifle practice.

The Co-operative Association

Through the O. A. C. Students Co-operative Association the students have an opportunity of doing for themselves what in the past others have done for them—and charged them roundly for it. Through it they invest their own capital, purchase their own supplies, furnish their own labor and reap the profits. It is a money-saving and money-making institution conducted on sound business principles. Its policy is to supply goods and services to members at cost and to non-members at prevailing prices.

WHAT THE ASSOCIATION HAS AND WHAT IT DOES

A SUPPLY STORE

This is situated in the main building. In it a student can purchase anything from a lead pencil to the *Cyclopedia of American Agriculture*. In the spring the profits are apportioned among the members according to the amounts of their purchases. Non-members can secure their supplies at the same rate as members but are not entitled to the rebate.

A MAGAZINE

The *O. A. C. Review* is owned and published by the Association. To non-members the subscription is one dollar a year. Members receive the *Review* for a year without further charge and have also a voice in the

distribution of its profits, which amount to about \$700.00 annually.

A SKATING RINK

The Association owns and operates a \$10,000 skating rink with one of the best sheets of ice in the Province. In it the home games of the intermediate O. H. A. are played. Membership includes a season ticket for the rink which entitles the holder to two night and three afternoon skating periods per week. The rink is well patronized by the girls from Macdonald Hall and by many of the best people from the city and the associations are of the most desirable kind. The annual amount to be paid on the building is \$800 with interest. All profits over this amount are distributed as the members of the Association see fit.

MEMBERSHIP

Membership in the Association is restricted to students of the Agricultural College and of Macdonald Institute. The membership fee is four dollars a year. This entitles a member to the privileges of the supply department and a share in its profits, to a year's subscription to the *O. A. C. Review*, and to a season ticket for the rink.

HOW IT WORKS OUT

Last spring the supply department returned to each member an amount equal to 15 per cent. of all his purchases. At this rate a member who would buy \$27.00 worth of goods would receive at the end of the year a rebate of \$4.00, which would cancel the cost of his membership. During the year he would have secured his supplies at prevailing prices and have had a season's skating and the *Review* for a year for nothing. These two alone cost non-members \$5.00. The Co-Operative Association appeals to the students as a straight business proposition of which it pays to become a member.

Canada's War Footing

By Andrew Cory

ONE of our newspaper poets has recently written with verity: "Our only thought to live and die, to comb the earth for gold." He epitomises in these few words the spirit of tranquil contentment that has permeated the Canadian-born during the past century. Far, far from us has sounded the rattle of the drums beating the "pas de charge," the blare of the bugles. We have heard no jingle of spurs, no measured tramp of myriad feet. No sweeping beam of insistent searchlights has swept our coast, and played upon our harbor ways. We were suckled amidst the sleepy droning of the bees and had as distant lullaby the whistling of our sires behind the plow. Shrired from the lusts of warring man by leagues of whispering prairies or verdurous sugar-bush, the very power to realise what the meaning of war is has left us.

The world is in arms but Canada still yawns as she wakes from sleep. She is like the schoolboy who has put one leg out of bed and said, "Alright, Mother!" to create an impression of alertness. In another five minutes a Teutonic boot deftly hurled will arouse her to irritable alacrity and then it will be the case of a search for socks that cannot be found, for a collar button mislaid, for those Dreadnoughts that like the Flying Dutchman sailed only in the clouds, for that squadron of Laurier cruisers that never glided down the ways, for enough ammunition for those excellent Ross rifles, for an army of TRAINED troops efficiently equipped, and capable of standing against a foe whose military efficiency has never been surpassed.

A press who have either lacked the

courage to print one word which will show matters in their true light or who are as ignorant of military matters as the mass of their fellow countrymen, have sedulously avoided showing up the actual state of affairs that exists among the Canadian militia and have contented themselves with lauding Canada for her tit-bit gift of a million bags of flour and for the sacrifice that she is willing to place on the altar of 100,000 lives. They have neglected to state that she has no equipment for 100,000 men, that there are batteries of her field artillery that take by actual count eight minutes to prepare to receive Cavalry—that is to say sufficient time to enable a single troop of horse two miles away to come up and cut the gunners to bloody ribbons.

With very few exceptions there is hardly a company of the Toronto regiments that knows even the rudiments of company attack in extended order in peace. Heaven defend them in a European war, for they themselves with all their undoubted dash, grit and physique never can.

Military men who have watched the troops, either at the Armories or at Long Branch Concentration Camp, denounce even the very best of them as utterly raw and are filled with a profound pity, when they contemplate the advent of these regiments at the front.

The writer, who lays no claim to be a military expert, has nevertheless, had a unique opportunity since the beginning of the war of studying the evolutions of every Toronto regiment has watched the drilling of every recruit squad that has yet been formed, has interviewed commanding officers,

squeezed out the opinions of ex-Imperial service men, fraternized with the soldiers in camp and kept accurate notes of such regimental statistics as were available.

From the mass of evidence the writer has collected he has no hesitation in saying that the Canadian militia are the finest body of men in the world and the most inefficient so-called trained troops in creation.

The idea held by so many Canadians that good shooting is the only requisite and that drill is merely an unnecessary grandstand accomplishment is balderdash. We are not about to fight Boer irregulars. Irregulars can fight irregulars. But irregulars or rather half-baked regulars such as the Dominion militia cannot hope to stand against the German troops for several months to come.

War is as exact a science as chemistry. To advance an army corps to the position desired without a hitch, even to move a battalion so that the right flank is not struggling half-a-mile behind the left requires mathematical precision of movement. Each individual must move as accurately and as much in his appointed place as the cogs of a watch wheel. Even in peace on a parade ground perfect precision is only attained by constant practice. In manoeuvres, in war, among broken country, where troops are moving in extended order over the roughest of ground, the task of keeping a good alignment is infinitely more difficult. Try drilling in the gymnasium and then attempt the same evolutions in a level hay field and see the difficulty that will at first be experienced. "Drill! Drill! Drill!" should be the motto of every militia company.

If alignment is broken over a face of perhaps a mile, the absurdity would be found of troops, ordered to raise their

sights to 200 yards, shooting at every range from 200 to 600. Of what avail would be excellent shooting then.

Watch a couple of good boxers evenly matched and see who will win—the man with ring craft, the man who can exercise such self-discipline that he will back round the ring for five rounds in order to fetch his winded opponent a finishing wallop in the sixth. What was the chief trouble with volunteer regiments and companies in South Africa? Not ignorance of how to advance, but of how to retreat, a lack of discipline that led officers of battalions and companies to disregard orders because they were not morally brave enough, wise enough or well-trained enough to know that retreat under orders was more honorable than advance against orders. Well drilled troops obey orders as mechanically as a subject under the power of a hypnotist. No bursting of shells, no fierce lust for killing can rattle them. To right incline, or obey any other order under fire is as natural as to salute a passing officer.

It is of bread and boots first, good shooting second and discipline all the time, first, last and everywhere that wins battles.

It is time that Canada stopped playing at soldiers. It is time forsooth. Yes, it is well past the time.

Canadians cannot possibly put an efficient army in the field, even a small one, for the first campaign of the war that is now with us. In spite of the laudatory press, it is now as a nation—puff ourselves as we will, that we must eat dirt. We have been spoon-fed by Great Britain since birth and have been content to lie in ease without dignity and prate of our waving wheatfields that only the sheathed swords of Great Britain have assured to us. Except by the sufferance of the British tax-

payer we own not one title of our well-being. Our ministers will get peerages for sending a contingent and while Great Britain pats us on the back, she will snigger behind her other hand. For what is this boasted first contingent we are sending. The 12th York Rangers have more Canadians in their ranks than any other Toronto regiment, yet 61 per cent. are British-born.

The only regiment that is fit for the firing line is the Princess Patricia Light Infantry. To sort out the number of Canadians in that regiment would take a long time. They are hard to find. The writer will undertake to do a week's work of sixty hours gratis to any man in the College, who can show that more than 40 per cent. of the men of the present overseas contingent are Canadian-born. Yet, Ye Lords, it is not so very long ago that papers printed want ads with "No Englishmen need apply."

The Englishmen, the Irishmen, the Welshmen, the Scotchmen, in Canada are all applying now and the notice is taken down. They are applying to get slaughtered under the leadership of gallant military amateurs that can no more handle men in the field than they can solve the riddle of infinity.

It is not cowardice or sloth that has brought Canada to this humiliating position, a position which she is now desperately striving to make good. It is partly environment and partly the fault of a too indulgent parent.

Canadians are not cowards and weak-

lings. They are stalwarts in every sense of the word, but their consciences have only just begun to awaken to their moral obligations. Possibly the present war will purge and scourge us till we emerge a nation strong and proud. Proud, not of our wheatfields which we cannot help, but proud that we have done our duty among the nations of the world and have washed away in blood the stain that tarnishes our honour.

We at the O. A. C. can show the manhood that is in us. Our opportunity lies before us. Let us make our militia companies—and we have enough men here to form half a battalion if we so wish—the most efficient fighting unit in Canada, and a unit that contains the greatest proportion of Canadian-born men ever yet seen in this country.

Tunics properly worn, belts properly buckled, great coats properly rolled, rifles properly cleaned are the outward and visible sign of an inward and spiritual grace. They are the sign of a well-disciplined, well-trained, highly efficient corps. Cease to be only football fans! Let us be soldiers of Canada and the King, and let us at whatever cost to our own personal comfort drill, drill, drill. This war may be an affair of years; a second campaign may see us needed in the field. But whether it be at the front or peacefully guarding the City of Guelph, let us be an example to every militia unit in Canada and lead not only in the arts of Agriculture, but in the art of war.



LIGHT

The night has a thousand eyes,
And the day but one;
Yet the light of the bright world dies
With the setting sun.

The mind has a thousand eyes,
And the heart but one;
Yet the light of a whole life dies
When love is done.—*Bourdillon.*

Climatic Adaptations of Apple Varieties

By M. Kelleher, '14

CONDITIONS of soil, climate and culture under which our various varieties of apples grow, influence the apple in various ways. To attain the highest degree of success the conditions best suited to the individual variety should prevail. In the following paper I wish to discuss some of the variations due to climatic conditions.

The causes of great differences in apple varieties are chiefly due to (1) Cultural conditions, (2) Differences in soil types, (3) Differences in climate. The two points mentioned first are under the control of man, but man cannot influence the climatic variations to any extent. Size, color, form, keeping or shipping quality may be influenced by cultural methods. Handling the soil, fertilizing and pruning, each plays a part. Every grower knows that by pruning to keep the head of his tree open, his fruit is better colored, as more light can enter.

The nature of the soil has a great effect on the character of the fruit. Thus for instance, we find red apples grown on a sandy soil more highly colored than those grown on clayey soils.

But I must return to the question of climatic variations. The range available for apple growing is governed by climatic conditions. The apple, being a fruit of a temperate climate, does not flourish in the far north nor in the warmer sections of the temperate zone. It can adapt itself to various cultural conditions, irrigation, etc., but the limiting factor is temperature. The northern limit on the American continent is fixed by the winter minimum temperature. Few if any varieties will withstand a temperature below—40

degrees F. The southern limit for successful apple culture is excessive heat in summer or the high mean summer temperature.

In calculating the mean summer temperature, the months of March to September were included. The mean temperature for each month from both the American and Canadian Weather Bureaus was averaged up. The mean summer temperature was found to vary from 52 degrees to about 70 or 72 degrees F. in the apple growing section. Latitude, elevation, aspect, site, soil, culture, prevailing winds and sunshine influence the mean summer temperature.

The modifying effect of climate on the development of the apple may be as form, size and general development.

During the early stages of growth following blossoming, the form of the apple is relatively more elongated than in the mature fruit. During the later stages of development the cross diameter increases. Now if blossoming is followed by two or three weeks of relatively cool weather, greater elongation results. A large number of observations have brought these facts to light. This explains the greater elongation of fruits in the vicinity of large bodies of water where the spring is relatively cooler.

Now, if we examine the fruit on a tree, the upper south quarter yields the flattest fruit each year, while the elongated portion of the fruit comes from the lower northern quarter. This supports the theory that the elongation of the fruit is due to the cooler weather, and indicates how much the heat of the sun influences fruit production. The size of apples is influenced by many

factors besides heat, but the size is in a general way in direct accordance with the mean summer temperature. Where this is relatively higher, the size is increased.

Climatic conditions have divided the apple growing section of the North American continent into seven belts. Thus for instance, we find the Snow in the northern belt, the Baldwin, Spy, Rhode Island Greening, Hubbard-sten etc., flourishing in the North central belt, while in the most southern belt the Yates, Terry, Shockley and Huse are the leading varieties. Some of the hardy varieties are spread over the greater part of the section, while other varieties are restricted within very narrow limits, due to climate. Time will not permit my dealing with this division fully, so I only wish to make a few remarks on one or two varieties. The McIntosh in the Baldwin belt is a fall apple, but south of this it becomes a late summer apple. The Grimes in more northern locations is smaller and more acid than if growing south. The Greening (R. I. H.) when grown towards northern limits attains better size and appearance than the Baldwin, while in the south it becomes an early fall apple, ripens prematurely, and drops or even decays on the trees. The Spy rots on the tree and does not attain its high color if grown south. Thus some of our most favored varieties become almost useless when grown under climatic conditions not suited for their development. The climatic conditions have forced adaptation of suitable varieties to the various localities. This brings us to the question of the relation of temperature to development of fruit. The influence of mean summer temperature, the winter minimum and summer heat have been previously dealt with, but I should like to discuss more fully the influence

of the summer mean temperature.

The effects of a low mean summer temperature are:

1. Greater acidity of the fruit as the fruit cannot mature properly. It is well known that the acidity of the fruit steadily decreases all through the stages of growth, ripening and decay.
2. The content of insoluble solids is increased, and this decreases the "quality" of the apple.
3. The flavor is more astringent, due likely to the greater content of tannin. Northern grown apples generally show greater astringency than the same variety grown south.
4. The coloration is less when the summer heat is low, doubtless due to lack of sufficient sunlight to develop the pigment. But if we go too far south the same results. The most intense color being found about the centre of distribution.
5. The size decreases when the season is short and cool.
6. There is more danger of the apples scalding in storage as it has been shown that apples that have not been well matured on the tree are more likely to scald in storage.

HIGH MEAN SUMMER TEMPERATURE

The results of an excessively high summer mean temperature.

1. Uneven ripening results. Now summer and fall varieties show a tendency to ripen unevenly, making two pickings desirable. The winter varieties show a similar tendency when the mean summer temperature is too high.
2. As the fruit ripens unevenly, less by premature dropping is increased.
3. If the summer mean is excessive for the variety, rotting on the tree often results.
4. The keeping quality is poor, because the apples after ripening are still subjected to a high temperature and

continue rapidly on the road to decay.

5. There is a lack of flavor. It would appear that the cool weather of autumn is most favorable for the development of flavoring oils, hence if the apples ripen prematurely these oils do not develop.

6. The fruit is "mealy" due to overripeness.

7. The color is less intense, because bright sunlight combined with cool, frosty nights tends to produce high color in the apple.

8. When the summer mean is too high, the apple ripens prematurely and does not attain full development.

Now as we have seen, a too high or too low mean summer temperature has a bad influence on the fruit, what we want is the optimum summer temperature, and this varies for different varieties. When there is a question of which varieties to plant, the mean

summer temperature for the locality should be ascertained and varieties suited to that mean planted. It has been found that a deviation from the optimum mean for any given variety is apparent in the fruit.

In summing up we find that variation in apple varieties may be due to cultural methods, soil or climate. This latter is the limiting factor in the distribution of apples on the American continent. We find that the variation of mean summer temperature influences the apple as to size, form and distribution. Further we find that each variety of apple requires an optimum mean summer temperature if best results are to be obtained. The despised Ben Davis, for instance, grown in Ontario, is hard and woody, but its character improves materially when grown in districts where climatic conditions are better suited for this variety of apple.



Build thee more stately mansions, O
my soul,

As the swift seasons roll!

Leave thy low-vaulted past!

Let each new temple, nobler than the
last,

Shut thee from heaven with a dome
more vast,

Till thou at length art free,

Leaving thine outgrown shell by life's
unresting sea.

—Holmes.

O for one hour of youthful joy!

Give back my twentieth spring!

