

**PAGES**

**MISSING**

# THE O. A. C. REVIEW

"THE PROFESSION WHICH I HAVE EMBRACED REQUIRES A KNOWLEDGE OF EVERYTHING."

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## *The Relationship of Plant Physiology to Agriculture.*

By PROF. J. E. HOWITT, M.S. Agr.

The term "plant physiology" suggests to a student beginning its study, as it does to the average man, test tubes, bell jars, water cultures, chemicals, microscopes, text books and scientific terms, none of which at first sight appear to have any part to play in solving the problems of the farmer.

The student of plant physiology, however, soon realizes that all these things do not in themselves constitute the science of plant physiology, but are only means to an end. They are used to study the plant, the living machine, which the farmer endeavors to guide and direct to his own advantage. The man who can best run a tractor or a threshing machine is he who best understands its mechanism and its capabilities under diverse conditions. The same is true in regard to the management of crops. The man who can secure the best results is he who best understands the mechanism, function and response to environment of the delicate living machines with which he works.

Plant physiology is a definite science. It seeks to use the sciences of physics and chemistry to explain the life acti-

vities of plants. The plant physiologist looks for a physical or chemical explanation of every occurrence in the nutrition, growth and reproduction of plants. Thus plant physiology is one of the fundamental sciences of agriculture, seeking to throw light on every operation in the production of all farm crops from seeding to harvesting. We realize how intimately plant physiology



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is connected with agriculture when we stop to consider that it supplies us with a scientific explanation of crop distribution, the necessity for proper drainage and water supply, the preparation of the seed bed and subsequent proper cultivation, the necessity for the application of suitable fertilizers, methods of plant propagation and the essential details for the safe harvesting and storing of crops.

We may know how to do the work essential for the production of certain crops, but unless we know the why and wherefore of what we do we are but machines, without intelligence or appreciation, and as such cannot adjust and regulate our labor to meet the require-

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## *Impressions of a Farmerette*

By ONE

"FARMING is all right, and I like it." This sounds like the remark of someone who knows nothing about it, and I am practically ignorant of farming. I have never yet had any experience on a farm, except what I believe to be the most rudimentary instruction at this College. I have only begun to grasp what an immense subject farming is, and what wonderful executive ability, alertness, and untiring energy a successful farmer must command—already my respect for farmers has mounted so high, that I have come to the conclusion that man is big mentally, morally and even physically, as his literal horizon.

I was not looking forward to this course, or the work this summer with any degree of pleasure. I had seen at different markets, dejected-looking farmers, with hard, leathery faces, horny hands and stooped shoulders; slow of speech and movement, rough in manner as in clothes; and I unconsciously connected farmers with a life of endless drudgery, perseverance and physical labor, which would claim them forever. I wondered what the training would be, which would enable women who had never known anything more severe than the joy of working for a few hours at some chosen occupation in home or office, to adapt themselves to satisfy these men, who had evidently known nothing but toil. I could only conclude that the course would be marked by the most rigid discipline, physical training, and steady, monotonous labor, conducted at a daily increasing pace, relieved only by severe criticism from all sides, and an occasional very practical lecture. I resolved to remember always, that after-

wards, I might not find the work on a farm so hard.

We arrived at the College on the first of May, a glorious, warm, sunshiny day. I came alone, but at the station I was very fortunate in discovering a particularly fine girl in the same circumstances—afterwards my room-mate. With four other girls we made our way to the President's office. Everything—grounds, buildings, driveways—looked so clean and fresh and well-kept! Even the secretary, contrary to my previous impression of secretaries, looked healthy and pleasant. The room itself, while it lacked the almost exaggerated dignity and finesse of the city, in its proportions and furnishings, seemed to breathe that genuine country simplicity and hospitality about which so much has been written, and which I had, somehow, relegated as part of the fiction of "the good old days." Next—we were shown to our rooms. Instead of the sparse, spare, curt individual with the penetrating eyes, whom I had anticipated for this duty, we were actually smiled upon by the most attractive-looking matron I had ever imagined. I could hardly walk without jumping! Everything seemed to augur well for the future.

After unloading and trucking our trunks, our privilege as farmerettes, we made a general survey of the College grounds and farm, two of the "Mac" girls having very generously offered their services. It was good to be out in the sunshine without a hat. We inspected the cows and chickens and greenhouses with particular interest. We dressed in uniform for dinner, and from that on, we seemed no longer separate individuals, but a class. The

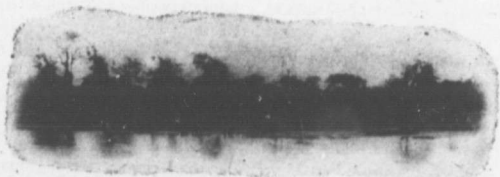
evening was spent in hailing newcomers, calling upon neighbors, and comparing uniforms. The spirit of adventure, geniality, and comradeship prevailed everywhere. We all had a very jolly time.

The next morning our work began, and incidentally, we discovered what it felt like to be stared at by all and sundry, in the most impersonal and obvious way. Even the cats stopped to look. But a splendid lecture from Dr. Creelman stiffened our backs again, and elevated our chins, and made us feel that we would not be as ridiculous as we evidently appeared. He prepared us for the worst, and at the same time gave us fresh courage to face it. In the next twenty-four hours, we were initiated into the mysteries of making a garden, testing milk for fat, and putting those complex cream separators together. The latter were as fascinating as Japanese puzzles, and quite as exasperating. It was all very novel and interesting. And the joy of feeling unhampered by skirts or high heels, and breathing clean fresh air, was positively exalting. I felt as irresponsible and energetic as a small boy.

I shall never forget my first experience in milking. The cow was a Jersey, and her name was Reverencia, which suggested to me that she was a gentle, quiet, well-disposed creature, whose soul might possibly have migrated from the body of some gentle nun of Chaucer's times. Nevertheless, I felt

my heart pounding as I advanced toward her with a pail and stool in either trembling hand, and shakily seated myself. I pulled and squeezed with no results, in spite of repeated demonstrations. Finally, in my desperation, I extracted a thin stream. I never was more excited, and I renewed the attack with greater energy, and consequent success. I leaned my head against Reverencia's flank in exhaustion, and thanksgiving. Then a strange thing happened. My nose and forehead suddenly tingled as if a thousand hailstones had been flung against them. When I looked up, Reverencia's great eyes were contemplating me with scornful impatience—and her tail was still swinging. I got "enough for my porridge," as one of the dairymen said, during the next twenty minutes. Reverencia and I understand each other much better now. One of our class, who never milked a cow before coming here, can now get fifteen pounds in ten minutes. Milking looked so easy!

Altogether we have had a splendid time during the last three weeks, ploughing, hoeing, milking, gardening, pruning, feeding stock, etc. We wish it were beginning all over again. Everyone has been so kind and good-natured, and that has made the work so much the more interesting. Besides there is the advantage of satisfying one's conscience in trying to do the obvious thing, when a world-wide famine threatens.



## War and Agriculture

By G. E. DELONG, '18.

THE cry of the people of Europe is "give us bread and give us peace." Even America, a continent famous for its agriculture and its great natural resources, is beginning to feel the strain in the present crisis.

The war lords, in pursuit of their so-called culture, countenance and uphold the most atrocious and ungodly crimes! How different from agriculture, the most peaceful occupation on

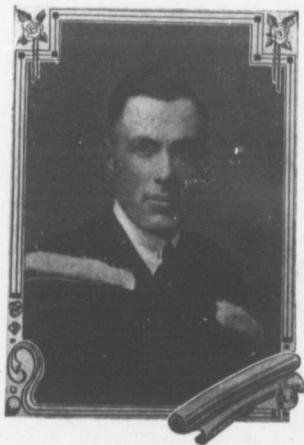
The farmer feeds the world. Commerce is built upon and nourished by Agriculture.

War has revolutionized the economic world. What once seemed essential industries have been curtailed by war time measures, and those that were looked upon with indifference now bulk largely in the public view. In this respect war has been a mighty sister of the industrial world.

Out of this readjustment of the national industries, Agriculture—the occupation once scorned by our cleverest men—has climbed to her real place of respect and honor, and the farmer, as well as the soldier—once scorned by their fellow-men—are now receiving the homage of all classes. They have been transferred from an insignificant role to one of dignity and honor.

Agriculture at the present time is held in very high esteem by the public. The Prime Minister of our Province is also our Minister of Agriculture—an honor never given to any other industry or profession in the history of politics. He assumed the power that he might better assist and serve so essential a calling as agriculture. At no time in the history of Agriculture has so much space been devoted by our newspapers to the discussion of the farmers' problems.

The war has caused the greatest honor possible to be paid to this College by the Government, a compliment that makes all graduates and undergraduates proud of it. Our President was made Commissioner of Agriculture, and the different members of our staff have been asked to assist the various departments in solving many of their weightiest problems. This makes us



G. E. DELONG, '18

earth; where success is marked by the degree in which the farmer follows out the universal laws of God and Nature. Still, war and agriculture—so widely different—are closely connected and have many things in common.

Commerce needs military and naval protection, but it also needs agriculture to sustain it. What could our army in the field or our great army of workers do without proper food and clothing?

all honor our Alma Mater and feel proud of the fact that we have been tutored by these same men, and that we are connected in some small way with such an important national movement.

Because in production per man the Canadian farmer leads the world, the Allies expect food, and clothing in greater proportion than men and munitions, as our contribution to the cause of freedom and democracy. Our grain growers of the West and our stockmen of the East are second to none in the world. Truly the Canadian farmer has just cause to be proud of his occupation.

As far as the individual is concerned one man has as much right to go and fight as another, but when the welfare of the state is considered in order that national efficiency may reach the highest point, and that the State may put up the best possible fight, the man must make himself observant to the will of the State. Canada is being called upon as never before to produce the staples of the farm. If it is as necessary to produce as we believe, and as our Food Controller in this country believes,—and as the Food Controller in the country to the south of us believes, and as no less an authority than Lloyd George proclaims, then all the men who know from study and experience how to make the farm land produce, should not be classed as "Slackers." We have no use for the individual who will stay at some work other than farming up till the last minute and then pose as a farmer or farm laborer to escape military service. But this much is certain—an army cannot fight unless it eats—and if it is for the country's welfare that the farmer stays on the farm to produce, he should be given credit for doing a national service.

Practical farmers have heard much about taking the men off our farms and replacing them with men physically un-

fit for military service, with women, with the boys and girls of our cities; but farming is a man's job and cannot be carried on by our old men, by our women and by our boys. The long battle which lasts from spring till fall, from 5 o'clock in the morning till 8 o'clock at night, is not a job for the physically unfit man. The long strain has broken down many of our strongest men. It is a battle in which the individual and not the battalion or division fights an untiring foe, a battle that takes more courage and staying power than the battlefield, because in farming there is not the cheery voice of the comrade or the bravery born of numbers to help the farmer. He must fight it out alone.

When the Government first considered conscription of labor for farms, the organized labor bureaus immediately sent a deputation to Ottawa to express their disapproval of such a scheme. Why did they do it? They did not want to be forced to work the long hours under the same conditions and for the small salary the farmer receives, even when it was a patriotic work, and when no physical danger was attached to it. This clearly shows that the city man is not any readier to make sacrifices for his country than is the farmer.

Although the present war has clearly demonstrated the value of the private soldier and the farmer to their country, the old antipathy felt for them before the war still exists in too large a degree. How often have we seen our returned men who have given their best that we might enjoy the freedom of Canadians, men without a V.C. or D.S.O., also without an arm or a leg—men who were sacrificed before they had time to distinguish themselves or win their commission on the battlefield, real heroes every one of them—how often have

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## Daisy in the Dairy

By M. BARBARA SMITH, '19.

"WE are going to make butter today! How lovely!" said Daisy as we set out for our dairy lesson.

"I don't see anything frightfully fascinating in the prospect," said I.

"Oh! Milly, I have always longed to make butter! Don't you know, in the English stories when people go to stay in the country, they always drive along narrow lanes between high green hedges covered with honeysuckle and wild roses and May blossom and blackberries—"

"All at the same time?" I asked.

I know England better than Daisy does.

"Oh, never mind, Milly! And then they come to the picturesque farmhouse with the thatched roof, and the roses peeping in at the diamond-paned windows, and a hedge of yew with clipped peacocks on it, and—"

"What on earth has that to do with butter?"

"Don't be so impatient! And then the plump, rosy farmer's wife, with her grey hair smoothed under a white cap, comes out smiling to meet them, and her daughter, in lilac print and a lovely complexion, takes them up the narrow stairs to a little white room where they bump their heads against the sloping wall, and everything smells of lavender, and when they are ready for supper they go down to the spotless kitchen with its red tiled floor and sit down to a coarse but snowy tablecloth with a bowl of primroses in the centre—"

"Primroses! I thought it was autumn! You said the blackberries were ripe!"

"Oh, don't be so tiresome, Milly! There is the crisp, crusty loaf, and the pitcher of rich cream, and the honey in

the comb, and the brown, brown eggs—"

"Brown eggs are not a bit better than white ones!" I objected; "It's only a colour preference!"

"Well, of course I know that, but everyone agrees that they are much more attractive! Do let me finish! Brown eggs and clear pink jelly, and golden rolls of butter! Oh, how I have wanted to make golden rolls of butter!"

"You'll be wanting to make honey next," I suggested.

"Yes, would it be nice," said Daisy, falling into the trap at once; then, seeing her mistake, she tried to extricate herself with dignity.

"Of course you can make honeysynthetically just like anything else, but it's probably lacking in vitamins. I expect the natural kind is best."

"Yes" I said, "you had better keep a bee."

Here we reached the dairy and for a time Daisy was silent, listening to instructions, and carrying them out carefully, scalding and rinsing the churn and taking the temperature of the cream.

"It's below normal," she announced presently, "what shall I do?"

"Treat for collapse," I murmured, "hot water bottles to the feet—"

"Of course," said Daisy, and proceeded to set the cream can in a pail of hot water, watching her thermometer as she stirred.

"It's going up nicely," was her next remark; "65 already!"

"Then you can bring it down again nicely! Shall I feel its pulse in the meantime?"

Eventually the right degree was

reached and the cream poured into the churn.

"Well, I don't see how that white stuff is going to make golden butter," Daisy said.

Our instructress advanced holding a bottle from which she proceeded to drop a brown liquid into the churn.

"What is it?" asked Daisy.

"Annatto," was the answer, "to give the butter a good colour."

Daisy groaned. "Is it artificial?" she said tragically, "Oh, this world is full of shams! I believe I'll go into a convent, after all!"

I said nothing, but whistled a few bars of "Laddie in Khaki."

Daisy pretended she didn't know what I meant, and became engrossed in the churn. The cover was adjusted and we took turns in working the weird thing.

"It makes me dizzy to watch it," I said. "It's like a spider,—you don't know which way it is coming next!" Daisy sighed. "I wish you were more idealistic," she said, "you never see any beauty in anything."

By and by the butter came. Sooner than I expected. I was thinking of a rhyme in a book of my childhood's days.

"Come, butter, come!

"Peter's standing at the gate

"Waiting for a buttered cake,

"Come, butter, come!"

There isn't much rhyme to it, if you consider. Peter in the picture looked so tired of standing that I thought he must have been there for hours.