I'd rather laugh a bright-haired boy

Than reign a gray-beard king!

* * *

There never yet was human power

Which could evade, if unforgiven,

The patient search and vigil long

Of him who treasures up a wrong.

—Byron.

Farm Efficiency

By E. W. Weston

THERE are degrees of efficiency. The majority of farmers are, or have been efficient, or they would have been starved off the earth. But they must be more so if they are going to succeed. How? Chiefly by realizing the fact that farming, in addition to being a mode of life, is a business, and as such must be so run as to conform to the basic principles of efficient business. In addition it must conform to the special essentials of efficient agriculture.

Honesty, backed up with industry, is the first and most important of these business principles. It is not sufficient that the farmer be honest, but people must know that he is honest. In order to foster this opinion he must do nothing, no matter how trivial, to give them cause to doubt. Also, it is just as important that he be honest in his dealings with himself as with other people. He must remember that although dishonesty sometimes seems to pay best, if he is not honest he cannot possibly be efficient and therefore a success.

Then, as with other business, success depends very much upon what the farmer knows about his business. Some men seem to possess natural ability, which is the power to judge values correctly; but even with these, it must be specially developed and trained by education along the required lines if it is going to make for efficiency. Even then it will fail if it is not supported by good common sense. Education must not stop or the farmer will be left behind; he must read and observe continuously and then give careful thought to his reading and observations. Then he must pick out and strive to apply any useful information to his business of farming. It can be readily seen that

to accomplish this will require a vigorous body and mind. This is natural, as any business bars misfits and weaklings. This is especially true in farming, as a man to be a really successful farmer must be sound in body and mind.

The next essential is that sufficient capital be available. Otherwise the business is so handicapped by not being able to take advantage of opportunities as they come along, that it is next to impossible to be efficient. In order that a farmer may make a salary of one thousand dollars a year, he must have fifteen to twenty thousand dollars of available capital. If he has two thousand or even fifteen hundred dollars, he should be able to get the rest in several ways. The best one is to invest the personal capital in equipment and to become a tenant.

This demands that a man have good credit. In fact, no matter how much money he has, he must take care of his credit. In order to do this, he should be careful that there are not a lot of petty debts scattered around. It is far better that he have one big one. Again, he must do his best to guard against misunderstandings. This may be done by reducing all transactions to writing.

By paying by cheque he accomplishes this, as a cheque is a receipt. At the same time, he is able to keep all debts paid up, as he always has the "change." Also if he is "pinched" for money, there will be only one debt and that will be at the bank where it belongs. There is, however, one disadvantage in using cheques. This is that it is often inconvenient to get them cashed. In this case the farmer should be able

to cash his own cheque, receiving it back as a receipt of the transaction.

When using credit such as buying by note or raising money on a mortgage, he must be sure and give himself plenty of time. What is more important, if he finds he will have to renew, he should make arrangement for renewal a long time in advance. He will then be certain that he can renew. In regard to a mortgage, a farmer must always remember it is an impending debt, and he should never under any conditions consider it as permanent capital. In dealing with credit or using it, this always should be borne in mind, "that the more risk there is in a business the least able is that business to carry a debt." If this is remembered, it is not likely the business will be swamped in debt.

Efficient business keeps track of, and aims to supply what is demanded by the trade. Applied to farming this means that the type of farming *best* suited to the conditions must be followed. In other words, not only shall the crop grown be profitable but it must be the most profitable. Similarly it is not sufficient that the methods used be profitable but they must be the most profitable. Strangely this is an essential not very closely complied with.

The last common business essential is that there must be a means of keeping track of the financial details of a business. This is the most neglected principle of all as far as farmers are concerned. Because it is in itself non-productive work, farmers have been slow to realize how vital it is to efficient work. Now it is not a system of book-keeping which will account for every cent that is wanted, but a system of cost accounts, by which the approximate cost of, and profit and loss on, everything on the farm can be ascertained, is required. From these re-

ords a farmer will know which things to do and which not to do. No matter how this accounting is accomplished, an annual inventory must be taken when there is the least stock on hand. Also the farmer must keep a personal account. Note, however, a farmer must be cautious and be sure that he is applying right principles in his accounting, and in his use of accounts, or he had better by far have no accounting system.

So far the essentials pointed out are common to both efficient farming and business. The principles and essentials following, apply especially to farming.

First there must be a sufficient area of proper layout and topography available for the types of crops to be grown. The layout and topography may vary so much with conditions that they cannot be discussed here. However, the area must be large enough to furnish work the year around for one or more teams and for at least one man in addition to the owner. The chief reason for this requirement is that the cost of horse labor is almost inverse to the number of hours of the year worked. At its best it means a charge of from \$2.00 to \$6.00 per day worked, which is a big item. Now if there is not enough work, the horses cannot work. Again if the owner is the only man on the place, when he is busy at other work, the team is idle, so there you are. Therefore, the least area which can be effectively worked requires two men and one or more teams the year round.

The ground must be sufficiently fertile for the type of farming, and at the same time have the proper texture. For some types the texture is most important, and pure sand is fertile enough as the conditions and profits warrant the using of sufficient amounts of fertilizers to grow the crops. But these are the exception, and as a rule,

the subsoil and soil must be rich, especially in lime. This looks odd when commercial fertilizers are so much in evidence. Although these help to a certain extent and in some circumstances pay for themselves many times over, it is much cheaper to buy the fertilizers when the farm is bought. Therefore, by all means choose a soil which is fertile and of good texture with a plentiful supply of lime.

Now the special essentials of efficient farming which have been pointed out above, must be right to start with. They are almost absolutely beyond the control of the farmer, except that he can see that they are complied with before he starts to farm. If, after careful investigation, he finds them too far wrong, it would pay him to be a good loser and to sell out for the best price. Then he can choose a farm which does comply to some degree with the essentials, and have a good chance to be efficient and to succeed. The remainder of the essentials can be complied with. They are principles, the following of which depends on the farmer.

The first principle is that the crops grown must be not merely profitable, but the most profitable under the conditions. Moreover, of the crops grown, the farmer should aim to grow the greatest area possible of that crop which will pay the best, and in his spare time, with the same equipment and men, to raise as many acres of other crops as possible. These additional crops must not interfere seriously with the main

crop and they must be the most profitable crops, under the conditions, which will fit in.

The last principle applies somewhat to other business, but most especially to farming. It is, work must be done on time, not a little too soon or too late, but on time. It is astonishing how doing work at the wrong time lessens the effectiveness of the work. This lessens the efficiency of the farm very much. Everything about a farm must be done when it is time to do it and then only, if good results are to be obtained.

In conclusion, I will state, that all through the above discussion the work farming stands for a business which makes its profit by producing agricultural products. These may be cuses or cabbages. Also, I will state that it is next to impossible to comply entirely with all the above essentials at the same time. Nevertheless, they must be all taken into consideration as totally ignoring any one of them means failure. This would be so, if every other one was entirely complied with. Therefore, as ignorance if no remedy, a farmer should study these up and get to understand them. Then, he will be in a position to apply them effectively. I say he must do this if he would succeed. No matter how much he knows, say he must do this if he would succeed. No matter how much he knows, about crops and stock, he will never be really efficient unless these essentials and principles are recognized and applied.



Experiment and Progress

B. E. Foyston, 15

ONCE a year there is published by the Department of Agriculture a blue book entitled, "The Annual Report of the Ontario Agricultural College and Experimental Farm." A little less than half of this report is taken up with the report of the Professor of Field Husbandry—a statement of results obtained from past years experiments and conclusions deducted therefrom. Each year sees much accomplished in this experimental work, but much left to be done. The work is never-ending. New varieties of grains and grasses are constantly appearing and must be tested; old varieties must continue to be experimented with for they embody possibilities of improvement through selection.

Most things in the beginning are experimental. They must attain certain standards if they are to make good or at least be better than that which has come before. The college itself was at the beginning an experiment. The standard it had to reach was efficiency in agricultural instruction. O. A. C. No. 21 barley was at the beginning an experiment. It had to prove itself a better barley than Mandcheuri; had to come nearer the standard in strength of straw and grain production. It made good and has put thousands of dollars in the pockets of Ontario farmers. It is no exaggeration to say that were it not for the work that has been done by the Field Husbandry Department in its experimental work, agriculture would not be as far advanced in

this province as it is today, and for this reason, that farmers would not so largely be growing those varieties of grain that give the best results as proven by repeated experiments. That the Government recognizes this fact is proven by the willingness with which it granted the money to build the new field husbandry building at the College. That the farmers realize that the work is benefiting them is proven by the large number belonging to the Experimental Union and by the demand for a variety of grain that is recommended by the College.

Without experiment there can be no advancement. By experiment the useless and less profitable is eliminated; the best and most suitable ascertained. But farmers should not be content to blindly accept these varieties of grains or crops that give the best results in one locality or on one farm. Conditions of soil and climate make a difference. Experiment on your own farm. Give four or five of the leading varieties of the different grains on a small plot in some suitable location. The work is not difficult and it will pay in dollars and cents.

It is the intention of the editor of the experimental department of the *Review* to get the best authorities to contribute articles to this section. By so doing it is hoped to stimulate interest in experimental work; a work which has been and must continue to be, the strong right arm of agriculture.

The College Poultry Plant

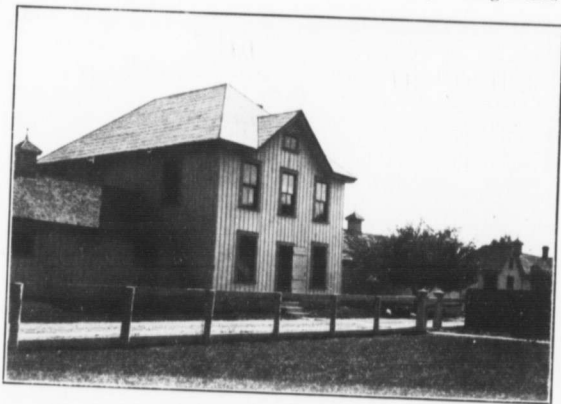
By J. P. Hales, '15

IN the southern portion of the College farm is situated the Poultry Department of the Ontario Agricultural College. This is one of the Departments which has made very rapid strides in development during the past five or six years.

In 1889, when Professor W. R. Graham, took charge, the plant consisted of two houses containing eight pens in each, a brooder house, fattening house, colony houses and a pen for

of more poultry houses. To be sure the progress was not rapid but it was steady. Professor Graham saw the possibilities of the poultry industry and kept ever on the alert to secure a grant for some new scheme. The results of his efforts are today plainly visible. The Poultry Department now consists of housing accommodation for eighteen hundred mature birds and thirty-five hundred chickens.

Of the many changes and improve-



Old Administration Building

the housing of surplus stock. The Administration building was of only one story and contained Professor Graham's office and a class room which would probably accommodate twenty students. The plant kept between two and three hundred hens and reared annually about four hundred chickens. About 1893 another story was added to the main building and this provided an office for a stenographer and a class room with seating capacity for seventy-five. Each year saw the construction

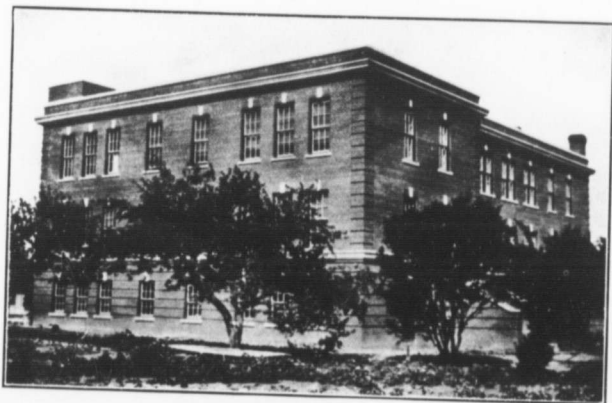
ments which have taken place in and around the Poultry Department of the College, since Professor Graham took charge, possibly the greatest is the new Administration Building recently completed. With the growing interest which has been manifest on all sides, in poultry matters, it was keenly felt that something should be done to relieve the much felt congestion of the old quarters. It was positively necessary to relieve the strain of this congestion and also to still further improve

the Department and place it on an equal footing with the others. Professor Graham, by great perseverance, was able to bring action to bear on the plans which were submitted for consideration.

The new Poultry Administration Building, the erection of which was made possible by the \$45,000 grant of the Federal Government, is a credit to the Institution of which it forms a part. Built of Milton red pressed brick, with grey sandstone trimmings, it presents an attractive appearance,

is located a vault, completes the ground floor.

On the main floor, where the greater part of the administration work is carried on, there is a commodious office provided for each member of the staff with a private office for the head of the Department. One of the offices is supplied with a vault and a dark room. In the vault are stored records and other data pertaining to the extensive experiments. The main floor also provides an egg room 20 by 24, a store room 20 by 20, museum 15 by 22, a



New Administration Building.

which will be much more striking when the surrounding lawns are completed.

The building, which is in the form of an "L," is 66 by 100 feet and is three stories high. The ground floor is taken up with the heating plant and coal room, a killing room 40 by 50 feet, student's work room 24 by 45, a feeding room 20 by 24 and a shipping room 20 by 20. The freight elevator of 2000 pounds capacity and operated by electricity is situated in the shipping room. A store room 20 by 20 in which

class room with a seating capacity of eighty-five, a ladies cloak room 15 by 15, besides a janitor's room and three wash rooms.

The second floor is given over entirely to class work with the exception of one room 15 by 24. This is for the accommodation of the "Poultry Club" of the College, to be used for Club purposes. The balance of the floor contains a class room with a seating capacity of two hundred students, a judging room 20 by 85 with cooping accommodation for four hundred birds, a laboratory

15 by 66 and a men's cloak room.

In the class rooms the ventilation is well cared for by an electrically driven fan which causes a forced circulation of air through the rooms at all times.

The building is finished throughout with hardwood floors and white plastered walls. The woodwork is painted a grey stone except in the offices which are finished in a quarter cut oak grain. Solid brass hardware is used throughout with brass electric fittings to match.

The building throughout is a credit to the Poultry industry of the Province and also to the Federal Government who supplied the financial means to provide for its erection. It is also one of which Professor Graham may be justly proud, and while it might by some be considered a crowning monument to its Department head, yet we consider it but one of the many such that this man of international repute will leave behind him.

The staff consists of Professor W. R. Graham, A. C. McCulloch, B.S.A., and F. N. Marcellus, B.S.A. A. C. McCulloch is assistant lecturer and demonstrator. F. N. Marcellus is field lecturer and has charge of the pedigree breeding work.

Professor Graham, besides greatly increasing the capacity of the plant, has brought the Poultry Department of the O.A.C. to the point when it is looked upon as one of the greatest poultry investigating and teaching institutions in America.

The work of the Poultry Department is very varied. Lectures and practical work in judging, feeding, fattening, incubating, brooding, caponizing and plucking are given to the regular students. In January a four week's poultry course is given to those especially interested in poultry culture. The Experimental side of the poultry business

is not overlooked. The experiments conducted here are on more of a practical than scientific basis. In the past three or four years the experiments have been chiefly in regard to housing, feeding, hatching, rearing, fattening and breeding. Breeding for egg production has received a great deal of attention, while breeding in order to determine the inheritance of certain characteristics has also been looked into.

In the past two years Professor Graham has been working on a new scheme, which, if present indications hold, will give some information as to which pullets will be next winter's high egg producers. In experimental work of this kind two year's work is hardly sufficient to give definite information on. However, results at the present time are reasonably conclusive. The experimental work referred to is the determination of the feather areas. By the term "feather areas" we mean the per cent. of feathers found on the back, wings, tail and breast when the chick is approximately six weeks of age. In general, the result of the work so far accomplished with Barred Rocks may be summarized in the statement—that on the average those pullets having the highest per cent. of feathers on the back will lay the most eggs in the four winter months. The work with White Leghorns seems to indicate that the per cent. of feathers on the back is not as safe an indication as it is with Barred Rocks.

With the erection of the new administration building and the moving of the old, the surroundings are somewhat upset. However, if the visitor or student of poultry culture comes to learn and observe regarding the poultry business this year and not to admire the landscape, next year he will be able to come and do both.

Queries

Query Editor:—The crop on one of my fields, which is rather low lying, began to show signs of weakness early in the summer. It appeared to wilt, and at harvest time did not ripen properly. Kindly suggest treatment.