Daisy was delighted. "Real butter!" she cried, "and we made it!" The buttermilk was removed, and washing followed.

"Is that cover on tight?" someone asked, as Daisy prepared to rock the cradle again.

"Oh, yes!" and off she went, but the

next moment off went the lid, and the golden butter flopped to the ground!

"Hush! Not a word!" I whispered, and while the blue skirts hid the table, I lightly lifted the uppermost butter, and rescued the greater part of the churning. When I thought I was dangerously near the boards I gave a well simulated scream of horror!

"Oh! I am so sorry! I've let quite a lot of butter fall on the ground!"

"Oh, well, gather it up and put it in one of those pans. It can be clarified and used for cooking" was the direction.

"Oh, thank you, Milly, you have saved the situation," Daisy whispered as she poured hot water on the floor and brushed off the traces of the fearful accident.

"I suppose this floor isn't as clean as the one in the English farm house-kitchen," she said, "that always looked as if you might eat off it, you know."

After these things went smoothly and presently Daisy proudly moulded a pound of butter and wrapped it neatly in paper, occasionally murmuring to herself, "Real butter!"

Later she was allowed to make little balls and pats, to her great delight.

"Why, it's quite easy!" she said.

"Well," I replied, "you must try something harder next time. I once saw a bust of King George made out of butter; you might learn to do that."

"Yes, I might," said Daisy gravely. "I used to be rather clever with plasticine when I was small."

Just then a fearful snorting from the hot water tank made us all jump. The steam had been turned on and was making its presence heard in an alarming manner.

"Turn something off!" cried Daisy, but everyone stood paralysed, gazing at the tank where the water was boiling aggressively. "It will burst! The roof

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## *The Western Market for Ontario Fruit*

By T. H. JONES, '19.

ONTARIO'S fresh fruit has the most appetizing flavor and the finest canning qualities of any fruit offered for sale on the Canadian fruit markets. The luscious berry, the cherry, the numerous varieties of plums, the delicious juicy peach, the sweet flavored grape, the pear and the apple all contribute to the merits of this necessity of our daily diet—fresh fruit.

My remarks in discussing the Western Market for Ontario fruit will be confined to present existing conditions in the Niagara Peninsula, because this so called "Garden of Canada" produces ninety-five per cent of the grapes and seventy-five per cent of the tender fruits grown in Canada.

This market is a large one, comprising the provinces of Manitoba, Saskatchewan, and parts of Alberta. It will always be much larger in proportion to the producing districts which ship their products to it, because these districts cannot increase very much in size and not enough in production to produce a supply of fruit in excess of the demand from this particular market.

The Western people must of necessity buy their fresh fruit from the fruit producing districts, because the unsuitable soils, the severity of their winters and other climatic conditions are entirely unfavorable for fruit growing. Hence we truthfully assert that the Western Market will always be a valuable consuming market in this respect.

This market is located in a central position as far as the principal fruit producing districts which cater to it are concerned. These districts consist of Ontario, British Columbia and the fruit states to the South, such as that of Washington. This location causes the

transportation rates from these respective areas to be more or less equal, and consequently keen competition ensues.

With these facts in mind, the obvious course for us Ontario growers to pursue to secure a firm and permanent foothold on this market is to organize our forces at once by co-operating with the dealers in the district with a view and determination to improve our present system of advertising, means of distribution and that of paramount importance, to standardize our package, grading and packing.

The kinds of fruit adapted for this particular market are the sour cherry, plum, tomato, peach, pear, summer and winter apples, and grapes. The sour cherry and grapes are picked directly into the eleven-quart basket, and to some extent, the six-quart basket. I have found, as a grower and shipper, that nearly every grower has his own standard of grading and packing. This means that we have as many grades and packs of fruit as there are growers in the peninsula, placed on the Western Market, to compete with the one or two standards offered by the American and British Columbia districts—a condition of affairs which argues strongly for co-operation to eliminate the picking of unripened plums and grapes, and the poorly filled grape basket.

Precooling fruit is conducted at Grimsby by the Dominion Department of Agriculture, in a warehouse type of plant, equipped with the Cooper Brine system of refrigerator, whose capacity is four carloads per day. The object of this operation is to take away the native heat from the fruit by reducing its temperature to forty degrees Fahrenheit as soon after picking as possible

and before loading into refrigerator cars, to prevent further ripening, and to enable the cars to maintain this temperature throughout the entire journey. This system enables the grower to ship sour cherries and peaches to the Western Market, commodities which could not be successfully shipped there prior to the advent of this refrigerator process.

Time will not permit me to discuss the daily routine of business as regards buying, selling and shipping; but I do wish to draw your attention to the present unsatisfactory methods of paying the growers, used at present by practically all the dealers. When paying for the fruit the average dealer in the Niagara Peninsula does not pay sufficient attention to the quality, grading and packing. For example, he does not pay a grower who delivers one hundred baskets of carefully picked Bradshaw plums, of uniform size and firmness, a higher price per basket than one who brings to the station a similar quantity, poorly picked, small and ununiform, and either green or too ripe for long distance shipment.

While endeavoring to play the role of salesman of Ontario fruit in the West, I came in contact with many difficulties in competing with fruit from British Columbia and Washington. I firmly believe that the attractive appearance of the Western grade of firm, ripe fruit of uniform size, carefully packed in a stable package for long distance shipment, was my worst obstacle when in competition with fruit from these two respective districts.

The Western storekeeper who deals in fresh fruit wants a package such as that of British Columbia and the States, which will carry the fruit with a minimum amount of bruising and waste, because his customers do not want to purchase bruised fruit, and

waste lessens his profits very materially. He is looking for a package of fruit which will appear as attractive to his customers as it does when it leaves the packing house or the fruit farm. He wants a package of fruit whose standard, grade and pack causes them to buy with a conviction that the particular brand is "good all the way through", because they had bought it before and it proved satisfactory.

Allow me to emphasize the fact that Western housewives and storekeepers want our fruit on account of its superior flavor and canning qualities, when compared with those of British Columbia and the States. Why should we not satisfy that want by co-operating and thus meet the demands of the Western storekeeper and housewife, and increase the growers' returns by offering a standard package of our fruit whose quality in those respects is second to none offered on the Western Market.

The salesman not only must compete with Western fruit companies, but also with other Ontario firms from the same district. The total expenses of these various salesmen are eventually paid by the grower who would receive a higher price for his product if the growers and dealers would co-operate and thereby eliminate such uneconomical competition. Shipping carloads of fruit on commission or at too low a figure by Ontario firms in Winnipeg and Portage La Prairie enabled the latter companies to offer Ontario fruit to storekeepers in surrounding towns cheaper than we salesmen could offer it to these storekeepers. A house divided against itself cannot stand.

Obviously, the Niagara Peninsula badly needs co-operation of some description to prevent further nefarious inter-Ontario competition of fresh fruit

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## Results of Farm Management Survey

In Caledon Township, Peel County, by Farm Department  
Ontario Agricultural College

IN the early part of October, 1917, the announcement was made, in the Farm and Daily Press, that a Farm Management Survey was about to be started in Caledon Township, Peel County, by the Farm Department of the Ontario Agricultural College. Although such a step had been under consideration for several years, it was not until last Spring that an appropriation was made to permit of the carrying out of the work. Actual field operations were commenced on October 8th.

During October and November, records of one year's business transactions were taken for each of one hundred and thirteen farms in Caledon Township. The records were itemized, and included a statement of the sub-division of the farm into woods, waste, pasture land, and acres under different crops, yields per acre of all crops, sales of cash crops, feed and seed bought, live stock on hand at both the beginning and end of the year, together with purchases and sales of stock during the year, and receipts from stock products, current expenses, an inventory of buildings and machinery, with an estimate of the value and future life of each building and machine. In the current expenses was included a charge for all labor, save that of one man, who was called the operator. Any unpaid family labor was charged at what it would have cost if hired. No account was taken of what was supplied by the farm directly to the table.

From the figures so obtained, the "Labor Income" for each farm was calculated. From the *net* receipts of the farm, (after deducting all current

expenses and depreciation on buildings and machinery), interest at 5% on the total capital was taken. The remainder was termed the "Labor Income" of the operator—or the amount of money which he received for his labor and supervision. As the labor income is what the farmer is working for, the purpose of the survey is to determine what influence each factor in the farm business exerts upon it. The basis of study is the comparison of the methods of the men having high labor incomes with the methods of those having low incomes.

Not all of the one hundred and thirteen records, however, were found to be available for study. Owing to scarcity of labor, and the general rush of fall work, many men were unable to thresh their crops until very late in the season. For this and some minor reasons in individual cases, only eighty-two records could be used in the final tabulations. With such a small number of farms, only a very limited number of factors could be studied. All comparisons are made for the *average* farm; that is to say, the individual farms are grouped according to the particular factor under consideration, and averages taken for each group. Now when the number of farms is sufficiently large—say four hundred or more—the "law of averages" will eliminate all factors, save the one being studied. But with a small number in each group, the average may be affected by some other influence. For instance, if the factor of "Live-Stock Efficiency" were being studied, the farms would be divided into several groups according to receipts obtained per live-stock

unit. Now with a large number of farms in each group, the average "number of acres per farm" would be approximately the same in each group—the proportions of large, medium sized, and small farms in the group having lowest returns would be the same as those in the other groups. This would get rid of the factor of "size of farm." Likewise, all other factors would be eliminated by this law of averages, save the factor of "returns from live-stock," according to which the farms were grouped. Then, any difference in the average "labor-income" could be attributed directly to the influence of live-stock returns. All other factors may be studied in like manner, and in certain cases the influences of two factors may be studied together. But, it may be seen quite easily that where the total number of farms is small, the law of averages cannot play such an important part in the analysis. Hence the reason for such limited results from the Caledon Township survey. In each subsequent survey, the aim of the department is to make four hundred farms the minimum.

As far as possible, an analysis was made of the facts brought out by eighty-two complete records taken in Caledon Township, and some very interesting results were obtained—results which may be applied to any

"mixed-farming" area in Ontario. There is practically no specialization in the surveyed area. Three "cash-crops" are grown fairly extensively—wheat, alsike clover seed, and potatoes. Only two of the surveyed farms could be classed distinctly as "dairy" farms, though most of the farmers sell cream during the summer months. Beef cattle and hogs are the main sources of income, while sheep are beginning to occupy quite an important place in the farm business. The percentage of rough-pasture land is fairly high—though certain farms are probably 98% tillable.

#### ADJUSTED TILLABLE AREA

In order to compare farms on which the percentage of waste land, or untillable pasture land was comparatively high, with those which were practically all tillable, a basis of "adjusted tillable area" had to be adopted. It is considered that about four acres of rough pasture or six acres of pastured woods are equal to one acre of tillable land. Hence, to the "tillable area" of each farm was added one-quarter of the number of acres of non-tillable pasture, and one-sixth of the number of acres of woods pastured. The total was called the "adjusted tillable area" and the grouping according to size was made on this basis.

#### INFLUENCE OF SIZE OF FARM ON LABOR INCOME

Table 1.

Acres.....	Under 85	86-100	101-150	151-241
No. Farms.....	25	16	22	19
Size—Average.....	72.3	93.2	129.6	175.3
Your Farm.....				
Capital—Average.....	6944	8942	12635	16111
Your Farm.....				
Capital in Buildings—Average.....	2192	2678	3693	4472
Your Farm.....				
Capital in Machinery—Average.....	422	510	598	789
Your Farm.....				
Productive Capital—Average.....	4330	5754	8344	10850
Your Farm.....				

Acres .....	Under 85	86-100	101-150	151-241
Percentage of Capital in Buildings and Machinery—Average.....	37.7	35.7	34.0	32.7
Your Farm.....				
Crop Acres per Horse—Average.....	18.8	21.1	20.6	22.5
Your Farm.....				
Crop Acres per Man—Average.....	46.9	58.0	60.5	63.4
Your Farm.....				
Labor Income—Average.....	\$507	\$891	\$1091	\$1581
Your Farm.....				
Receipts per Live Stock Unit.....	Average of all Farms		Your Farm	
Feed per Live Stock Unit.....	\$74.70			
Profit per Live Stock Unit (over cost of feed).....	56.80			
Crop Yields.....	17.90			
	100%			

NOTE:—A Live Stock Unit is 1 mature cow or horse, or proportionate number of smaller animals, maintained for one year—2 head young cattle, 7 sheep, 100 hens, hogs according to weight. (Sometimes abbreviated to L. S.U.)

Table 1 shows one very striking result—that the amount of labor income increases directly with the acreage of the farm, or, otherwise, increases directly with the size of the farm business. All the farms were engaged in practically the same type of farming. As will be seen, the average labor income for the group of farms under 85 acres in extent was \$507, whereas that for the group over 150 acres in extent was \$1,581, those of the other two groups ranging proportionately between.

The low average of the "small farms" group indicates that on these farms the farm business is too small to pay the necessary overhead expenses, common to all sizes of farms, and leave enough profit to pay the operator more than laborer's wages. In fact, in a year when prices of farm products are normal, these men very probably work for nothing.

Looking more closely into the matter, we see the explanation for this fact. In the first place, although the capital invested in buildings and machinery varies more or less directly with the

total farm capital, it is somewhat higher on the small farms—37.7% as compared with 32.7%. And this higher percentage, deducted from an already small total capital, leaves a much too small amount of productive capital to permit of even a moderately high labor income. In the second place, the man and horse labor is more costly on the small farm than on the large. On the small farms one man performed the labor on only 46.9 acres, and one horse on 18.8 acres, whereas on the large farms one man performed the labor on 63.4 acres and one horse on 22.5 acres. Nor were the small farms farmed more intensively. In fact, the average crop yields per acre on the small farms were 11.8% lower than on the large farms. The highest crop yield averages were on the two intermediate groups, these being about equal, and being 20% higher than on the small farms.

#### AN INDIVIDUAL FARM

In sending reports to the individual farmers, from whom records were taken, the actual figures for the farm are inserted in Table 1. The figures are inserted in the column in which the farm was placed, and so each farmer may compare the figures of his own farm with the average figures for that group, at the same time as he compares

the averages for the different groups. By inserting the actual figures for one of these farms, this may be demonstrated more clearly—

consumed of only \$4.20. The net result is the pitifully small income of \$221 for the operator's twelve months of hard labor. The figures show clearly

Acres.....	Under 85	86-100	101-150	151-241
No. Farms.....	25	16	22	19
Size—Average.....	72.3	93.2	129.6	175.3
Your Farm.....	78			
Capital—Average.....	6944	8942	12635	16111
Your Farm.....	4730			
Capital in Buildings—Average.....	2192	2678	3693	4472
Your Farm.....	1400			
Capital in Machinery—Average.....	422	510	598	789
Your Farm.....	232			
Productive Capital—Average.....	4330	5754	8344	10850
Your Farm.....	3098			
Percentage of Capital in Buildings and Machinery—Average.....	37.7	35.7	34.0	32.7
Your Farm.....	34.5			
Crop Acres per Horse—Average.....	18.8	21.1	20.6	22.5
Your Farm.....	18			
Crop Acres per Man—Average.....	46.9	58.0	60.5	63.4
Your Farm.....	54			
Labor Income—Average.....	\$ 507	\$ 891	\$1091	\$1581
Your Farm.....	\$ 221			

	Average of all Farms	Your Farm
Receipts per Live Stock Unit.....	\$74.70	\$40.30
Feed per Live Stock Unit.....	56.80	36.10
Profit per Live Stock Unit (over cost of feed).....	17.90	4.20
Crop Yields.....	100%	40.