Answer:—The soil of your field is probably acid. For acid soils an application of crushed limestone is recommended. Four tons of limestone screenings per acre will usually correct acidity. The source of the supply of this material is limestone quarries. The cost is about 50 cents per ton plus freightage. Before proceeding further you had better send in a sample of the soil to the Chemical Department of this College for examination.

* * * *

Query Editor:—Some of my cherry trees are all unhealthy and misshapen. They are about six feet high and one and one-half inches in diameter. I have explored under the bark wherever I saw an exudation of gum or a swelling but have found no signs of the larvae of the bark-borer. There was, however, an absence of cambium and a darkening of the wood. The ends of the branches are shrivelling up and there is an absence of growth in many of the buds, so that many of the twigs have queer tufts of leaves near the ends and are long and spindly.—S.A.

Answer:—I am inclined to think that the trouble with your trees is winter killing of the roots, and I would suggest that you examine them below the ground. If my diagnosis is correct, you will find the bark dead for a greater or less distance around the trunk and for a short distance below the ground. This would indicate winter killing of the roots, due to deep freezing of the

soil. A large part of this trouble is due to the fact that stocks our nurseymen use upon which to bud cherries for trees are not sufficiently hardy for this country.

* * * *

Query Editor:—As an antitoxen is often injected into day-old foals for the prevention of joint-ill, it would be a great convenience to have some vials of the culture on hand. Where could they be obtained by the farmer for use? —“BEES.”

Answer:—The culture may be obtained from the Provincial Health Department, Toronto.

* * * *

Dear Sir:—Enclosed find a sample of bark taken off a four year old cherry tree. When this is further advanced it splits open and draws back exposing the wood. The wood itself is quite firm but is discolored, being a dark-brown. The disease seems to be going through the trees quite rapidly.

Answer:—This is a form of winter injury and probably occurred last winter, although I cannot be sure that it did not occur the previous year. Unless the trees were growing very late in the fall this injury would not be likely to occur in a normal winter. This piece of bark has separated from the wood and a new layer of wood has been produced on its inner surface. This second layer of wood is not attached to the wood lying immediately underneath.

The only treatment which can be given at the present time is to watch carefully those wounds which split and to treat them with paint or other material so as to prevent decay getting into

the tree. As above stated, the cause of the trouble goes some distance back. In future, care should be taken not to force the trees into extra strong or late growth. This can be done by stopping cultivation not later than June the 15th and sowing a cover crop on

that date. The cause of your trouble is the excessively strong growth the trees have been making. The wounds will heal perfectly with no other treatment than simply to prevent decay getting into the heart of the tree.

Off to the Front

Gerald Scott Hirst, familiarly known as "Jerry," was formerly Second Lieutenant in a Yorkshire regiment. He answered the call for volunteers and has gone to the front as Second Lieutenant in the Wellington Rifles.

James Lever, '14, is also with the Wellington Rifles. He enlisted as a private but promotions come rapidly in war-time and by distinguished service he hopes soon to earn a commission.

Arthur Cleverly, '15, though a Yankee by birth, is away with the first Canadian contingent to fight the Empire's battles.

C. B. Nourse, '14, commonly called "Tubby," was for some time with the

South African Constabulary. He is now with Canada's crack regiment, Princess Patricia's Own Light Infantry.

"J. W. R." Campbell, '17, son of Gen. Sir Wm. Campbell, K.C.B. of the Imperial Army, will face the Germans as a Corporal in the 30th Regiment.

"Peter" Barret, who entered the College with the year '16, is with the Grimsby Dragoons, which has gone to the front as dismounted cavalry.

L. Bertram, '15, who hails from Dundas, is reported to have enlisted but up to the present time we have been unable to find out in what company.



The Student's Dream

Athletics

SOCCER

FOR several years past it has been felt by those who have played "soccer" that this branch of sport should have a place in O. A. C. Athletics. Last year this was brought to the attention of the Athletics Executive, and a start was made, but owing to the fact that this sport was not organized till late in the season the arrangements were not altogether satisfactory. The team was entered in a league a little too strong for it. This year, however, with arrangements well in hand and a team entered in a league with Western University and Woodstock College, we are hoping for a successful season if men who have played soccer will work hard and the College gives its support on the sidelines.

There is a feeling among many students that the College is not large enough to support both rugby and soccer and that one will flourish at the expense of the other, both financially and in enthusiasm. With a student-body of over 400, however, we should be able to compete in both games.

It is the duty of every man in the College to support soccer and give it all the encouragement possible, for without support on the sidelines no team can do its best work.

TRACK

Before we are properly settled down

field day will be around again and we are expecting to have a large number of entries with keen competition for the inter-year championship.

In striving to win this championship all who enter are making it easier for the Athletic Executive to choose the best men to represent the College at Toronto Inter-Faculty Track Meet. In previous years it has been found that some of the best athletes were not out on field day because they did not think that they had a chance of winning any of the events. This has been chiefly noticeable of the freshman class. This year we hope and expect that there will be a large number of entries from the freshman class and that we will thus have the best Athletes in each year competing. On field day the executive has its best chance of choosing the track team.

The O. A. C. has never been first at Toronto yet but for the last three years we have stood second; the College in each case being very weak in the pole vaults and in the jumps. It is to be hoped that a great improvement will be made this year in these events and that with this and our showing in the other events, hitherto always strong, the O. A. C. will this year bring home the championship of the Toronto Inter-faculty Track Meet.

The 1914 Macdonald Graduates

Quite a number of our 1914 graduating class have been successful in securing positions. The following list shows those who have positions as Household Science teachers, and gives the present scene of their labors:

- Miss J. Babb, Swift Current, Sask.
- Miss C. Bredin, Prince Albert, Sask.
- Miss H. McMurtry, Moose Jaw, Sask.
- Miss F. Irwin, Winnipeg, Man.
- Miss M. McDougall, Saskatoon, Sask.

Miss F. McNally, Lethbridge, Alta.

Miss A. Grassie, Chatham, Ont.

Miss M. Hiltz, Ladies' College, Toronto.

Misses Millie Smith and Alice Marcellus have positions as demonstrators in British Columbia.

Miss May Lees is pupil dietitian and housekeeper at the Isolation Hospital, Toronto.

The following have positions as pupil dietitians:

Miss R. Montgomery, Hamilton Hospital.

Miss I. Weseloh, Victoria Hospital, London.

Miss W. Clark, Toronto General Hospital.

Miss J. Cavers, Stanfield, Conn.

Locals

Freshmen are requested not to lift more than three of a horse's feet at one time when examining the same for bog spavins.

* * *

With the assistance of the army worm the plant-breeding department has at last succeeded in harvesting a crop of beardless O. A. C. No. 21 Barley.

* * *

There is still some uncertainty as to which of the lecturers Prof. Jarvis bequeathed the story of the toad and the electric light.

* * *

QUERIES AND ANSWERS

(*Purloined from the Query Editor*)

Q. My turkeys have the roup. Can they be cured? I will willingly pay any expenses you may incur in obtaining the information.

A.—The only sure cure for turkeys addicted to the habit of becoming roup is to remove the seat of the trouble with an axe or similar instrument. It is also effective to immerse the head (of the turkey not the operator) for twenty minutes in carbolic acid. The turkey will object to either method but their wishes are not to be consulted in the matter. This information was secured from the Government so that

you have already paid for it in your taxes.

* * *

Q.—What is the enclosed creature?

A.—It is a diurnal rhopaloceros lepidopterous insect, called *Basilarchia astyanax-arthemis* for short. The careworn expression on its face is due to the mental strain of remembering its own name. When travelling members of this class of insects always ship their names by freight. It takes from fifteen to twenty minutes to introduce a couple of them.

* * *

Q.—Has electricity a beneficial effect on crops?

A.—The physics department is getting out a bulletin on the subject and so we will not hazard an opinion. You never can tell what a Day will bring forth.

* * *

Wolsey was down on his luck.

(*Enter Cromwell.*)

Wol. O Cromwell, Cromwell, Had I but saved my cash as I have saved

My cigarette coupons, I would not in mir. age

Been left with an imitation calabash pipe

And a cushion showing the various
coats-of-arms
Of the various Canadian universities.

* * *

All the records for running events
will be broken on field day if the presi-
dent of the Athletic Association can be
prevailed upon to place a German at
the finishing line—(or at the starting
line).

* * *

PEREN HAMLET—To be or not be;
that is the question—

POLONIUS HOROBIN—(dropping into
ragtime)—I want to be—I want to
be—!

* * *

Love and a porous plaster, son,
Are very much alike:
It's simple getting into one,
But getting out—good-night!

* * *

ARCHIBALD—(looking up the wing
venation of a fly in Comstock)—“This
book is not excautive enough for me.”

* * *

HOCH DER KAISER

Der Kaiser of dis Fatherland
Und Gott on high all dings command.
Ve-two—ach! Don't you understand?
Meinself—und Gott.

He reigns in Heafen and always shall,
Und mein own Embire don'd vas
Small,
Ein noble bair I dinks you call
Meinself—und Gott.

Wile some men sing der bower divine,
Mein soldiers sing 'Die Wacht am
Rheim,'
Und drink her health in Rhenish wine
Of me—und Gott.

Dere's France—she swaggers all aroundt
She's aussgesspielt;
To much, we dink she don't amount,
Meinself—und Gott.

She vill nod dare to fight again,
But if she shouldt, I'll show her blain
Dot Elsass (und in French Lorraine)
Are mein—by Gott.

Von Bismarck vas a man auf might,
Und daught he vas glear oud of sight,
But ach! he was nitch goot to fight
Mit me—und Gott.

Ve knock him like eim man auf straw,
Ve let him know whose vill vas law,
Und dot ve don'd yould stand his jaw,
Meinself—und Gott.

Ve send him oudt mit deep disgrace,
Ve gif him insultd to his face,
Und pudt Caprivi in his place,
Meinself—und Gott.

Und vhen Caprivi get swelled hedt,
Ve very promptly on him set,
Und told him to get up and get,
Meinself—und Gott.

Dere's Grandma dinks she's nicht small
beer,
Mit Boers and such she interfere,
She'll learn none owns dis hemisphere
But me—und Gott.

She dinks, good frau, some ships she's
got,
Und soldiers mit der scarlet goat,
Ach! Ve could knock them! Pouf!
Like schomke!
Meinself—und Gott.

In dimes of peace brebare for wars,
I bear thee spear and helm of Mars.
Und care nod for ten thousand Czars,
Meinself—und Gott.

In fact, I humor efery vhim,
Mit aspect dark and visage grim,
Gott pulls mit me, and I mit him,
Meinself—und Gott.

FARMER—(who sees Dustan in the upper branches of a peach tree)—
 “Well, well, I must telephone Mr. Caesar at once. Wonder how many broods a year. Such an uncommon species! Must be one of them there imported insects.”

The man who does not relax and hoot a few hoots voluntarily, now and then, is in great danger of hooting hoots and standing on his head for the edification of the pathologist and trained nurse, a little later on.



“Kill That Bear.”

LATEST BOOKS

Alfalfa in Relation to College Life.
 —Prof. Zavitz.

Why I'm Going Back to the O.A.C.—

How I Am Living Happily Ever
 After.—Mr. Wright.

The Geological Origin of the Sands
 of Time.—Mr. Galbraith.

The best service a book can render you is, not to impart truth, but to make you think it out for yourself.

* * *

Success is voltage under control—
 keeping one hand on the transformer
 of your cosmic kilowatts.

THE O. A. C. REVIEW

THE DIGNITY OF A CALLING IS ITS UTILITY

VOL. XXVII.

NOVEMBER, 1914.

No. 2.

A New Business In Canada

By J. P. Hales, '15

ABOUT 1898, Dr. Robertson introduced into Canada a new business which was, destined to have an important influence on our fast development to receive any surplus which might be offered. Denmark stands out prominently as an example of a country which has es-



Car Lot of Market Poultry.

oping poultry industry. The large dealers and packers realized that it was a great national waste to market thin chickens. The home market was demanding goods of first quality, while an unlimited foreign market waited

established a world-wide reputation by producing an article of uniformly high quality. Denmark's milk fed chickens possibly hold the highest reputation of any of her noted products. In Canada, Wellington County stands as the

only one noted as a producer of high class milk fed chickens. The United States has developed enormous fattening establishments some of these having a capacity of upwards of 40,000 birds. Depots having such an enormous capacity are able to kill, pluck, and grade their products at the minimum cost and to the best advantage.

LACK OF UNIFORMITY

In looking over the poultry found on

finish would be noticed, the appearance improved and the birds would be much easier to dispose of.

A small amount of time and labor would be required to fatten and dress for market the birds annually produced on the average farm. By fattening his birds the farmer would secure an increase of from 5 to 9 cents per pound, besides securing the greatest value for the grains used in the fattening ration. It remains, however, for the producer



Grading and Cooling Room.

markets, in retail stores and commission houses, the most noticeable points are the lack of uniformity in size, fleshing and finish. On thinking the matter over, it appears evident that no difficulty would arise in securing birds of uniform size and fleshing if pure bred sires were used. If the progeny from these sires were fattened by the same method and for the same length of time, no great variation in

to decide whether he will fatten his own birds or leave it to the packer or co-operative association.

No expensive equipment is necessary to milk feed chickens. Some convenient building, where no drafts are found and is not too cold will be found suitable for the purpose. The crates are simple and easily made. The average crate is 7 ft. 6 in. long, 18 in. high, and 18 in. wide and is divided into three com-

partments, each compartment holding four birds. Slats $\frac{1}{2}$ inch in thickness and $1\frac{1}{2}$ inches wide are used in the construction of the top, front and bottom. The ends, partitions and backs are solid. A small V-shaped trough is used for feeding purposes and is held in position by being set in notched pieces of wood at the ends of the crate.

SELECTING CHICKENS

In selecting chickens for milk feeding look for good feeders and economical producers. These will generally be found in birds having short, broad heads, short, stout well curved beaks and bright eyes. The most economical gains are made when the bird reaches a weight of between 4 and 5 pounds. Breeds of chickens belonging to the egg class do not usually yield profitable returns when crate fattened, consequently they are not used extensively for this purpose.

When the birds are put in the crates they are fed lightly for the first five or six days and gradually the quantity of food given, is increased until at the eleventh day they are receiving full feeds, but food is never left before them. The birds are fed twice a day, as nearly as possible at the same time at night as in the morning. In warm weather they are given a drink at noon. Every week grit is fed.

FEEDING

It is very difficult to give a ration that will meet every requirement and suit every individual. If one uses the grains at his disposal and has them ground very finely, he will get very

fair results. One thing that seems essential is sour milk; but if it is impossible to secure this 15 per cent. of beef scrap or blood meal should be used. At the Poultry Department of the Ontario Agricultural College the ration which gave the best results was composed of two parts of finely ground oats, two parts buckwheat and one part corn. Two and one-half pounds of sour milk was mixed with one pound of the grain mixture. Fairly good results were secured by using equal parts cornmeal, middlings buckwheat meal and sour milk.

From seventeen days to three weeks are required to put on a nice covering of fat and to soften up the tissues. The softening of the tissues is accomplished by lack of exercise and by the inter-mixing of fat globules with the tissues.

Before killing, the birds should be fasted about 24 hours. If this is not done the food in the crop and intestines hastens decomposition and the value of the bird is greatly depreciated. The birds are killed by severing the veins at the base of the roof of the mouth. The brain is then pierced by laying the back of the knife along the median line of the roof of the mouth and pushing back until the knife touches the skull midway between the eyes.

The experience of the past two seasons in selling poultry on a market glutted with inferior specimens ought to prove as an incentive to the producer who will fatten and market his birds in a proper way. The demand for inferior goods is very limited. For produce of good quality and appearance there is a market of unlimited possibilities.

Robbie Burns' Rebenge

By James Gordon

THE oldest iron furnaces in Scotland belong to the Carron Company, and are at Carron, a town half way between Glasgow and Edinburgh. The works came into being at the end of the seventeenth century, and were of great importance when Burns lived. At this early period, blast furnace construction was quite inadvised, and the gas from the furnace, instead of being used to make ammonia, and sulphate of ammonia for our farmers, was kept burning continuously at the top of the furnace.

Burns might well be pardoned for likening the sight—at least in the evening—to a glimpse of the nether regions.