This farm was under eighty-five acres in extent, and hence belongs to the first group. In size it is slightly larger than the average, but the capital investment is somewhat lower. In machinery, this farm is but very meagerly equipped, which is undoubtedly the cause, to some extent at least, of the crop yields being only 40% of the average for the district. The quality of the live stock is also very low, each unit yielding a gross receipt of only \$40.30, or a profit over food

that what the operator of this farm must have, before he can make even a moderately high labor income, is sufficient capital at a reasonably low rate of interest, that he may be able to equip his farm with proper machinery and better live stock.

Similarly may conclusions be drawn by each man from the actual figures for his farm, shown on the report sent to him, and, he may at the same time compare his own figures with the averages for the other groups.

## INFLUENCE OF GOOD CROPS AND GOOD STOCK

Table 2.

	Live Stock Below Average	Live Stock Above Average		
Crops Below Average	No. Farms.....	26	No. Farms.....	21
	Average size.....	108	Average size.....	112
	Labor Income.....	\$ 508	Labor Income.....	\$1047
	Labor Income per acre.....	\$4.70	Labor Income per acre.....	\$9.35
Crops Above Average	No. Farms.....	14	No. Farms.....	21
	Average size.....	127	Average size.....	120
	Labor Income.....	\$ 977	Labor Income.....	\$1530
	Labor Income per acre.....	\$7.70	Labor Income per acre.....	\$12.75

Table 2 shows the relative influences of crop and live stock production on the labor income. Owing to the difference in average size of farm in the various groups, the "Labor Income per Acre" has also been calculated. It will be seen on comparing both groups with live stock below the average, that an increase in efficiency of crop production means an increase in labor income of \$469—or an increase of \$3.00 per acre. Likewise in the groups with live stock above the average, an increase in crop production increases the labor income by \$483—or \$3.40 per acre. But on comparing the two groups with crops below the average, it will be seen that an increase in returns from live stock adds \$539 to the labor income—at the

rate of \$4.65 per acre. And comparing the two groups with crops above the average, we find that an increase in stock returns means an addition of \$553 to the labor income—or \$5.05 per acre. Otherwise, if we make a comparison of the group with both crops and stock below the average with the group underneath and the group to the right, we see that with stock the same and crops increased, the raise in labor income is \$469, or \$3.00 per acre, whereas with crops the same and stock returns increased, the raise in labor income is \$539, or \$4.65 per acre. Thus, the conclusion is necessarily reached that in the area surveyed, the greatest opportunity for raising the labor income lies in increasing the quality of the live stock.

## TO WHAT EXTENT DOES GOOD FEEDING PAY?

Table 3.

Feed fed, per L.S.U.	Under \$43	\$43-50	\$50-60	\$60-70	Over \$70
Average cost per L.S.U.....	\$36.46	\$45.90	\$54.21	\$63.74	\$82.62
Receipts per L.S.U.....	67.91	70.56	78.74	77.09	78.41
No. Farms.....	16	14	19	16	17
Average Size.....	108	129	129	116	96
Labor Income.....	991	1241	1104	907	722
Labor Income per acre.....	9.2	9.6	8.6	7.8	7.5

This table adds further proof to the well-known law that after a certain degree of production has been reached, a higher degree cannot be attained without lowering the net profits. The cost of the final returns is more than the sale price. The amount of feed which may be fed profitably will, of course, depend upon the quality of the stock. With the average of Caledon Township stock, approximately fifty dollars' worth of feed may be fed profitably. It will be seen that the receipts per live stock unit in the last three groups are practically the same. The increase in feed did not increase the returns. Hence, the profit was lowered, with the direct effect of lowering the labor income. In the group which was fed most heavily, each live stock unit yielded a loss of \$4.21 on feed alone. The labor expended on this stock was also lost. As the average size of farm varies somewhat in the different groups here also, the "Labor Income per Acre" has been

calculated. It is highest in the second group, where the average feed consumed amounted to \$45.90 per live stock unit.

#### SUMMARY.

Briefly then, the findings of the survey thus far may be summed up as:

1. The size of the business on the small farm engaged in general mixed farming, is too small to pay all expenses and leave more than a very small labor income for the operator.
2. High profits from live stock have a greater influence on the labor income than have high crop yields.
3. The quality of the live stock determines the amount of feed which may be fed profitably. Heavy feeding to stock of low quality means a loss rather than a gain. In order that the crops grown may be fed upon the farm to keep up the soil fertility, and at the same time yield a profit, the quality of the stock on a great many farms must be increased.



JUNIOR ASSOCIATES AND NORMALS



## Through Consecration---Victory



<p>"Food wins the war! Produce and cultivate!          "Conserve and substitute!" Our statesmen cry.          "Curb your desires, control your appetites,          "For those who fight have need of nourishment,          "And in the older lands the crops decrease.          "The Hun has seized the yield of many fields,          "And though, far in the Southern hemisphere,          "Australia holds rich stores of golden grain,          "The ships are few, and transportation fails,          "Wherefore the eyes of men look to our shores          "And we alone can give them what they crave."</p> <p>But flesh is weak. Desire and lusts are strong.          Whence comes the power to check and overcome?          How shall we teach the palate to refuse          The pleasing savour and the dainty food,          And how subdue our longings till we eat</p>	<p>From pure necessity and not from greed?          Renunciation cannot be achieved          Unless the aid of God be sought in prayer.</p> <p>Prayer wins the war! Who prays?          He dare not pray          Who in his heart regards iniquity,          Who seeks his own and not another's good,          His glory, not the glory of the Lord.          Purge we our souls of self, and consecrate          Our lives, our wills, each act and word          and thought,          Then humbly pray we that God's will          be done,          That all the nations may acclaim Him          King          Pray for our daily bread. Enough, no more          Than what we need to live. How dare          we take          A superfluity of what is His,          While others pine and waste for lack of          food?          Pray for forgiveness, pray for righteousness,          Pray for humility!—God wins the war!          Man only wins when he is on God's side.</p>
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—By "Une Veuve," 19

Macdonald Hall, June, 1918



# THE O.A.C. REVIEW

## REVIEW STAFF

J. B. MUNRO, '19, *Editor-in-Chief*

G. B. HOOD, '20, *Associate Editor*

R. W. MAXWELL, '18, *Agriculture*

F. L. FERGUSON, '18, *Experimental*

C. F. PATTERSON, '18, *Horticulture*

G. R. WILSON, '18, *Poultry*

R. ALEX. BRINK, '19, *Query*

A. M. STEWART, '19, *Alumni*

A. H. MUSGRAVE, '19, *Athletics*

A. B. JACKSON, '19, *College Life*

WALLACE MURDOCH, '20, *Locals*

G. H. SCOTT, '20, *Artist*

OLIVE LAWSON, '18, *Macdonald*

M. BARBARA SMITH, '19, *Mac.*

## EDITORIAL



GEO. HENRY, M.P.P.

### Ontario's New Minister of Agriculture.

The appointment of George Henry, of East York, as Minister of Agriculture has been announced by the Premier. Mr. Henry is a man well qualified for the position, being a practical farmer of exceptional success and well educated. He is a graduate of Toronto University and was for some time a student at the Ontario Agricultural College. The agricultural problems he has to face in his new role are many and complicated, but we believe he will be competent to deal with them.

## Around the College.

College Heights promises to be a busy place this summer. Preparations are being made for the accommodation of a larger summer school than ever before. Both the college residence and the Macdonald Hall will be filled to their capacity and all lecture rooms will need every available square yard of space when the large classes arrive in July.

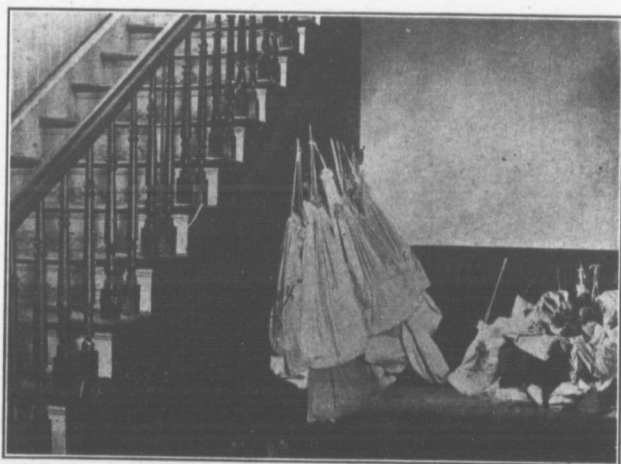
The Old Grey Residence has been 'house-cleaned' in readiness for them

and every old corner gleams with new varnish or a new coat of muresco. It seems like a deserted castle this month, but next month it will resemble a bee-hive during a honey flow. Anyone who has been at the college during the busy weeks of summer school will appreciate just what conditions will be.

The accompanying photographs, taken by W. Robinson, B.S.A., '18, will be easily recognized by all who have at



"SH! THE DEAN!"



"LAUNDRY!"

any time attended the college. The hall leading to the Dean's quarters has the same creaking floor when a tardy freshman essays to enter at 11.30 p.m., as it had in the good old days when our present teaching staff were wary freshmen. Many Deans have held sway in the college and all were feared by freshmen, resented by sophomores, chummed by juniors and respected by seniors, and that part of the residence where each lived in his turn still retains an air of solemnity and authority.

The Laundry Corner has always been a busy one on Saturdays and Mondays. On Monday all the linen found its way to the corner on 'Grub Alley' and on Saturday, after many a search for his initialed laundry-bag

each student filed away to his abode to count over the pieces and marvel at the ability of the laundress. Very few articles ever went astray and very few extra ones returned. We wonder just how four hundred teachers will learn to recognise their respective belongings in five short weeks.

On the Bulletin Board in the corner of the Post Office all the latest ultimatums, from president, secretary or professor, or even the latest bits of interesting news, might be read—providing the crowd would make room. That bulletin board is still the "advisory board" at the college, although, there is now a spacious one in the hall close by. It is probable that no old student, returning to the college for even an hour, goes away without consulting

that oracle. It has become a habit with us all, and seems part of our reason for entering the residence.

The announcement of the fourth session of the School for Rural Leadership is now out, and plans are made for the reception of a class bigger and broader than ever. Mr. Maclaren has prepared to give the very best that has been evolved, in Canada and the United

States, in the lectures to our Rural Leaders. This course will last from July 22nd. to August 3rd., during which time a complete course of instruction in rural problems will be given by competent instructors. Arrangements have been made to accommodate the Rural Leaders under canvas. This is a new departure in housing at the college and promises to prove very popular.



"THE BULLETIN BOARD"

## OUR COLLEGE MOTHER.

The term "Alma Mater" is used by students nearly every where because they love their college and the recollections they have of happy days spent there. To the O.A.C. boy the term has more than an abstract meaning. It stands for a person. Our College Mother is a real, living lady, one who knows every boy who has graduated

would have done at home. No matter what the occasion demanded she has always been equal to it. Lovelorn ones have told her of their disappointments, and sorrow-stricken boys have poured out their burden of grief to her with the knowledge that they were confiding in a sympathetic friend. Her advice has been sought by many and followed by some—and generally



MRS. CUNNINGHAM.

during the past decade and every under-graduate who has attended the institution long enough to get acquainted. The accompanying photo is typical of the Matron whom we have known so long. Every student who has known Mrs. Cunningham will recognise her in this attitude.

For ten years Mrs. Cunningham has 'mothered' the boys and has shared all their little troubles just like mother

with good results, for she always weighs her counsel before offering it to her boys.

Not only is Mrs. Cunningham popular with the boys, but she has her admirers among the girls who attend the courses at the college. It is her true heart and willing disposition that gathers the young folks to her, and will continue to do so as long as we have her for our matron and friend.



THE following letter from B. E. Foryston, '15, was recently received by Dr. G. C. Creelman and is of interest, especially to those of us who know him, and those of whom he writes.

France, 3-2-18.

DEAR DR. CREELMAN,

Was thinking the other day that it had been a long time since I wrote you, so long that you would be justified in thinking me 'napoo' had you not heard perhaps, from other sources, that some of us 'old soldiers' (as we now can call ourselves) are still "going strong." Well, we certainly can think ourselves as being lucky, having come through thus far.

Saw Jim about three weeks ago. Was looking pretty fit, I thought, and as cheerful as ever. Appeared to like the battery he is with now and hopes to stay with it. The sight of an old friend is always a tonic over here and one seems bound to run into them from time to time. Met Donald Sands, Art Moore and Coatsworth recently, they are all fine. Looked up Freeborn last week and after considerable 'hunting' located him pretty much 'forward' with his anti-guns. Told me about being reported killed last summer, when several of them were woun-

ded. He is in quite good shape again.

We are not very busy at present and, incidentally, enjoying some very fine Spring-like weather. We had it very cold during the greater part of December—good healthy weather tho' and everybody rather enjoyed it.

Had an interesting letter from J. A. Neilson some time ago, from which I learned the whereabouts of many of the O. A. C. boys. Was quite refreshing to hear about so many of them.

Have heard that the attendance at the College is small this year, which is to be expected, but venture to say it will come back with a quick jump once the war finishes. Many fellows in this outfit say they intend going there if lucky enough to 'get back.' We always boom it, you know.

Well, I do not know of anything more, so will close. Hoping, Sir, both yourself and family are quite well, with the best wishes for the present year.

Very truly,

B. E. FOYSTON  
Gnr. D. A. C.

Dr. Creelman has also received the following letter from O. McConkey of '17. Mac was well known to many of the boys, having taken his first two years with '14.

France,  
March 26, '18.

DR. G. C. CREELMAN,  
O. A. College, Guelph, Ont.

DEAR DOCTOR,

I wish you could step outside this old dugout and witness that moonlight scene. Oh! it is regal! clear, clear, almost a crisp air, the long lines of transports are rattling up the roads, the planes buzzing overhead, here and there a salvo breaks forth on the front, the echoes reverberating again and again. Bang! there goes one of our guns. Oh! it is a great old game, everything is on the qui vive.

Say Doctor, I am going to ask a favor of you. I am applying for a commission and in the application we require a certificate covering education, character, and the points that a commanding officer would wish to know regarding a prospective subaltern. You have doubtless written many of them already and know exactly what is required, the duration of the college course, degree, etc.

I hope this does not intrude on your already overcrowded time table.

I have had several interesting talks with Sgt. Brown, C.A.M.C of M. A. C. staff lately and Dunc Irvine '14 is quite close, also Charlie Meek, '17, and the College battery is not very far away so we are one big happy family.

Address:

335074 Gunner O. McConkey,  
6th Can. Siege Battery,  
B. E. F.  
France.

The boys all look fine and are all feeling fine.

What a great old fraternity O. A. C. has, every camp one may happen to drop into one will run into a college boy, and then we are "well away."

We have been very quiet but ready,

and if Fritz comes over he will get a terrible cutting up.

With all best wishes to the folk on the dear old campus.

Remember me to Mrs. Creelman, bon nuit,

Yours very sincerely,  
O. McCONKEY.

The following letter received by "Cap" Gandier, is from C. H. Curran '16 whose address is Hut No. 37, D. Co'y, 13th Officer Cadet Bn., New Market, England.