When he was a young man, Burns

came to view these works, but chose a bad time to do so. He came on the Sabbath and this was in Scotland, and he came without the necessary card of admission from an official of the company. Consequently, his request to enter was not granted by the porter at the gate, and Burns left in ill-humor. Entering an inn close by the poet scrawled these words on the wall:

"We came na' hear to view your works
 In hopes tae be mair wise;
 But only lest we gang tae hell
 It may be nae surprise.
 But when we tirl'd at your door,
 Your porter daught nae hear us;
 Sae may, if we tae hell's yetts come,
 Your billie Satan sair us.

Dominion Experimental Farm System

By D. Laird '15

WHAT Canada owes to the Dominion Experimental Farm System cannot be estimated, and yet, the Canadian farmer, who is naturally the most affected, has not yet fully realized what it has done for him. Twenty-five years ago, a farmer, if he was able to grow enough to keep body and soul together, was doing exceptionally well; today, thanks partly to the Experimental Farms and those in charge, farming has become a money-making proposition.

The Dominion Experimental Farm System had its beginning in an act passed by the Dominion Government in 1886, whereby a Central Experimental Farm and four branch farms were established. Ottawa being the capital

of the Dominion was naturally selected as the place for the Central Farm. Of the branch farms, one was established at Nappan, N. S., which was to carry on the experimental work for the Maritime Provinces; a second was located at Brandon, Man.; a third at Indian Head, Sask., which was intended to serve the needs of the then North West Territories. The fourth farm was established at Agassiz, B. C., to serve the needs of that huge province with its varied conditions of soil and climate.

The Central Farm contains 465 acres, and is the headquarters of the Director of Experimental Farms, who is responsible to the Government for the work done throughout the system.

At the time this farm was established, and for some time after, the experiments were conducted in a general way, so that the Director was in immediate charge of all the lines of work. However, as time went on the experiments branched out in all directions and the Director was no longer able to supervise all the work. This difficulty was met by establishing new divisions at the farm as occasion demanded. A Dominion officer was appointed in charge of each of the divisions. At the present time there are ten such divisions; they are: Field Husbandry, Animal Husbandry, Botany, Entomology, Cereal, Tobacco, Poultry, Chemistry, Horticulture and Forage Crops. The heads of these divisions are responsible for the work done and experiments conducted in their respective departments, and, in a general way, they direct and supervise the work done on the branch farms.

A superintendent is in charge of each branch farm and works in conjunction with the Central and other branch farms. Each year the heads of the different divisions at the Central Farm visit all the branch farms, and, together with the superintendent, map out the work of the ensuing year for that particular farm.

Space does not permit giving the purpose of this system in detail. However, in a general way it is: To test the merits of all varieties of field crops, fruits, vegetables, trees, and plants under the different conditions of soil and climate.

To conduct experiments designed to test the value, for all purposes, of different breeds of stock.

To develop new strains and varieties of grains suitable for particular localities.

To analyze fertilizers, and conduct experiments, testing their value when

applied to crops of different kinds.

To find by experiment the value of the various foods for animals; nutrition.

To experiment on the diseases of plants and trees; to get authoritative information regarding harmful and beneficial insects and how all can be most effectively handled.

To disseminate by means of reports, bulletins and pamphlets the results of all investigations and to give out samples of surplus products, which have been found to be exceptionally valuable.

It was soon realized, that, owing to the varying conditions of climate and soil, there were not nearly enough farms. Hence, in order that they might fulfil their purpose, and, to supply the popular demand others were established one by one. Today there are sixteen branch farms throughout Canada, besides seven sub-stations. These are being augmented from time to time, so that, if the system keeps on enlarging, as it no doubt will, within a few years (in conjunction with the Provincial Experiment Stations), there will be an experiment farm in every locality.

The Sub-stations have been established in the newer parts of Canada, particularly in sections which are very sparsely populated and where the agricultural value of the section had not warranted the establishing of a branch farm. From the results of the experiments of some of these sub-stations we are getting some idea of the agricultural wealth of this country of ours. Three hundred miles, roughly speaking, north of Edmonton at Fort Vermilion, three varieties of oats were grown in 1912, namely, Banner, Tartar King and Improved Ligour and these yielded 60 bus., $63\frac{1}{2}$ and 73 bushels per acre; barley ranged from 55 to 70

bushels per acre; potatoes as high as 288 bushels per acre; cabbage and cauliflower weighing 15 pounds each and everything else producing in like proportions. Even within six degrees of the Arctic Circle, these stations have demonstrated that good crops can be grown. Hence we begin to realize what a great work this system of farms is doing in opening up the north country.

According to the report of 1912, the farms were ably fulfilling their purpose of distributing seed. In that year 13,500 samples of seed grain and potatoes were distributed throughout the length and breadth of Canada. But it does not end here: each farmer who receives a sample is required to make a

full report to the Department from which he got the sample, regarding its adaptability and value in that particular locality. Thus all these farmers are conducting experiments as part of this great Experimental Farm System.

The heads of the different departments are always kept busy. In the winter during the slack time they are supposed to make known the results of their investigation and to impart to the general public any valuable information that has been gained. This may be done through bulletins, pamphlets or by addressing public gatherings in different parts of the country.



Sunday Evening In Piccadilly

This is the Christian Sabbath and
Under the murky skies
The bells of the Sabbath mingle with
The newsboys' blatant cries,
And the worshippers pass to worship,
Grasping their books of prayer,
While the newsboys shout the war news
That their flaming placards bear.

I hear the organ pealing thru the aisles
Of a holy fane,
While the voices of men and women
Join in the glad refrain,
And the newsboys pace in couples
Hard by the open door,
Shouting the devil's revel in his
Feast of human gore.

The priest in the Church is preaching
The beautiful Christian creed,
And the years are nigh two thousand
Since the Saviour sowed the seed,
But this is the flower we gather on
The Christians' holy day—
The nations locked together in the
Grips of a bloody fray.

MR. G. R. SIMS in *The Referee*.

Cornell University and Graduate School

Facilities Offered For Post Graduate Study And Original Research

By W. Southworth, M.S. Agr., F. L. S.

Cornell University is composed of eight Colleges and a Graduate School. One of these Colleges is the New York State College of Agriculture.

The object of the College is to improve the Agricultural methods of the State and to develop the Agricultural resources in the improvement of crops and live-stock and the manufacture of dairy and other products and in determining the best methods of handling and marketing such products. For the attainment of these objects the College is authorized to give instruction in the sciences, arts and practices relating thereto; to carry on extension work in disseminating agricultural knowledge by means of experiments and demonstrations on farms and gardens; to conduct investigations of the social status of agriculture; to give lectures and publish bulletins and reports, and to make researches and publish results on the physical, chemical, biological, and other problems of agriculture and the application of such investigations to the Agriculture of the state of New York.

The regular instruction in the College of Agriculture constitutes a course of four years, or eight terms leading to the degree of Bachelor of Science.

There is a summer school in agriculture, six weeks in length, designed especially for teachers, school principals, and superintendents, and college students. In addition there are winter courses not leading to credits in the University, and opportunities for students to pursue special work.

THE GRADUATE SCHOOL

The Graduate School has exclusive control of all graduate work carried on in the University. The Faculty of the Graduate School consists of those professors, assistant professors, and instructors who are engaged in supervising the work of graduate students as members of their Special Committee. The Dean of the Graduate School acts as general administrative officer for the school, and at the beginning of each term is usually in his office daily for the purpose of giving advice and information to graduate students.

PURPOSE OF THE GRADUATE SCHOOL

Is to provide the student with the method and discipline of original research, to the ultimate end that he may contribute to the advancement of knowledge.

In furnishing this opportunity for independent study and investigation, the Graduate School seeks to make the conditions such as will enable the student to devote himself wholly to his chosen field. Inasmuch as subjects differ greatly, the requirements for all subjects cannot be stated in terms at once specific and uniform. In some departments of knowledge, original research may begin with the student's entrance into the school; in other subjects much preliminary work is necessary to fit the student for profitable research.

ADMISSION

Graduates of a four years' course in

Cornell University and graduates of other institutions who have pursued a course of study substantially equivalent to that required for a first degree at Cornell, are admitted to the Graduate School in full standing. In determining eligibility for admission in other cases, studies pursued after graduation and experience gained by professional work, or otherwise, are taken into consideration.

A distinction is made between admission to the Graduate School and admission to candidacy for an advanced degree. Admission to the Graduate School admits the student to all the privileges of graduate study, but does not carry with it admission to candidacy for an advanced degree.

CANDIDACY FOR AN ADVANCED DEGREE

A student is admitted as a candidate for an advanced degree when he has satisfied the Faculty and especially the professors with whom he intends to work, that his general preparation and his preliminary work along the line of his specialty are satisfactory in kind and sufficient in amount. A student who has been admitted to candidacy for an advanced degree will be permitted to take the degree in the minimum time of one year for the Master's degree and three years for the Doctor degree, provided, of course, that his work during that time is satisfactory. But it may happen that a student is admitted to the Graduate School without being admitted to candidacy for an advanced degree, for while his undergraduate training and his experience since graduation may justify admission as a graduate student, his training may be deficient as regards some essential point, so that an advanced degree cannot be granted in the minimum time.

It frequently happens that a grad-

uate student can be accepted as a candidate for M.A., or Ph.D., but not for an advanced technical degree. A graduate student having, for example, the Cornell degree of B.A., or its equivalent, could not be admitted to candidacy for M.M.E., or M.S. Agr., unless his undergraduate course or his work since graduation had been of such a character as to make his training fully equivalent to that required for the Cornell M.E., B.Sc. The advanced technical degrees are intended to represent not only advanced work in some technical line but also broad technical training at least equivalent to that required for the first corresponding degree. Students who wish to take an advanced technical degree, but who are not eligible for admission to candidacy may either enter as undergraduates with advanced standing and complete the work for the corresponding first degree, or, if their training is such as to admit them to the graduate school—may enter as graduate students, *not candidates for degrees*, until the requirements for candidacy have been met.

It will thus be seen that a candidate should first present evidence to the Dean of the Graduate School that his previous education and general training has been such as to meet the requirements for admission to the Graduate School. After consultation with the professors in charge of the work which he desires to undertake, the candidate should then select his major and minor subjects and obtain the endorsement of the professors concerned. Candidates for the Masters' degree are required to select a major and one minor subject. For the Doctor's degree, a major and two minor subjects are required.

The application for admission to candidacy properly endorsed, is to be

C.D.



"VE RA VERA
BECOMING ILL
WEAR IT THIS
YEAR

LOOKS BETTER
ON ME THAN
IT DID ON 16

DONT SEE HOW SWEET
SESTEEN COULD WEAR
AHAT LIKE THIS -
L LOOKS GOOD ON
ME

FIRST PLACE
14-15

1918

FIRST PLACE - 1917

FIRST PLACE
14-15

presented at the office of the Dean of the Graduate School not later than two weeks after the date at which residence for the degree began.

CHOICE OF STUDIES AND SUPERVISION

All advanced courses of study offered in the University, and all the facilities for study and investigation afforded by its libraries and laboratories are open to students enrolled in the Graduate School, provided only that they are qualified by their previous study or experience to undertake the particular work desired.

The branch of knowledge to which the student intends to devote the larger part of his time is called his *major* subject. The other fields of study selected, which will be necessarily more restricted in their scope, and which should in general be selected with reference to their direct bearing upon the major work, are called the *minor* subjects.

For the purpose of general supervision the work of each candidate for an advanced degree is in charge of a Committee consisting of two or more of the professors under whom his courses of study are pursued, the professor of his major subject being Chairman. The student is expected to confer freely with the members of his Special Committee, and to go to them for advice, not only in connection with individual courses of study, but also in regard to the general plan of his work.

THE MASTER'S DEGREE

After admission to candidacy for the degree the student must spend at least two terms in residence at Cornell University and pursue under the direction of his Special Committee, a course of advanced study including one major and one minor subject.

The major and minor subjects offered by the candidate must have been selected, with the approval of the Faculty, not later than two weeks after the beginning of residence.

Each candidate must present a thesis, or essay, as the Chairman of his Special Committee may decide, which shall demonstrate his ability to do independent work, and which shall be acceptable in style and composition.

A statement of the general subject of the thesis, with the written approval of the Chairman of the Special Committee in charge of the student's work, must be furnished the Dean not later than December 1st of the Academic year in which the degree is to be taken.

The completed thesis approved by the Chairman of the Special Committee must be presented to the Dean at least five days before the examination for the degree and will be kept in the Dean's office for several days for inspection by such members of the Faculty as may be interested.

Each candidate for the Master's degree is required to furnish a bound type-written copy of his thesis for the use of the University Library, and this copy is to be delivered to the Dean on or before the Friday preceding Commencement.

DOCTOR OF PHILOSOPHY

The degree of Doctor is intended to represent not a specified amount of work covering a specified time but long study and high attainment in a special field, proved in the first place by the presentation of a thesis which displays the power of independent investigation, and in the second place by passing corresponding examination upon the ground covered by the major and two minor subjects chosen at the beginning of candidacy and approved by the Faculty.

The candidate is required to spend at least six terms, after admission to candidacy, in resident graduate study and investigation of an advanced character; he is also required to show to the satisfaction of his Special Committee, before entering upon his second year residence that he possesses a reading knowledge of French and German.

Each candidate for the Doctor's degree must present an acceptable thesis, of which fifty printed copies must be deposited with the Dean, and must pass an examination on his major and minor subjects and the subject matter for his thesis.

Residence as a graduate student elsewhere may, by permission of the Faculty be accepted as the equivalent of residence at Cornell University, but at least one year's residence at Cornell is in all cases required.

ADVANCED DEGREES

Examinations will ordinarily be held during the second, third, and fourth weeks before Commencement. These examinations which may be either oral, or written, or both, at the option of the examining committee, are open to all members of the Faculty.

Candidates who will have completed the other requirements for the degree in June and who have any preference as to the date at which the examination is to be held should notify the Dean of such preference not later than April 15th, as a list giving the dates of the examinations and members of the examining committees will be issued early in May.

REGISTRATION

Graduate students are required to register at the office of the Registrar at the beginning of each term.

In case of registration for the first time in the Graduate School it is neces-

sary to have permission from the Dean to register.

Permission to register late may be obtained from the Dean, preferably in advance, in case valid reasons exist.

Graduate students are advised to call at the office of the Dean soon after their arrival in Ithaca. All formalities connected with registration or admission to the Graduate School, except actual registration at the office of the Registrar, can be attended to just as well several days, or even several weeks in advance.

TUITION FEES

A matriculation fee of \$5.00 is charged all students on entering the University.

Every student is charged an Infirmary fee of \$3.00 a term, payable at the beginning of each term. In return for the Infirmary fee, any sick student is on his physician's certificate admitted to the Infirmary, under its rules, and is given without further charge a bed in the ward, board, and ordinary nursing, for a period not exceeding two weeks in any one academic year.

A graduation fee of \$20.00 is required of each person taking an advanced degree. This fee must be paid at least ten days before Commencement. The amount will be refunded should the degree not be conferred.

Every person taking laboratory work or laboratory courses must pay to the Treasurer, the fee on the deposit for the materials to be used in the work.

Graduate students who are candidates for an advanced degree are charged tuition (except in the case of the College of Agriculture), at the rate charged in the College in which the major subject is taken.

In the case of graduate students who are not candidates for a degree, tuition

is charged pro rata for each subject taken, the rate in each case being that of the College in which the subject is taught.

To graduate students doing their entire work in the State College of Agriculture, tuition is free. For minor subjects taken outside the College of Agriculture by graduate students whose majors are in Agriculture, pro rata tuition (one-sixth for each minor), of the College in which the minor is taken will be charged.

MISCELLANEOUS

The Graduate Club, which meets at irregular intervals, furnishes a means for bringing together socially the grad-

uate students from all departments of the University.

ROOMS AND BOARD

A good single room in Ithaca costs from \$3.00 upwards per week; board from \$4.50 per week, or 25c per meal.

Students arriving at Ithaca for the first time will find it convenient to consult the list of rooms and boarding places at the Office of the Christian Association, Barnes Hall, Campus. The Association also issues a pocket handbook containing useful information concerning the University.

Graduate students are eligible to membership in the Faculty Tennis Club and the Country Club.



CANADA TO ENGLAND

"O little isle our fathers held for home,
Not, not alone thy standards and thy hosts
Lead where thy sons shall follow,

Mother Land:

Quick as the north wind, ardent as the foam,
Behold, behold the invulnerable ghosts
Of all past greatnesses about thee stand."

—*London Times.*

Variety In Oats

By S. G. Freeborn.

NOW that the threshers have made their rounds, the amount and quality of the return from our oat fields is a matter for consideration. If you are not satisfied with the returns from the variety of oats you have been growing are you certain you cannot find an oat that gives promise of better returns to test alongside your favorite variety next season? If you are not satisfied with the variety you have been growing, are you going to get into something new on the word of the first travelling seed agent who comes along? Or will you ask the Agricultural Experiment Station for a certificate of character for the variety before you purchase your new seed?

Among the many characters of oats that are of importance to the farmer, yield and quality of grain will be considered first. And with the yield of straw must be considered, its strength and weather resistance as shown by freedom from lodging and rust. With even a few varieties under test the grower, who has not expert advice on some points of comparison may often be deceived by the evidence of his own eyes. Accurate comparisons of many varieties under similar conditions is impossible for any farmer.

QUALITY.

Quality means feeding value, but how do you tell it when you find it? Can your scales tell you? Can you trust your eyes to give you a safe comparison?

Such is the work of our Agricultural Experiment Stations.

Eastern Ontario farmers can take advantage of the work of Macdonald

College just over in Quebec and the Dominion Experimental Farm at Ottawa. Northern Ontario has the nucleus of a service for the Clay Belt in the little experimental farm at Monteith.

No one variety of oats is necessarily best suited to all the soils and situations or even to the variety of climatic conditions occurring in Western Ontario. Each environment will eventually develop within their best variety the family or strain which they find best suited to their general conditions. Some varieties of oats are peculiarly adapted to certain circumstance. The most profitable variety to grow on light soil or high land may be entirely unsuited to your rich low lands, where some other variety can be grown with reasonable assurance of good returns. Situation, soil fertility, and season, as regards temperature and humidity particularly, may affect yields in different localities. But quality, strength of straw, and resistance to rust, are comparative characters that are fairly constant with different varieties of Oats in Western Ontario. And on these and many other comparative characters of importance in considering the different varieties of oats, Western Ontario growers can safely take the word of the experts investigating such matters on the Experimental Farm at Guelph.

Oats are by far the most important grain crop in Ontario. If the value of the work of such experiment stations was more appreciated by our farmers, there would not be so many poor and indifferent varieties of oats as are found at present in this province.

Every now and then some seed firm comes out with a new variety which

promises to be a world beater. Sometimes these new varieties (frequently imported varieties), do have some merit. But for some of the most inferior varieties of oats, time-wasters and money-losers, commonly grown by us today, if any one is to be blamed, we will have to blame our wholesale seed merchants.

STRAINS AND VARIETIES

The variety of oat and the strain within the variety is the basis of all the growers' work towards increasing production of the crop. He may carefully select and clean his seed, treat it for disease, give it the best of a seed bed, and yet, if those seed oats have not inherited the ability to reproduce under the conditions they meet with between seed time and harvest, he has lost his expected profits. The big profits are the increased margins that the best variety of oats for his conditions enables him to obtain for practically the same labor and expense that the cultivation and handling of a poorer variety would require.

It is poor policy to throw away dirty water before we have clean. Of course, the value of that advice depends upon what has dirtied the water. The same applies to the question on hand. Experts who have noted the characters of many varieties of oats, closely observing their suitability for different localities and circumstances, can advise as to the most promising variety or strain of any particular variety for you to test alongside the variety you have been growing. However, no matter how favorable experimental reports, no matter how alluring the advertising literature of the seed firms, or how

cheerful the conversation of the wandering seed agent, no one should abandon varieties at present giving satisfaction till fair field tests have shown something better that will reproduce where you must grow it, the desirable characters for which it was recommended.

CONSULT THE STATION

It is only occasionally that a new variety of any of our crops is originated which combines so many excellent characters as to give it a general recommendation over the best strains of our old varieties. And when anything new and good is discovered or originated our experiment stations may be expected to have always the first and best information concerning that new variety. Our farmers might save much money and avoid wasted time and effort, as well as disappointment, if they would consult their experiment stations before they buy from unknown seed agents less known varieties of oats, or perhaps some of our good old varieties, with fancy new names at much more fancy prices.

There are altogether too many varieties of oats being grown, too many poor and indifferent varieties, too few of the most suitable varieties. And some improvement might be effected if we could lock up a few of the travelling seed agents on a charge of false pretences, and keep them locked up for a term of years till farmers find they can get along better without the advice and assistance of such poorly informed or unscrupulous individuals as some of these itinerant agricultural missionaries have proved to be.

Athletics

Owing to the resignation of A. H. Braithwaite, who is not returning to College this year, Thursday, September 26th, J. R. Wilson was elected Captain of the Rugby team.

Captain Wilson has now played on the first team for three years and is therefore, intimate with the game, and a good player. Under his leadership, we expect great things, and it is to be hoped that he will receive the loyal support of the team and College in general.

RUGBY

O. A. C. vs. Guelph Y. M. C. A.—
Score, O. A. C., 14; Y. M. C. A., 8.

This was an exhibition game, the first of the season, and therefore there was a little slackness all through, but especially in catching the ball. In the 1st quarter, Y. M. C. A. obtained a rouge through a fumbled catch, but in the 2nd quarter, O. A. C. made some good bucks, and Keirstead and Agar, both succeeded in making "touchdowns."

In the last half Y. M. C. A. obtained a touchdown and one "rouge" while O. A. C. made four "rouges."

Final score, 14 to 8, in favor of O.A.C.



O. A. C. vs. Hamilton Rowing Club,
October 3rd—O. A. C., 6; Hamilton,
16.

College started away, with great vim, and at the end of 7 minutes, Munro secured the ball from a blocked kick, obtaining a touchdown. The bucking of O. A. C. was very noticeable and with several good runs by Hockett and Keirstead, the 1st quarter was entirely in favor of O. A. C. In the 2nd quarter, Hamilton made a "touchdown" early, but failed to convert, while O. A. C. obtained a rouge. Half time score O. A. C., 6; Hamilton, 5.

In the 3rd quarter, Hamilton was reinforced by fresh men, who were delayed on the road, and the effect of this was plainly seen in the last half. At the end of this quarter Hamilton scored a touchdown from an "on side kick" and "converted," and again in the last quarter Hamilton made a touchdown from a dropped ball. This made the final score of 16 to 6, in favor of Hamilton.

Two or three points were very noticeable throughout the game. The splendid tackling by Carncross should not pass unmentioned, while the line held very well indeed against a team considerably heavier than themselves. It is here that the work of the new coach, R. Harper of Hamilton, is showing up. On the other hand, some of the men did not "hang on" to the ball when tackled; and many points are thus needlessly lost. This, however, can, and no doubt will be remedied.



College Life

The Informal Reception

By S. B. Stothers

ON Monday, September 21st, the Sophomores held an informal reception for the freshmen on the College campus. In the morning at roll-call the genial president of class seven-

sisting of an obstacle race (?), bun eating contest, chariot fight, shaving with safties and numerous other humorous and athletic stunts; and the main purpose of getting the fresh new feeling



teen remarked, "that although there are no clouds now it may rain before night." For this reason the freshmen dressed very informally and the Sophomores not to be outdone by a new class did likewise.

The first part of the program was the extending of the glad hand to the Freshmen. This was not done in the common fashion usually seen on the street, but in the manner sanctioned by usage as a welcome to students of the first year. The general program was very similar to last year's; con-

out of the freshmen and his clothes was very satisfactorily accomplished.

After this enjoyable program had been run through, the Freshmen gathered around a pole on the lower campus, resolved to do or die. An old sack was tacked to the standard as a flag, the lowering of which was to mark the cessation of hostilities. One of the ladies present (we will not say a Mac girl) was heard to remark that the pole would look almost as well without it. Soon a bunch of Sophomores appeared carrying refreshments

which had been secured at the poultry department. These they literally showered on the Freshmen. They had evidently been saving these for a long time and this thoughtfulness affected both the new-comers and the spectators. The first contingent was eagerly embraced by the Freshmen as was also the second; the third, however, seemed to agree with the lady about the pole and removed the unsightly

jute. This ended the siege and the Freshmen left the field to remove the stains which in one way and another had accumulated, while the Sophomores held a short jubilation over the fact that they had lowered the colors in less than two minutes. On the whole the afternoon was an enjoyable one and we hope no one went home "sore."



Do We Need New College Yells?

By William H. Hill, '16

From the beginning of man's existence his social habits have caused him to congregate into groups. In the early days, this trait in his character, coupled with the factor of common safety, made this general grouping necessary. Then as the ages advanced and his civilization developed along economic lines, these groups became more and more inter-dependent, form-

ing communities which in turn became more generally specialized; until now we have a numberless variety of trades, callings and professions.

These when taken together, go to make up that highly complex mass, termed society. Each individual unit in this great mass has had, from the beginning, some distinguishing feature—some distinctive and appropriate sign,

trade-mark or emblem by which it is known in its relation to other branches of society.

This same principle of distinction should be the basis on which to form our College Yells. What are they other than a trade-mark—a recognized symbol—by which others judge the status of the College student-body which uses them? Why then are our present yells so senseless and meaningless, not only to ourselves but to those who hear them as well? They are both cumbersome and hard on the lungs, just a mere jumble of rhyming words! Why is not the very essence of our calling and our nature mentioned in them?—namely, Agriculture and Agriculturists.

Surely Agriculture is not so dead or old fashioned that we cannot change such yells—which would even only do poor justice as some Indian war whoops—into something more in keeping with the spirit and nature of our calling!

Our College crest can give us many suggestions upon which to base a series of yells, which will do justice to our Institute and ourselves. Let us, briefly, analyze the meaning of our crest: The plow—the sign of our profession, with which all civilization must begin and end. The sheaf of plenty—the

result of practising what we are taught in our College. The St. George's Cross—the emblem of Christianity, the principles of which we shall be furthering by following thoroughly our profession.

Then, the spreading maple leaves, which are depicted, reminding us of the Fair Dominion in which we live and labour. Then as a support for all these—the open book of learning, with motto inscribed thereon, which we may all take for our own, "Let no day pass without something being done." Here in our crest alone will there be found ample material for all the College Yells we can wish to have.

For the purpose of stimulating the interest of the students, in their endeavours to satisfy this crying need, both the Philharmonic Society and the Athletic Association have set aside two sums of money as prizes for those who produce the best and most suitable College Yells. So let us be up and doing, put our thinking caps on, so that, 'ere long we may hear "the halls of College Life" resounding with a new tune; which will be a lasting credit not only to ourselves and our institution, but also to the profession we represent.

Y. M. C. A. Reception

By W. P. Macdonald

In contra-distinction to the moments of suspense and excitement; also the bath of molasses, lamp black, flour and paint to which they were treated on Monday afternoon, the members of the College Y. M. C. A. held a reception for the Freshmen in the Gymnasium on Tuesday evening September 22nd.

Mr. Charlesworth, honorary president, called the meeting to order. After explaining the nature of the reception, he called upon acting President, Professor Zavitz, to address the students. He welcomed the new students to the College and explained the extent and scope of the work carried on at the College. He pictured the pros-

pect of Agriculture and called attention to the fact that there was never a time in Agriculture when more thinking men were needed. He hoped that the new students would find their stay at the College both pleasant and profitable.

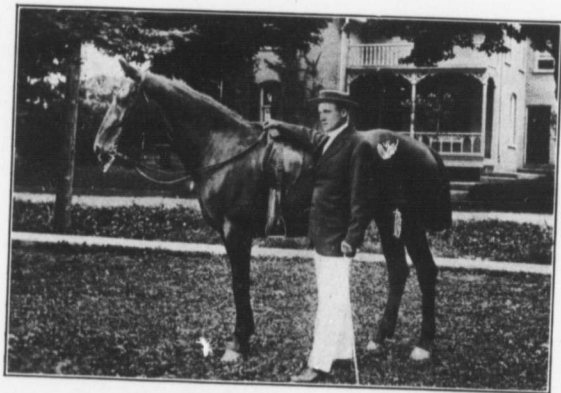
The Presidents of the different College societies, Athletic, Literary, Philharmonic, and the student secretary of the Y. M. C. A., each outlined what their societies had to offer to the students in education and the improving of manhood; also the work they proposed to carry on this term.

Professor Dean, on behalf of the Faculty, welcomed the new students, and in a few words impressed upon them the need of an all-round efficient manhood. A short half-hour was then spent in general mixing and becoming acquainted with the new students, while partaking of the delicious fruit supplied by the Y. M. C. A. An hour was then spent in singing College, patriotic, and popular songs. Thus ended the first event which makes the Freshman Class feel that they are part of the student body.

Something of an example in the noble art of giving is afforded us by the magnificent gift to the military authorities of a saddle-horse by Mr. Curry, of '17, whose photo-

graph and that of the steed appear in this issue.

Kitty R is a well-known prize-winner in York County. She was Mr. Curry's favorite mount.



Cameron H. Curry and Kitty R.

Macdonald Hall

Our Athletic President

WHEN we selected Miss Bradley as our Athletic President last term, we knew that we were putting the management into good hands, but even the most sanguine never dreamed to what a state of perfection all athletic affairs would be brought. Miss Bradley is a born organizer, and has certainly not spared herself in her efforts to make the various games and tournaments run smoothly. Never before have the girls entered with such spirit and enthusiasm into all the sports, and never before have so many opportunities for practice been put in their way.

The arranging of so many baseball games, basketball matches and tennis tournaments has meant an endless amount of work and worry, but Miss Bradley's patience has never failed, nor has her good humor ever been ruffled. In short, we one and all agree that Jean Bradley is one of the very nicest and best all-round girls and good sports that ever entered Macdonald Hall.

Since our return, the Athletic Committee, under her direction, has been on the alert organizing and superintending the various sports. Tennis tournaments, both ladies doubles and mixed doubles are well under way and the courts are at all hours of the day filled with eager players and interested spectators. The results are most satisfactory, even to the losers, for a spirit of friendly rivalry prevails, and all rejoice not only in the outdoor exercise, but also in the fact that there is nothing like practice in sport of any kind. The results will be published in next month's issue.

The Redties! The Redties!

By T. Black, Capt. of the Redties

Don't you like our name?
The Upstarts think us dangerous.
The Blue Knickers—just the same.
Whate'er you think, we'll not say rude,
Just watch us play and then conclude.

The Redties! The Redties!
Are on the diamond square
By McQueen the flies are swatted
Till the cheers just rend the air,
Bradley's catcher with pitcher Black,
And McNiven and Carleton at their
back.

Hurrah for the Redties!
The nifty, swift Redties,
Hurrah; for the Redties!
Hurrah! Hurrah! Hurrah!



Blue Knickers

By Helen Easton, Capt. Blue Knickers

The Blue Knickers are the finest team
That ever played on College green;
They hit the ball both far and wide,
And quickly beat the other side.

Lahey and the first base man
Do the very best they can
While Stuart tho' she's very petite
Is the quickest thing upon her feet.

But oh! El. Hopper she is great—
She sends the ball right over the plate
And when the batter tries to run
She puts her out "just for fun."

And when the ball far out does go
H. Easton catches it, just so,
And throws it home as well she can
And thus puts out another man.

And this is why our team's a wonder
 For don't you see we never blunder,
 And when we've won, we give our call,
 Hip, Hip, Hurrah! for Macdonald
 Hall!

Juniors' Basket Ball

Is there ever a girl among us who does not doff ten years of her age and dignity when she dons gymnasium suit and rubber shoes, and stands ready for a game of basket ball?

It seems that the girls have all come into Macdonald Hall this year with more enthusiasm and more interest in sports than ever before, and the good natured rivalry between the classes makes all the more fun.

The "Juniors," being (of course), a very important class, have decided that they must have a "very important" basket ball team.

The girls have enthusiastically turned out to practise, and a team has been organized under the name of "Mic Macs," a title which we hope to bring glory upon, before our two years are over. At present the line up is as follows:

E. Smith, forward; H. Easten, forward; E. Hopper, defense; L. White-side, defense; F. Shannon, centre; M. Williams, centre (Captain).