DEAR CAP:—

Your letter of 31st October to hand and am dashing off a few lines now as we never know when we will find time to write. Between drill and rugby every afternoon our time is completely taken up, and as we are supposed to study every night for an hour can't even find time, as a rule, to do anything in particular.

As far as I know I will be going to the 8th East Yorks, in which Hessel's brother is a Company Commander. However, I will be here until the end of March as the course was lengthened to five months shortly after we arrived here.

News of the College and the proceedings there is certainly most welcome as I am out of touch with events there. Am glad to hear that S. M. Lord and "Mel" Jones are back. Their presence adds more interest to a '16 man, considering that they are two of the Originals who arrived and were initiated with me.

Am sorry to hear that rugby isn't progressing so favourably as in the past few years, but we can look forward to better things when times become normal again. Am playing right three-fourth on our company team and we have had a few really good games and



look forward to a good many more during the remainder of the course.

I must say that I like the Canadian game much better, but must be satisfied with what is obtainable.

I met McCormick in London about five weeks ago. He expected to go over soon after returning to his unit, so will be there by now.

Should be pleased if you would remember me to Lord and Jones and others of our year who may be at the College.

I remain,

Sincerely,

C. HOWARD CURRAN.

Corporal Charles Ian Forman, '17, was killed in action October 30th, 1917. Corporal Forman, though an American, enlisted as a private in March, 1915. He won his stripes and the Military Medal upon the field and was wounded four times before receiving his fatal wound. He was always known for his cleanness in person and speech. At present three brothers are serving with the American army.

Lt. James Grange, B.S.A., '13, of the York and Lancasters, is reported as accidentally killed.

An official cable has been received by Rev. W. M. Kay, Barrie Hill, that his son, Sergt. W. J. B. Kay, '18, 55th College Battery, had been admitted to No. 11 Field Ambulance, France, on April 26th, suffering from shell gas.

Gunner P. L. Runnalls who enlisted with the 56th Battery in 1916 is now in the 55th Battery and has been in France since last August. His address is,

Gunner P. L. Runnalls,  
55th Battery, C. F. A.,  
B. E. F., France.

J. Alex Munro, '21, is now with the Depot Battn., Winnipeg. Alex is well known at the College, having taken his Factory Dairy Course here with Class '17.

Dr. Creelman has received word from Wm. King, Gravesend, Eng., telling of the death of his son Vernon. The Review extends its sympathy to the bereaved parents.

VERNON KING was one of the most popular graduates of Class '11. He was the type of Englishman who wins the esteem and affections of his classmates through his strong personality and wholeheartedness. His chief interests during the course were along biological lines, though he found time for most of the activities of student life, especially for athletics where he excelled in swimming and football. He was a good biologist and upon graduating, was employed by the Entomological Branch of the U. S. Department of Agriculture, being stationed at the Government Laboratories at Wellington, Kansas. He remained there until the commencement of the war when his love for the Mother Country called him to the defense of the Empire. On his way to enlist, King called at Guelph to renew acquaintances. In his death the college loses one of its most promising graduates.

The following letter from his Commanding Officer to his father shows the esteem in which he was held among his officers and men.

No. 16 Sqn., R.A.F.,  
B. E. F.

April 12th.

DEAR MR. KING,

I am extremely sorry to have to tell you that your son, Lt. V. King,

was killed in action in an air fight yesterday, April 11th, at 5.20 p.m.

He was flying as observer to Capt. Jones, the most experienced pilot in the Squadron and they were attacked and shot down by three enemy scouts. Your son put up a great fight, firing 250 rounds at the hostile machines, but they could not cope with odds of three to one for long, and were eventually shot down. Your son lived for about half an hour, but never regained consciousness.

We are all extremely sad at losing him, as he was very popular with all ranks of the Squadron. Always keen and cheerful, he set a splendid example to everyone, and did much to keep up the high spirits which this unit has always shown.

We brought his body in last night and he will be buried by the side of his pilot and many other brave men from this Squadron at Aubigny, near here, on the road from Arras to St. Pol.

Please accept on behalf of the whole Squadron our deepest sympathy in your sad loss.

Yours very sincerely,  
C. F. A. PORTAL (Major.)

J. J. Brickley, '20, who had enlisted with the O. T. C. of Toronto University is now a member of the 1st Canadian Tank Battalion.

R. Gregory, '20, has enlisted in the Halifax Heavy Siege Artillery.

Capt. J. E. Latimer, '14, who has been a prisoner of war in Germany, has recently arrived in Canada.

Sincere sympathy is extended to Mr. Percy Sackville of the Animal Hus-

bandry Department and Mrs. Sackville on the death of their little daughter, Jean Luxton.

F. K. Merkley, B.S.A., '17, Lecturer at Ames College, Iowa, was visiting college friends recently.

Born at Guelph on Thursday, May 16, to Mr. and Mrs. A. W. Mead, a son—Joseph Arthur.

#### MARRIAGES.

Brides have been monopolising our men, with the result that we have great pleasure in announcing a number of marriages. We concentrate our good wishes and a bon voyage on the following list of amateurs:

Fort Rouge Methodist church, Winnipeg, was the scene of a pretty military wedding on May 2nd, when the Rev. Dr. W. L. Armstrong united in marriage Edna Weston, daughter of Dr. E. W. Montgomery, to Lieut. Roland Osborne Bull, M.C., Royal Artillery, son of Mr. and Mrs. Manlius Bull, of that city.

Following the service an informal reception was held at the bride's home, 100 Nassau Street, for the immediate friends and relatives of the bridal party. Lieut. and Mrs. Bull left on the Soo Line for French Lick, where the honeymoon was spent. Lieut. Bull and his bride will make their home in Winnipeg until the groom leaves for overseas.

#### DONALDSON—HILL

On March 25th, 1918, Lieut. E. R. Donaldson, P.P.C.L.I., '18, wedded Miss Jean D. Hill of Perth, Scotland.

## CULP—MOYER.

The marriage of Mr. Ernest Culp, B.S.A., '16 of Vineland Station, son of Mr. and Mrs. A. Culp to Miss Grace Irene Moyer, only daughter of Rev. I. M. and Mrs. Moyer, took place quietly at Guelph on May 9th, Miss Moyer enjoys the unique distinction of being married by her father and given away by her mother. Mr. David Elliot, B.S.A., of St. Catharines

was the groom's right hand man.

## GRAHAM—RICHARDSON.

On Thursday, May 2nd, 1918, at the residence of the bride's parents, 29 James Street, Ottawa; by Rev. Gorman, Edna Gertrude Richardson, only daughter of Sheriff and Mrs. G. C. Richardson, to Herbert William Graham, son of Mr. and Mrs. T. J. Graham, Lake View Farm, Britannia Bay, Ontario.

## Graduates of the Ontario Agricultural College

MAY, 1918

(WITH HOME ADDRESSES AND PRESENT POSITIONS).

## CHEMISTRY AND PHYSICS OPTION—

Geddes, W. F., Kinburn, Ont.—  
Chemist with the British Chemical Co.,  
Trenton, Ont.

## BIOLOGY OPTION—

Flock, J. A., Burlington, Ont.—Investigations in Economic Entomology, Fruit Branch, Ontario Department of Agriculture.

Mitchener, A. V., Port Rowan, Ont.—Lecturer in Horticulture and Entomology, Agricultural College, Winnipeg.

Robinson, W., 984 Ossington Ave., Toronto.

## DAIRY OPTION—

Davis, H. L., Forbes Ave., Guelph.

James, N., R.R. 2, Dublin, Ont.—Lecturer in Dairying, Agricultural College, Winnipeg.

Parfitt, E. H., 1066-82nd St., Brooklyn, N. Y.—Demonstrator in Dairying, O.A.C., Guelph.