Hare and Hounds

The girls of Mac Hall had their first paper-chase on Saturday, September 26th. The captains, Clara Gwyn and Blanche Conrad, with bags of fine shavings in lieu of paper left the main door of the Hall at 9 a. m. In exactly three minutes the girls, arrayed in their gym. suits, and with their hair held in by bright kerchiefs, left in hot pursuit.

They followed across the girls' campus, down the car track, through the boys' campus, past the Library, and then came to a dead halt by the Biological Building, losing several minutes. Two false scents led down among the Gladioli and towards the Dairy Farm, but the track was discovered up past the Library. Gladys Manning fell on the gravel path, but in a moment was up and on with the rest. They followed the track up past the Residence, behind the new Dining Hall, past the Mechanical Building, back again behind the Dining Hall, and home. The chase would have been longer and more interesting but the supply of shavings ran out.

Winnifred Westcott and G. Manning were home first although not in time to catch the captains. Following closely were Kathleen Dowler, Anne McKinnon, Hope Aylesworth, Margery Toy and Dorinda McBride.

The next one will be Saturday, October 17. The captains will be Clara Gwyn and Blanche Conrad. It is expected a longer chase will be given and an even more exciting run will be the result.

Literary Society's Promenade

Macdonald Hall was a busy place on the evening of September 25th, when the Literary Societies of the Hall and O. A. C. gave an "At Home" to welcome the students, new and old.

Though quite a crowd assembled, ample room was provided by the reception rooms and wide corridors. The gymnasium had been made especially attractive and comfortable by the decorating committee.

During the evening, excellent vocal solos were given by Miss Kelso, Mr. Vahey and Mr. Patton; also an in-

strumental solo by Miss Horning was greatly enjoyed.

The large number of freshmen in both Colleges almost overwhelmed the introduction committee. However, they rose to the occasion with the result that programs were nearly all filled. Whether partners were nearly all found is another story.

The first promenade of the year is quite educational especially to first year men. It tends to develop latent detective qualities, and who knows

*A mobilization, strong and true.
Your hair, you must wear in three big
cones
And a newspaper uniform to cover your
bones.
No shoes on your feet, but rubbers in-
stead—
And a Napoleon hat placed firm on your
head.
In full kit, thus arrayed and in stockings
of white
We hope you will come prepared for a
fight.*



Superwomen.

but a Sherlock Holmes will arise who first discovered his talent by his skill in finding his partners at a promenade. Notwithstanding these difficulties, or perhaps because of them, almost every person reported a good time and if any failed to have it, we wish them better luck next time.

~ ~
*Come ye freshies, one and all—
Who this year enter Macdonald Hall,
Britannia, the Great, demands of you*

Mobilization

SENIORS DEMAND RECRUITS FOR SERVICE FROM 6:30 TO 8:00 P.M.
SATURDAY

By Margaret Saxton

Such was the sign which in flaming red startled the eyes of the Freshies as they scrambled sleepily down to breakfast Saturday morning, their thoughts still pleasantly dwelling on the Handsome (?) men they had met the evening before.

"Newspaper uniforms! Where in the world can we get the newspapers? How can we make them?" rose the murmur in the dining-room, as the freshettes blankly regarded the walls before them, while yesterday's fish, creamed, grew cold on their plates and coffee wasted its sweetness on the desert air. But, by afternoon, behold these same girls rushing frantically down town and returning with huge piles of newspapers, clasped tightly in their weary arms. Then what confusion ensued as each new girl struggled desperately with newspapers, shears, needles, thread, pins, tacks, sealing wax and everything else available, to fashion something even remotely resembling a soldier's uniform.

All too quickly the dread hour arrived and thin girls, fat girls, tall girls, short girls, fair girls, dark girls, every variety of girl imaginable, to the number of about one hundred, were crowded into the black hole of Calcutta. And what fantastic costumes they were to be sure, more closely resembling that of our childhood friend, Mother Goose, than any soldier that ever existed even in the fevered brain of a Cubist. A handsome young officer, in a voice which shook in spite of his heroic efforts at self-control, called the roll and one by one, the girls stepped forth to meet their fate.

Into a transformed gymnasium they were led, where not too gentle hands assisted them down a slide. Accompanied by groans and much rending of paper, they were turned over to an army surgeon and his corps of red cross nurses, who administered first aid to the injured, in the form of generous spoonfuls of salts and soap suds. After this ordeal, they were led before Britannia—a very dignified Britannia, notwithstanding the fact that her shoulders heaved strangely at inter-

vals, and her crown was slightly awry—and swore "to always be loyal and subservient to the Class of 1915, so help them Fannie Farmer."

But this was not the end—far from it. Ask the girl whose rendering of "I am a sewer rat," brought forth such tremendous applause, or she who walked blindly through stickly fly-paper, or the dignified two-in-ones, who galloped madly across the room on their broomstick steeds. Just ask any of these what they thought of initiation, but if you want an enthusiastic answer, ask seniors or freshettes, it matters little which, how they liked the ice cream that followed and the reply will be—but we leave that to your own imaginations.



For The Brave

On Sunday, September 27th, a Red Cross Society was formed in connection with the Y. W. C. A., with Mrs. Fuller as Honorary President and Miss I. Irwin as President. The collection raised amounted to over \$5.00. This was invested in 75 yards of cotton.

Immediately after breakfast on Tuesday, the Gymnasium presented a very interesting and busy scene as the nimble fingers of the students tore up cotton, rolled it into bandages or folded it into handkerchiefs, while Dr. Ross gave instructions. As a result, the society are sending away 50 bandages, two inch size, and 22½ dozen handkerchiefs, neatly folded and parcelled. The students who can knit are forming a club to utilize spare moments.

This beginning is but a definite and practical expression of the deep sympathy felt by these busy Co-Eds, for the brave fellows at the front.

Y. W. C. A. Prom.

On the first Saturday evening after the opening of Macdonald Institute, the Y. W. C. A. entertained the new girls at a promenade from 7 to 8 o'clock. As the weather was delightful we went out of doors. Each "old girl" walked with a "new girl" once around the Hall. At the front door partners were changed and the promenade continued. Shortly before 8 o'clock, we gathered around the east porch where fruit was served. All the girls agreed that it had been a most enjoyable hour.

First Days At Macdonald

By M. F.

Macdonald! How often I had wondered what it was like and tried to picture it to myself. At last the time came to see it for myself. On coming up from the city on opening day, we got our first glimpse of Macdonald as it appeared on the brow of the hill. The first thought was "what a beautiful spot for a college!" Indeed there is no college in the province which can boast of fairer situation or more beautiful surroundings. Linked to the city so that it forms a part of it, the college is still aloof from it.

Macdonald Hall in beauty and appearance is one with its surroundings. On first entering, one is struck by its spacious rooms and corridors which have nevertheless a home like appearance. On opening day, however, the Hall was a busy place. Girls from east, west, north, and south were gathered there to make it their home for the coming year. Almost all were strangers, so the time was spent in watching one another and wondering if we would soon be friends. The ordeal of registration over the next move was settling.

Oh! the hurry and worry of unpacking and settling. The questions asked and answered. Here the girls of the Senior Class showed their kindness and willingness to help the business of getting acquainted and many were grateful to them.

Macdonald is a busy place, and no sooner are classes begun than all other organizations are complete. "Gym" and tennis begin for the athletic. The spirit of the hall in general is the spirit of energy and purpose and whether in athletics or studies, the motto is "Win."

First days are now over and Macdonald Hall settles down to its normal routine of work and play. It is a happy home for those girls who are so fortunate as to be there.



THE O. A. C. REVIEW

REVIEW STAFF

ANDREW CORY, *Managing Editor*

A. M. McDERMOTT, *Asst. Editor*

R. D. COLQUETTE, *Agriculture*

J. R. DONALDSON, *Alumni*

B. E. FOYSTON, *Experimental*

S. B. STROTHERS, *College Life*

R. W. DONALDSON, *Horticulture*

T. B. COTSWORTH, *Athletics*

J. P. HALES, *Poultry*

C. L. RAWSON, *Artist*

R. H. ABRAHAM, *Query*

W. MALCOLM, *Locals*

GLADYS MANNING, *Macdonald*

Various Viewpoints

Backwaters

The leaves have fallen, naked trees are sleeping in the twilight of the year. Our consciences begin to dwell hauntingly on the approach of examination times, in the intervals between football matches. Almost forgotten, or if remembered, put aside, the memory of the thousands who have left our shores to do their duty across the seas. While we play with problems and dally with debates, millions of our fellowmen cast dice with death and groan with rotting feet and ague in the trenches.

While we laugh at some comrade's merry quip, another comrade may be shrieking in the agony of a twisting bayonet thrust.

To some of us the realization of the sacrifice, the blood of our blood is making, is ever present and we shudder or boil even in the midst of jest. We feel the stealing shadows of a shame. It would be easier to sing a music hall chorus in a sodden bivouac than to order ourselves normally in the drowsy peace of a College backwater.

To some of us a real duty is present—to stay and endure and work and produce that others may fight and die. The farmer, old in years, needs his son; the needy wife her husband; the country such talented ones as she cannot replace. Some of us are physically unfit or below the standards of military requirements. But there is another side to the shield. How many of us at this College have no one, no land, dependent on our efforts? How many of us are as free as the birds of the air to follow the instincts, the traditions, of our race? This is no time to talk of the evils of militarism. It is time to be up and killing militarism, lock, stock and barrel, now and forever, in the person of our militarist foes, who have trampled with premeditation on the peace of the world. We can do some of our part with money, some with prayers, but infinitely more by personal service.

In a bookseller's window in London stands the legend "Men are wanted. Are you a Man?" In a store stands a picture of Lord Kitchener illuminated

with bright lights. He who approaches closely may read beneath it, "Have you answered my call."

The Sikh warriors, not good enough to set their feet on Canadian soil, have set them with a purpose on European, ready to die not only for Great Britain, but for the Empire of which Canada is a part. Will you stand beholden to the Sikh you spurn? If British mothers can send their every son; if British wives can part with their soldier husbands before the blossoms of their wreaths have wilted; if British men, and our first contingent too for that matter, can risk the ghastliest mutilations at the hands of a fiendish enemy; if women of our blood can wear the Red Cross amidst the hazards and horrors of the field hospitals, why cannot you and I do a little more than subscribe a few dollars to the Patriotic Fund and chat of battles?

We are in a backwater because the power of the British fleet has made it one. We are capturing markets because the British fleet holds the seas and has killed German commerce. Shall you and I that have eaten Britannia's salt deafen our ears to her appeal? Even a Hindoo is faithful to the hand that fed him and Britannia has fed us right well with money and men and the blood of her own. Is it not the duty of those of us at least who are untrammelled and free of weighty responsibilities, to so fit ourselves that if the call comes to us, we may be ready, not only to recognize it, but to answer it.

Matters Controversial

IN WHICH CANADA'S WAR FOOTING IS
AGAIN DISCUSSED

Your humble servant is in very hot water indeed, with Mr. Toole, whose

letter follows. Tilting at windmills in an age of diplomacy has led me to believe in the worldly value of the proverb, "Silence is Golden," though it has by no means convinced me that tight lips are honorable when conscience is shouting behind them.

An error in judgment may have led me to the application of the cautery when the striking of a silver gong would have been a more tactful method of arousal. If such is the case, I can only ask my readers to accept the will and pardon the deed. If it were not for Mr. Toole's request that his letter to me be published, I would have endeavored to avoid controversy. In common justice to him, I must publish his opinions, and in common justice to myself I must outline the reasons which led to the writing of the article in question. Hence one of those controversies, which Mr. Toole himself so greatly deplors.



Slurring Canada

THE EDITOR OF THE O.A.C. REVIEW:

Sir:—As an ex-student and graduate of the Ontario Agricultural College and an admirer of that Institution and all that it stands for, and also as an interested and careful reader of your most admirable publication, "*The O. A. C. Review*," I wish to comment upon a few statements made in certain articles in your October issue.

On what you term "The Editor's Page," in inviting and exhorting readers to write for your worthy columns, you use these words: "Start a controversy. Controversies are interesting" After several years in an editorial office I cannot but deplore such an attitude on the part of "*The Review*." True it is that correspondence makes a paper,

but controversy, which usually boils down to tiring and sickening discussions and a mere contest of wits, is petty journalism, disinteresting and wholly valueless to the majority of the clientele of any paper.

But this is not what prompted me to write on this occasion. Under the caption, "Company Attention," on your editorial page you very properly place the duty of O. A. C. students, and Canadians generally, before them. You must be commended for this, but it would have been far better had you left it at that and not been so unthinking as to publish under your own name such slurs on Canada, Canada's officials, Canada's militia, yes, even upon brave Canadian-born lads and thousands from the Motherland who have volunteered for active service and who are ready in thousands to volunteer as appear in your article in the same issue and entitled, "Canada's War Footing." I know not whether you are Canadian born or what is the land of your birth, but I can scarcely conceive of a British subject by birth or naturalization making such statements as "Canada still yawns as she wakes from sleep." "Lauding Canada for a *tit-bit* gift of a million bags of flour and for the sacrifice that she is willing to place on the altar of 100,000 lives." Calling our soldiers "half-baked" regulars is enough to arouse the ire of any loyal subject and is deserving of the results of such ire. To say that we have been "spoon-fed" since birth, and to cast reflection on our Ministers of the Crown and to heap insult upon injury by stating that while Great Britain pats us on the back she "sniggers" behind her other hand is, to say the least, not discreet, and is a combination of statements worthy of a student court martial.

The statement is made that upwards

of sixty per cent. of the first contingent are British born. Most of these men, we believe, were trained soldiers before coming to Canada. Will Great Britain "snigger" at her own good fighters? Will she "snigger" at "colonial" good fighters? Such a foolish statement needs no reply. The spirit of the entire article is just such a spirit as has caused the insertion in advertisements mentioned therein. All this is followed by the statement that Canadian officers are "gallant military amateurs that can no more handle men in the field than they can solve the riddle of infinity." What do thinking readers make of such a statement? Are such statements true representations of the "manhood" of the O. A. C.? We trust and know that such is not the case. Britain is neither denouncing the best nor the worst of our troops; she has not forgot the lesson of the veldt where it was demonstrated, as it has already been in this war, that the man who can shoot and knows how to take care of himself is the valuable soldier. The article tells us Canadians are not cowards; we know they can shoot and can take care of themselves and we feel more disposed to rely upon Kitchener's statement that he doesn't care how they march as long as they can shoot, than we do upon the statement of one who says he is no military expert and who pins his hopes to a military machine knowing nothing individually, but all worked from the officer cog-wheel through the endless chain of a discipline of steel.

We would remind readers that Canada, while loyal and ready to do her part in any crisis, like the mother country has no place for military despotism. The best thought of the world is against war and the rule by the iron hand. It is the military machine which has caused this war.

We would also reiterate that Canada's wheat and other produce of times of peace may yet prove the strongest entrenchment in this war, and praise of our wheat fields is no idle "prate." It does not behoove anyone to belittle a peace-loving people even in time of war. There is no stain on Canada's honor and shame to him who dare's say so.

—Wade Toole.

Sept. 26, 1914.

Why and Wherefores

In reply to Mr. Wade Toole, of the *Farmer's Advocate*, a gentleman, whose manly defence of his countrymen I admire, in the same measure as I depreciate his failure to interpret the spirit of the article complained of above, the writer would state that he maintains the opinions expressed in "Canada's War Footing," without reservation.

The article was written not as an editorial, but as an article. It was written under my own name with the assumption of all responsibility for the opinions expressed. It was written not by the editor of the *Review* as such, but by a student at the O. A. C., and as such entitled to the same privilege of free expression in the student organ as is accorded by the editor to any other student.

For this

"Is the land that freeman till

That sober-suited Freedom chose
The land, where girt with friends or
foes

A man may speak the thing he
will."

The article may have failed in its intention by reason of intrinsic feebleness, but it was written with the honest purpose of calling the men of the O.

A. C. to a sense of their duties and responsibilities at a time when the dogs of war, let loose, were ravaging the world. The call of Britain's urgent bugles had failed to bring about a general movement of loyal young Canadians to the colors. It had failed to drive home to the youth of the Dominion a realization of their obligations to the land, whose loins begat their ancestors and whose hands have cradled their infancy to a lullaby of peace.

In my opinion, the time for mutual admiration societies was past, the time for treachancy of utterance had begun. There was no intention to scoff, to obtain self-advertisement, to make a parade of British superiority, or to hurl insults at a country and countrymen, the writer's adopted own. I stated facts as I found them. I did so with no base purpose, but in full recognition of the fact that it is bad policy to paint cracks in a wagon tongue. Deaf to the emergency appeals of British Cabinet Ministers, Canada face an Imperial crisis unprepared. Those, who urging the drill shed and the rifle range had been derided in peace as jingoistic militarists, were now toiling like titans to bring orderly effective results from a mass matter of chaotic ineffectiveness. Canadian officialdom was spring breaking where it should have fall plowed. The soil was good, the sods were tough. While Australia was conquering the Hebrides and New Zealanders were on the salt water, while British officers, volunteers and regulars, were falling riddled at their range-finding, many Canadian militia officers had doffed their peace-worn tunics for the mufti of the mart and the family circle. Worst of all the names of hundreds of Canadian militiamen, who had wasted the Government money in peace time, had not been registered for service even

on the home defence roll. While the money spending and organizing was to be done by the native born it was the Canadians by adoption, who seemingly were to bear the brunt of actual contact with the enemy. Less than twenty per cent. of the first contingent, it was said, that is only some six thousand men Canadian-born, were off to the front, and this, in spite of the fact that the 1911 census showed that Canadian born citizens over twenty-one years of age outnumbered the British born of like age by four to one.

As to the inefficiency of the troops, opinions may differ. I based my opinions not on aerial fantasies evolved by my own brain, but on the opinion of officers and non-commissioned officers, who had seen service and also the Toronto troops. Almost without exception my informants stigmatised the troops as raw levies, composed of *excellent material*. What else could they be considering the large percentage of newly joined recruits and the hurried preparations at the eleventh hour?

Whatever the first contingent may be now, they were not efficient at the time of writing the article. They were not irregulars, because they knew some of the outlines of military drill. They were not regulars or, not at that time, up to the standard of regulars, therefore the writer for want of a better word termed them "half-baked" regulars. Mr. Toole possibly took this in the Devonshire sense meaning that they were lunatics. I apologize for any carelessness of diction that may have led to such an error.

Mr. Toole objects to my figurative sentence, "Canada still yawns as she wakes." Had Canada fully awakened to the occasion early in September? Is it possible that a peace-loving, peace-loving community, such as ours,

had yet done more than rub its eyes as if awakened from a ghastly nightmare? Is Canada as represented by her youth fully awake now on October 15th? If so, why are so many of her young men untrammelled by family ties, still chafing in the market place. Canada is not yet awake. When she does arise from the inbred lethargy, born of peaceful living, even I her traducer, as Mr. Toole terms me, believe that the intrinsic courage of her best will show itself in loyal self-sacrifice for Country and Empire.

I hold militarism to be a curse, conscription an unnecessary evil, but I believe in a man so keeping his thumbs in order that he may protect his hearth and his honor. Militarism is one thing, adequate measures for self-defence are another. We must defend our strategic frontier against aggression, our name from the mire. The Strategic frontier of Great Britain is also that of Canada. It is the boundary line of Belgium. If the cow is roped how can the calf escape the branding? By Britain we stand or fall. If Canada had no need for soldiery why keep a militia at all? If she needed a militia why not keep them at a high state of efficiency? Is England under the heel of a military or naval caste? Does her vast navy in its prime efficiency dictate to her people? If at all, only in such measure as has been needful to protect her honor as a Christian nation, to defend her against the aggression of the Teuton averse to disarmament, to maintain the inviolacy of the Dominion of Canada and her other colonies.

If there is anything in the article I apologize for it is the word "tit-bit" as applied to the splendid gift of a million bushels of wheat. I plead guilty to the use of an unhappy expression. Such generous offerings are

wonderful in their usefulness at the present junction, but it takes but little blood in the other scale of the pan to weigh them down. Who would not rather give his all than face the executioner. My term was comparative. To feed is easier than to fight.

In one respect Mr. Toole's letter is mischievous. He compares present conditions with vastly different conditions prevailing many years ago in South Africa. No need for drill, thinks Mr. Toole, as long as we can shoot. If so why did the South African contingent drill from the day they joined the S. S. Sardinian till the day the battle raged at Paardeburg, over three months after?

What drill did for one Company I quote from "Canada's Sons on Kopje and Veldt," a Canadian book published in Canada: "The Victors, (a company of the Canadian Infantry Regiment) on their return from Sunnyside, expected an enthusiastic welcome. The remaining seven companies were exceeding jealous of the honor done C. Company. In their anxiety for fight, the soldiers forgot that the officers had to act to the best advantage * * *. It was not because the men in C Company were better men than those from British Columbia or Montreal, but because they were better drilled. A thoroughly efficient soldier cannot be made in two months. C Company had been long together practically as a unit in Toronto." So much for the need of drill fourteen years ago among the Kopjes and rocks of South Africa. How much the more need now in the pleasant fields of France where armies count their numbers not by men but by battalions? Mr. Toole takes an isolated appeal of Lord Kitchener's as his authority. If Kitchener is no believer in drill, why are the Lancashire Territorials and other such regiments

being withheld from the front for six months further training, why are our own men being sent into depot on their arrival in Great Britain after weeks and weeks of drilling at Valcartier? When the greatest disciplinary men of the age asked in hot haste for marksmen to hold back the foe in that terrible hard fought retreat from Mons, even if they did not "know their right foot from their left," he did so preferring, in a crisis, half a loaf to no bread.

To be well drilled does not destroy individuality; it strengthens individual effectiveness. Drill is not what Mr. Toole possibly imagines it to be, namely presenting arms to Royalty and practising the goose-step. Drill in its broad sense includes disciplined movements of all kinds, bayonet exercises, the concerted action of companies, battalions, brigades and even armies. It includes attack as a force, not as a rabble; retreat without stampede; independent firing without moon-shooting, and when artillery, etc., are taken into consideration more things than I have space for. If it needs fire drill to empty a factory rapidly of employees how much more necessary is military drill for the orderly retreat of a battalion scoured by shrapnel? Why drill our football teams in signals? To underestimate the value of drill is to check recruiting.

And how about the shooting? Are colonials born gripping a rifle? Is it not rather the case that the vast majority of men of every nation—with few exceptions—have little or no knowledge of the rifle as a weapon? Even it were true that drill is unnecessary, which is not the case, is it not time that we got down to learning to shoot? Marksmen like billiard players are not made in a minute.

My article was written with the intention of removing the veil of self-

satisfaction that hid truth and hampered progress. It was written that from sins of omission might spring deeds of commission. It was written that fellow students might realize their moral obligations and live up to the best traditions of their Anglo-Saxon blood. It was primarily written that the O. A. C. Corps, at that time in process of formation, might prove itself by patience, endurance, hard work and submission to military discipline, the smartest corps of Canadian-born men in the Dominion of Canada in a country boasting freedom it is not always necessary to speak with honeyed accents. Some liberty of critical opinion is allowable without being labelled base.

Possibly inadvertently, Mr. Toole misquotes me, ignores context, changes the tense of a verb from future, used in a conditional sense, to present, used in the positive sense. I formulated a hypothesis. I wrote, "while Britain pats us on the back with one hand, she *will snigger* behind her other hand. For what is this boasted first contingent we are sending, etc., etc." Read in connection with the whole article and particularly in connection with that portion of it dealing with the small percentage of the Canadian-born that had at the time of writing come forward, and it must be noted that I gave the reason, namely peaceful environment—the meaning is obvious. Put into plain English it mean, if we Canadians send contingents to Great Britain consisting mainly of Britishers and, therefore, by no means truly representative of the majority of our Canadian manhood, Britain will (conditionally) snigger (laugh up her sleeve) if Canadian manhood afterwards boasts of the gallant part they have taken in the war of wars. A parallel case would be if four men of the O. A. C. hockey-team

decided to register at St. Anne's and afterwards three of them were selected to represent St. Anne's in a game with the O. A. C. The O. A. C., with due politeness, would not openly jeer at St. Anne's but they might laugh up their sleeves or snigger behind the other hand. They would not snigger at the individuals of the team, men whose qualities they were well acquainted with, nor would Great Britain snigger at her brave British born or Canadian volunteer soldiery. Did I suggest she would? It might be pertinent to ask, however, how men of other units would recognize as "colonials" men whose aitches were littering the trenches or who spoke the pleasant brogue of Tipperary, if mud should hide their regimental badges. That this somewhat discreditable position will continue and even Sir John Gibson, Lieutenant-Governor of Ontario, publicly referred to its existence at a National Exhibition directors' luncheon, is inconceivable to many, who like Mr. Toole and I, have reason to believe that Canada is "loyal and ready to do her part in any crisis." "Qui s'excuse, s'accuse." When the daily press of the country had to manufacture plausible reasons for native reluctance to enlist, there must have been "something rotten in the State of Denmark." There is every sign around us that the accusation will soon no longer have a basis.

Mr. Toole heads his article, "Slurring Canada." If perhaps an excess of College spirit and a fervent, honest wish that my country, Canada, may act according to her best traditions is evidence of an intention to cast a slur on all things Canadian, then I have slurred Canada and am continuing to do so.

I claim that the *only Anti-Canadians at this juncture are those who refuse to*

look facts in the face, and to endeavor to improve them by tongue, pen and service.

The position has bettered itself. The Canadian Government is working miracles of atonement and loyalty. All praise to the Ministers, especially to that constant butt for criticism, Colonel Sam Hughes. But let our motto still be "Excelsior."

As regards "controversies" complained of by Mr. Toole, I may inform him that I did not write the Editor's Page for September. I should personally have preferred the word discussions, though it is immaterial. Mr. Toole, after some years of editorial experience considers controversies an occasion for petty journalism. The London *Times*, after many decades of press leadership, rather prides itself on a correspondence column, full of discussions. *The Review* expresses no opinion, but prefers to distantly follow *The Times*, at any rate till January.

In conclusion, I must add that whatever feeling Mr. Toole may harbor against me, I feel only a respect for a spirit as loyal as his and hope that it will speedily be devoted, either in Canada or in Europe, to the service of the Empire.

The following letter and the clippings from the editorial columns of the Canadian Gazette, London, England, may show Mr. Toole that there are more ways than one of reading "Canada's War Footing."

"Yet we must not be too eager to condemn the men in Canada to whom a European war seemed so remote from all Canadian concern. For a hundred years Canada has enjoyed unbroken peace. Her share in the South African War was a mere interlude for the mass of the people. They were proud to think that some thou-

sands of their venturesome youth had gone out to show their mettle; but the war hardly caused a ripple on the surface of Canada's financial and industrial life. There were cheers and tears here and there, but the national life went on much the same. One of Canada's newspaper poets was still able to say:

*"Our only thought to live and die,
To comb the earth for gold."*

As in the preceding hundred years, Canada, "shrined from the lusts of warring man by leagues of whispering prairies or verdurous sugar bush, lost the very power to realise the true meaning of war." That is not so today. Through her banks, the Stock Exchange and the hundred channels of her municipal and industrial life Canada has felt the shock of war, and must feel it for many a day to come, though with compensations, of course, due to her distance from the scene of conflict, her illimitable wealth of farm and forest and mine, and the soundness of her banking and credit system.

And even in Canada things can never be again as though there had been no war. A sprightly writer in the Ontario Agricultural College *Review* points one moral for the benefit of his fellow-Canadians. He tells us that he has carefully studied the war preparations in which Canada has been engaged during the past two months, and he tells Canadians that when the clash is won, not with irregulars like the Boers, but highly trained troops like those of Germany, they must revise their military methods. "It is bread and boots first, good shooting second, and discipline all the time, first, last and everywhere, that wins battles," and he adds:

"We have been spoon-fed by Great Britain since birth, and have been content to lie in ease without dignity

SONG OF THE SUPPED

O Chemistry thou fruitful cause
Of troubled dreams and waking dread
Whose terms, equations, forms and laws
Confound confusion in my head.

Wouldst thou assume corporeal form
And stand before me face to face
I promise thee there'd be a storm
Would startle all of Adam's race.

I'd hang thy limbs in carbon chains
Suspend thy body, merciless,
Within a vessel which contains
An atmosphere of H₂S

I'd feed thee not on levulose
Nor quench with wine thy thirst's
appall

I'd mak thee eat wood cellulose
And drink denatured alcohol.

Thy wasted form I'd filter through
A barb-wire fence, and then titrate
Whate'er was left for tortures new
Against corrosive sublimate!

A ton of nitro-glycerine
Beneath thy remnants I would place,
And with a long and joyful paeon
Precipitate thee into space!

There might'st thou wander, ranging
far,

Through swirling star-drifts, reeling
wide;

Till I, by Charon wafted o'er
The Styx, in other spheres abide.

—C., '15.

* * *

Dost thou love life? Then do not
squander time; for that's the stuff Life
is made of.



River Series Pens are fully guaranteed and are made of the best
"Jessop" Steel, in twenty-two different styles.

Price \$1.25 per gross; 10 per cent. discount in six-gross lots.

For sale by Students' Co-Operative Supply Department.

THE BENSON-JOHNSTON COMPANY, Limited,

18 McNab Street South, - Sole Canadian Agents - HAMILTON

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

POWER ON THE FARM

The LISTER Gasoline Engine provides the most reliable, efficient and economical power for farm use.

It will drive the grinder, separator, churn, washing machine, grindstone, saw, thresher, ensilage cutter; will fill the silo, pump water or generate electricity for lighting up the farm and outbuildings.

No technical skill is required to start, run or handle the Lister Engine. There is no battery to run down or get out of order, no lamp to adjust, no outside holes to fill, no danger, no extra insurance. Ten Thousand "LISTER" users will confirm this.

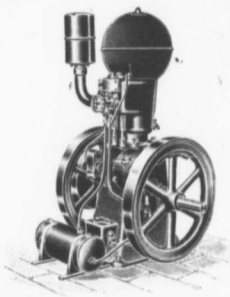
Write for Catalogue with photographs of Lister Engines in use on Canadian Farms.

R. A. LISTER & CO., Limited

58-60 STEWART STREET,

TORONTO.

Local Sales Agents for Guelph and District—S. & G. Penfold.



THE BOULDER

Colossus, sculptured by the hand of
time,

What mystic secrets of the universe
Are crystaled in thy form! Could we
rehearse

What thou hast known of nature's
rhythmic climb, *♩ ♪ ♫*
And bring within the compass of a
rhyme

The time long story; tell in phrases
terse, *~*

What thou hast seen and known;
our feeble verse *~ ♩*

Would vaguely sketch the whole world
pantomime.

Fire mist, an age; eras, a crust of stone;
An epoch, soil slow settling to the sea;
Sea-bed, an aeon; other aeons flown,
A mountain crag; half an eternity,
Glacier bound, for cycles set in place,
Here where we hourlings, wondering,
scan thy face. —Selected.

No man ever was glorious who was
not laborious.

He is no clown that drives the plow,
but he that doth clownish things.

* * *

Even in the Philippines plans are
being made for co-operative rural
credit associations, but not in On-
tario.

* * *

Dandelions are objectionable on
a lawn, but excellent on the dinner
table. In France the peasants use
many of them in soups and even the
better class tables use the tender
leaves in salads. Stripped from roots
and deprived of flower buds dande-
lions make most tasty greens on boil-
ing. They are in common use among
the Cree Indians.



The man who lets his hens run around in the rain without an umbrella or rain coat always has a lot of rheumatic, stiff-jointed fowls on his hands. A hen with the inflammatory rheumatism is about as valuable a piece of furniture as a pianola in a deaf and dumb home. Keep your hens in out of the wet, and you will not have to sit up with them nights and rub liniment into their pinfeathers.



"Metallic" Building Materials

Are Famous All Over Canada For Their
Durability And Economy

If you are about to build a new barn or repair an old one, you will do well to post yourself on the superior value of "Metallic" materials. We have a reputation of over 30 years successful business with Canadian farmers. "Metallic" shingles, corrugated iron, roof lights, ventilators, siding, ceiling and wall plates have a wonderful reputation for honest materials, careful, accurate manufacture and sterling durability. We have all the information ready to mail you in book form, waiting your request.



The Famous "Eastlake" Steel Shingle

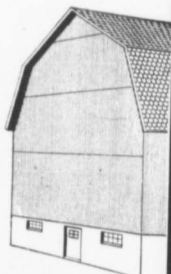
Is the original and most successful of all the steel shingles in use. "Eastlake" Shingles laid 30 years ago are in splendid shape today. Their heavy zinc coating and high-grade steel, with special patent, economical, easy-laying features have given them wonderful favor. Booklet free.

"Metallic" Steel Plates for the Home.

Don't neglect your home. Get our suggestions and prices on how to make your ceilings and walls beautiful, fire-retardant and all but imperishable. "Metallic" Sheets are easily laid over the plaster.

Metallic Steel Sheets for granaries cost very little. Save your crops from rats and mice. Enquire

The Metallic Roofing Co., Limited, Manufacturers,
King and Dufferin Sts., Toronto.



This
Hen Is
A Winter
Layer



The owner of this hen knows a thing or two about feeding. He knows that eggs are very rich in protein, and that, therefore, a food rich in protein must be fed in order to make his hens yield eggs in abundance. And what food so well fills his requirements as Harab Beef Meal, which is 65 per cent. protein? Harab Beef Meal is one of the famous

Harab Poultry Foods

you hear so much about nowadays. They make hens lay more of those 40, 50 and 60 cent eggs. They keep hens in sound, vigorous condition, too. Cost little to use. Pay handsome returns. Write for booklet. If your dealer will not supply you with Harab Poultry Foods, write us direct.

The Ontario Fertilizers
Limited
WEST TORONTO, CANADA 105

Advertiser Job Department

Fine Printers

Printing of the Better Kind

Phone 3670

191-195 Dundas St.

London, Ont., Can.

This Magazine is a sample of our publications.

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



**"I put it up,
myself"**

If a man is handy with tools he can put up a fireproof Ready Made Building and make a neat job of it.

The way we ship these buildings out, with all frame members and every piece of corrugated iron cut to fit and marked where they should go, there is no chance of mistake. The corners, joints, eaves and ridge fit snugly.

The metal windows, glazed with wired-glass, are built right in a corrugated sheet, and can be put in place the same as any other sheets. The big sliding doors are sent out mounted with all hardware and ready to hang.

There are doors for the whole front side of the building. These doors pass each other on the bird-proof track which is supplied.

No wood is exposed. Nor can rain, snow, or dust find an open joint in a Ready Made Building. A metal watershed over the doors and track protects them from the weather. The gable ends are protected by tight-fitting cornices. Special plates under eaves make that joint wind, dust, and weather proof.

Eight Factories to Supply You.

Ready Made Buildings are ready to ship. Tell us how large a building you want, what it is to be used for. We can send you one the very day your order is received from the nearest of our eight factories.

*Send for full information and free catalogue
Tear out the coupon and mail it to-day*

The Metal Shingle & Siding Co., Limited

Preston Ontario

Associated with
A. B. Ormsby & Co., Ltd.

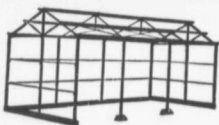
Consolidated factories at:
PRESTON WINNIPEG
TORONTO SASKATOON
REGINA MONTREAL
CALGARY EDMONTON

Coupon

Send full information about
Ready Made Buildings.

The Metal Shingle
& Siding Co., Ltd
Preston, Ont

.....
.....



Ready- made Farm Buildings

(Patents applied for)

Ready Made Buildings are just the kind you want for storage, carriage houses, implement sheds.

You can put them up quickly—and once built you have rigid buildings that will stand any wind pressure or roof strain without sagging. You have buildings that are fire-proof and lightning proof—buildings that will never cost a cent for paint or repairs.



The Autographic Kodaks

You can now date and title your negatives, permanently, and almost instantly at the time you make them.

TOUCH a spring and a little door opens in the back of the Kodak; write with pencil or stylus on the red paper of the Autographic Film Cartridge; expose from 2 to 5 seconds; close door. When your negatives are developed a permanent photographic reproduction of the writing will appear on the intersections between the negatives. When the prints are made you can have this writing appear upon them or not, just as you choose. By turning the winding key slightly and advancing the paper the width of the slot you can have the writing appear on the picture itself if you wish.

Any picture that is worth taking is worth a title and date. The places of interest you visit, the autographs of friends you photograph, interesting facts about the children, their age at the time the picture was made—all these things add to the value of a picture. Architects, Engineers and Contractors who make photographic records of their work can add greatly to the value of such records by adding notes and dates permanently on the negative. The careful amateur photographer can improve the quality of his work by noting, by means of the Autographic Kodak, the light conditions, stop and exposure for every negative.

The greatest Photographic advance in twenty years.

No. 3a Autographic Kodak, pictures $3\frac{1}{4} \times 5\frac{1}{2}$ inches - \$22.50

CANADIAN KODAK CO., Limited

At all Kodak Dealer's.

TORONTO

He that by the plow would thrive,
himself must either hold or drive.

* * *

Diligence is the mother of good luck.

* * *

To whom the secret thou dost tell,
To him thy freedom thou dost sell.

* * *

The secret of success is this: There
is no secret of success.

* * *

The greatest question in the world is,
What good may I do in it?



**FOR
SORE
MUSCLES**

Sprains, Wrenches, Painful Swollen Veins and Glands, Bursal Enlargements, Wens, Cysts, or any Inflammatory Condition.

USE AND PRESCRIBE

Absorbine Jr.
THE ANTISEPTIC LINIMENT

It is a mild and powerful liniment, and in addition is an antiseptic and germicide of proven value. This makes it a different liniment and doubles its efficiency. Absorbine, Jr., is concentrated, requiring only a few drops at an application, and even retaining its germicidal powers diluted one part Absorbine, Jr., to 100 parts water. It is purely herbal, containing no minerals or poisons. Alays pain promptly and makes good wherever an effective germicidal liniment is indicated. **IT KILLS GERMS**

"Evidence," a forty-eight-page booklet, gives positive, clear-cut emphatic evidence of what Absorbine, Jr., has done and will do. This booklet, together with detailed laboratory reports, is free for the asking. Absorbine, Jr., is sold by leading druggists at \$1.00 and \$2.00 a bottle, or sent direct, all charges paid.

Send 10 cents for liberal trial bottle or procure regular size from your druggist today.

W. F. YOUNG, P.D.F.,
177 Lyman's Building, Montreal, Canada.

THE BIG WAR

will in no way affect the constancy of the supply, nor lessen the quality of



It is manufactured in our own country, and made from our own native products in our own factories, at Wyandotte, Mich.

Ask your dealer or order from regular supply man.

Indian in Circle



In every package.

The J. B. Ford Co., Sole Mnf.s., Wyandotte, Mich.

This Cleaner has been awarded the highest prize wherever exhibited.

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

THE YOUNG MEN'S CHRISTIAN ASSOCIATION

Tel. 999 **OF GUELPH** Tel. 999

A Downtown Club for Collegemen

A Beautiful, Modern Building, Equipped
To Meet Every Requirement of Men and
Boys.

Dormitories, Bowling and Billiards,
Swimming Pool, Dining Room,
Shower Baths, Social Clubs,
Gymnasium, Bible Study Class.

\$5-Non-Resident Student Ticket-\$5

Entitles Holder to all privileges for
Six Months.

MILTON BRADLEY'S WATER COLORS

Every student should possess a box of Milton Bradley's Water Colors. These colors are unequalled for their clear, rich tones, and the ease with which they may be blended.

Write for our catalogue of Art Materials.

**The Geo. M Hendry
Company, Limited**

Educational Equipment,

215-219 Victoria St., Toronto,
Ontario.



DESIGNING ILLUSTRATING PRINTING

Don't forget that when you are preparing to issue advertising literature, the best investment you can make is to let us illustrate and print it.

We will put it up in a snappy, effective way that will bring you more business and help you to more securely control what you already have.

In the production of high-grade, general advertising work we are experts. Our service is prompt, reasonable and reliable.

The Advertiser Job
Phone 3670 :: Long Distance 3673

Ontario Veterinary College

Under the Control of the Department of
Agriculture of Ontario

Affiliated with the University of Toronto

Established by Professor Andrew Smith, F.
R.C.V.S., D.V.S., in 1862, under the aus-
pices of the Upper Canada Board of
Agriculture and taken over by the Gov-
ernment of Ontario, 1908.

COLLEGE REOPENS ON THURSDAY,
OCTOBER 1st, 1914.

Calendar, 1914-1915 Sent on Application.

E. A. A. GRANGE, V.S., M.S.,
Principal

110 University Avenue. Toronto, Canada.



A TREATISE on the Horse— FREE!



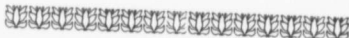
We offer you free
this book that tells
you all about horse
diseases and how to
cure them. Call for it at your
local druggist or write us.

KENDALL'S SPAVIN CURE

is invaluable. It cures Spavin, Curb, Splint,
Ringbone or any other lameness, quickly and safely
at small expense. Read what Leo Cudigan, of Ranis-
more, Ont., says: "I used your Spavin Cure on a
horse that had Ringbone, and it cured him in four
weeks time."

Kendall's Spavin Cure is sold at the uniform price
of \$1 a bottle, 6 for \$5. If you cannot get it or our
free book at your local druggist's, write us.

Dr. B. J. KENDALL COMPANY
Enosburg Falls, Vermont 81



BE PREPARED!

THESE are the days of stress and strain in
financial circles, and the breaking of the war-
cloud has greatly added to the prevalent anxiety

The intense surprise experienced at the declara-
tion of war clearly shows the necessity for every
financial institution being prepared for unforeseen
emergencies.

The Mutual Life has sometimes been criticised
even by its best friends for carrying too large a sur-
plus, but the situation to-day justifies our conserva-
tive yet progressive policy.

The Mutual Life Assurance Company of Canada

Head Office, WATERLOO, Ontario

George Chapman, District Manager

OFFICE, 8 DOUGLAS STREET, GUELPH, ONT.

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

Improved Dairying Methods

Of course you want the best results from your cows and your dairy. This means only more money and greatest satisfaction. To accomplish this you must be thoroughly in touch with the latest methods adopted in the industry.

These are taken up in a thoroughly understandable way in the new edition of

Canadian Dairying

By Prof. H. H. Dean

This edition, just recently issued, has been most carefully revised and brought thoroughly up-to-date and includes photographs and drawings of the latest and best apparatus. It has 299 pages with alphabetical index and is bound in substantial cloth covers.

Price—\$1.00 net, postpaid.

WILLIAM BRIGGS, Publisher,

29-37 Richmond Street, West,

Toronto, Ont.

ONTARIO DEPARTMENT OF EDUCATION.

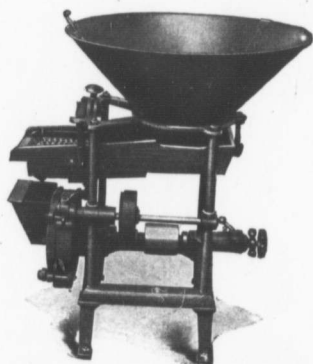
Teaching Days For 1914

High, Continuation, Public and Separate Schools have the following number of teaching days in 1914:

Dates of Opening and Closing			
Open	5th January	Close	9th April
Reopen	20th April	Close	29th June
Reopen	1st September	Close	22nd December
January	20	July
February	20	August
March	22	September	21
April	16	October	22
May	20	November	21
June	20	December	16
	118		80
		Total	198

NOTE—Christmas and New Year's holidays (23rd December, 1914, to 3rd January, 1915, inclusive), Easter holidays (10th April to 19th April, inclusive), Midsummer holidays (from 30th June to 31st August, inclusive), all Saturdays and Local Municipal holidays, Dominion or Provincial, Public, Fast or Thanksgiving Days, Labor Day [1st Monday (7th) of Sept.], Victoria Day, the anniversary of Queen Victoria's Birthday (Monday, 25th May), and the King's Birthday (Wednesday, 3rd June), are holidays in the High, Continuation, Public, and Separate Schools, and no other days can be deducted from the proper divisor except the days on which the Teachers' Institute is held. The above-named holidays are taken into account in this statement, so far as they apply to 1914, except any Public Fast or Thanksgiving Day, or Local Municipal holiday. Neither Arbor Day nor Empire Day is a holiday.

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



Grind your own Grain with a Massey-Harris Grinder

Scientific design—Substantial Construction.

Patent Quick-Relief Lever for stopping Mill.

Safety Break Pin for stopping Mill automatically if any hard substance gets into the Burrs.

Patent Device for raising and lowering Feed Spout.

Burrs are made of an especially hard mixture of iron and carefully fitted.

Positive Adjustment by means of Hand Wheel.

Perfectly balanced and Bearings are well babbited, ensuring smooth and easy running.

Five sizes: 6½ to 10½ inch Burrs.

MASSEY-HARRIS CO., Limited

Head Offices—TORONTO, CANADA.

—Branches at—

Montreal, Moncton, Winnipeg, Regina, Saskatoon,
Swift Current, Calgary, Yorkton, Edmonton.

—Agencies Everywhere—

O. A. C. STUDENTS' CO-OPERATIVE SUPPLY STORE

A Full Line of

Agricultural Text Books

BOTANICAL SUPPLIES

Plant Mounts,
Labels,
Weed Seed Vials, etc.

ENTOMOLOGICAL SUPPLIES

Insect Pins,
Stretching Boards,
Boxes,
Butterfly Nets, etc.

DRAINAGE SUPPLIES

Paper
Instruments, etc.

Transportation Charges paid
on orders of \$5.00 and over.

STUDENTS' CO-OPERATIVE SUPPLY STORE

O. A. College, GUELPH, ONT.



The Secret of
good butter
making is
the Salt used

Windsor Dairy Salt

115

FLOWERS

We have the largest and best equipped plant in
Canada for growing flowers under glass. We fill
orders for cut flowers anywhere from Montreal to
Winnipeg. Give us a trial for your next banquet.

Prompt Service

Moderate Prices.

Miller & Sons FLORISTS

Lauder Avenue

Toronto

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

Young Men Stay in Canada

Advise Your Friends to Come to
C A N A D A

Nowhere in the world are to be found so many and such
good openings for a career in

Agriculture

FRUIT-GROWING, DAIRYING—WHAT YOU WILL!

The cry now-a-days is "BACK TO THE LAND," and
CANADA has got the LAND

The day of CANADA'S PROSPERITY is the day of

Your Opportunity

Do not neglect it. Think this over.
You can never do as well anywhere else.

Tell your friends to apply for further information
To

W. D. SCOTT, Superintendent of Immigration, Ottawa.

Or to

**J. OBED SMITH, 11-12 Charing Cross, London, S. W.,
England.**

DE LAVAL

CREAM SEPARATORS

are used exclusively by
98% of the World's Creameries

TEN YEARS AGO THERE WERE a dozen different makes of creamery or factory separators in use. To-day over 98 per cent. of the world's creameries use De Laval Separators exclusively.

IT MEANS A DIFFERENCE OF several thousand dollars a year whether a De Laval or some other make of separator is used in a creamery.



EXACTLY THE SAME DIFFERENCES exist, on a smaller scale, in the use of farm separator. Owing to the fact, however, that most farm users do

A De Laval Catalog, to be had for the asking, will make plain the many points of superiority of De Laval Cream Separators.

The De Laval Separator Company
MONTREAL PETERBORO WINNIPEG VANCOUVER

50,000 Branches and Local Agencies the World Over

not keep as accurate records as the creameryman, or test their skim-milk with the Babcock tester, they do not appreciate just what the difference between a good and a poor separator means to them in dollars and cents.

NOW, IF YOU WERE IN NEED OF legal advice, you would go to a lawyer. If you were sick you would consult a doctor. If you had the toothache, you would call on a dentist. Why? Because these men are all specialists in their line, and you rely upon their judgment and skill.

WHEN IT COMES TO BUYING A separator why not profit by the experience of the creamerymen which qualifies him to advise you correctly?

He knows which separator will give you the best service and be the most economical for you to buy. That's why 98 per cent. of the world's creameries and milk dealers use the De Laval exclusively.

THERE CAN BE NO BETTER RECOMMENDATION for the De Laval than the fact that the men who make the separation of milk a business use the De Laval to the practical exclusion of all other makes of cream separators.