## BACTERIOLOGY OPTION—

Lord, S. N. (Lieut.), 35 Lakeview Ave., Toronto.—On leave of absence.

McCurry, J. B., Hurdman's Bridge.—Botanical Department, Experimental Farm, Ottawa.

## HORTICULTURE OPTION—

Jones, W. M. (Lieut.), 307 King St., London, Ont.—On leave of absence.

Patterson, C. F., R.R. 8, Watford, Ont.—Farming.

Tomlinson, A. H., O.A.C., Guelph—Lecturer in Landscape Gardening, O.A.C., Guelph.

Mann, A. J., Colquitz, B. C. (conditioned in French).

Selwyn, H. H., 545 Gilmour St., Ottawa. (conditioned on Thesis)—managing his own apiary.

## AGRICULTURE OPTION—

Arnold G. J., Old Charlton, Kent, England.—Enlisted.

Cooper, T., R. 1. Wallenstein—District Supervisor of Drainage, Department of Agriculture, Hamilton, Ont.

DeLong, G. E., Rossmore, Ont.—Farming.

Elder, R. C., Canfield, Ont.—Farming.

Ferguson, F. L., Parkhill, Ont.—District Supervisor of Drainage, Department of Agriculture, Chatham, Ont.

Graham, H. W., Britannia Bay, Ont.—Farming.

Heimpel, L. G., 38 Alma St., Guelph—District Supervisor of Drainage, Guelph.

Maxwell, R. W., R.R. 5, Watford, Ont.—Enlisted.

Michael, G. W., Sherkston, Ont.—Farming.

Munro, A. D., North Lancaster, Ont.—Farming.

McBeath, J. G., Woodstock, Ont.—Poultry Department, O.A.C., Guelph.

McCulloch, O. D., R.R. 1, Port Perry, Ont.—Farming.

Newton, R. G., R.R. 2, Tavistock, Ont.—Farming.

O'Neill, L. E., Bradford, Ont.—Live Stock Branch, Department of Agriculture, Toronto.

Overholt, P. M., Marshville, Ont.—Farming.

Scales, A. A., St. Eleanors, P.E.I.—Fox farming.

Snyder, O. S., Kitchener, Ont.—Poultry Department, O.A.C., Guelph.

Timms, J. N., 118 Chatham St., Windsor, Ont.

Waterman, J. M., Fraserville, Ont.—Associate Editor, Canadian Countryman, Toronto.

Weston, E. W., 108 Queen St., Sarnia.

Wilson, G. R., Merrickville, Ont.—Enlisted.



JUNIOR HOUSEKEEPERS—MACDONALD HALL.



COLLEGE QUARTETTE  
Standing—W. C. HOPPER, '20. J. R. HIGGINS, '19.  
Sitting—C. F. MACKENZIE, '19. W. L. IVESON, M.A.



### THE FARMERETTES.

ON May 1, the O. A. C., for the first time in its history, threw open its doors to receive women for a short course in agriculture. The demand for such a course was evidenced by the fact that last fall a number of girls residing in Toronto went daily to the farm of Mr. Kilgour for practical instruction, with the object of fitting themselves to answer the growing and insistent call for help in production.

The Premier, being also Minister of Agriculture, was naturally interested in this movement, and approached Dr. Creelman with the suggestion that if possible a special course might be planned at the O. A. C., for the benefit of women who wish to help in the present crisis. At first, there seemed to be many difficulties in the way. The heads of departments were dubious as to the success of the scheme. Great ingenuity was required to draw up a suitable programme. However, the project took definite shape, and the Ontario Government Public Employment Bureau, through their director of women's farm work, received applications and admitted the approved candidates.

There were 29 women and girls in the class. They wore the standard national uniform of khaki tunic and breeches, and presented a business-like appearance which agreed with their mental attitude. From the beginning they were in earnest about this course.

When the baggage wagon brought their trunks, they took upon themselves without hesitation the task of carrying them to their rooms. There was no shirking or slacking or grumbling. They came prepared to enjoy their work and their expectations were surpassed. They had the time of their lives. Naturally, only those who were physically strong and healthy could be received, and they have not felt that the course has placed any undue strain upon them. They have slept well, eaten heartily, gained in weight and had lots of fun. They have not blistered their hands, they have not felt over-tired. They asked to be allowed to do extra work, such as ploughing and harrowing on Saturday afternoon, their half holiday. They had enough energy to play tennis and take bicycle rides in the evening. They rose at five, and at five thirty were at work, feeding stock, grooming horses, milking, and cleaning the stables. Perhaps half a dozen of them had been accustomed to horses, but for the most part they were absolutely new to this kind of work. One of them said that she quite expected to feel nervous when she was introduced to the horses, but she forgot all about it. When questioned as to what part of the work they liked best, many gave the first place to the horses.

One girl had been warned that when a horse shows the whites of his eyes, he means mischief. Her charge was making highly disconcerting noises which

she interpreted as snorts of indignation at being curried by a woman. A glance at the nearest eye revealed something uncanny, and she retired in a panic. He proved to be a harmless and amiable beast suffering from the afflictions of being wall-eyed and a windsucker. On one occasion two girls were mounted on the backs of a team which had been just unhitched from a cultivator, another girl holding the lines. Something frightened the team and they bolted. There were some anxious moments for the riders, but they stuck on, and the runaways were soon stopped. The milkers also had their exciting experiences. Restless tails, trampling hoofs and overturned pails were not infrequent features at first. Among the discoveries they made was the fact that calves can bite.

The first period each morning after breakfast was occupied by a lecture, and the rest of the time was given to practical work out-of-doors, except when weather conditions imposed restrictions. The students received instruction in fruit growing, vegetable gardening, dairying, animal and field husbandry, care of poultry and personal hygiene. Some confessed that they were "absolutely green." One asked how she could get her radishes to grow radishes at the bottom as they produced nothing but leaves, and another was surprised to learn that beets and carrots came out of the earth. It must be remembered that twenty-three of these students were dwellers in cities, very few of whom had even done any gardening.

As to general experience, they ranged from a girl fresh from school to a lady who has already done much valuable work as a V. A. D. in England, in the general service section of St. John's Ambulance Association, and as a pion-

eer fruit picker in the first year of the war, when conditions were less desirable than at present. The workers had to rise at 4 a. m. to pick strawberries, did their cooking on an open wood fire and made their tea from rain-water. This lady returned to Canada with her husband, an officer in the Imperial A. V. C. who afterwards died from the injuries he had received. All her relations of military age were at the front. Nine of the class had husbands or brothers on active service, and those who had no men to fight felt that to be an additional reason why they should "do their bit."

Fourteen were Canadians by birth, eight English, three Scottish, one was Irish, one American, one was from the Island of Jersey, and one a Swiss lady from Geneva, who came to Canada before the war intending to return after two years. Five were married women, two of whom had left their homes and children (in good care) to help their country. Six were university graduates or students, three were teachers, three housekeepers, two dress-makers, five had been engaged in office work and the rest had just lived at home.

What a boon this O. A. C. course has been to them! They have been taken out of their narrow indoor life and brought into God's glorious out-of-doors, and shown the joys and possibilities of work under the open sky. They have shaken themselves free from binding tradition and hampering circumstance, and a new world is open to them.

The instructors who frowned and doubted have been converted. They found their pupils apt, diligent and enthusiastic, and once more woman has proved that she can respond to new calls, adapt herself to new tasks and play a worthy part in the business of life.—M. B. S.

## TO YEAR 1918 CLASS

BY A JUNIOR.

YOU greeted us with smile and kindly  
word  
When first we crossed the threshold of  
the Hall,  
You must have found our green-ness  
quite absurd  
When we arrived as freshies in the  
fall.

You planned our weird initiation rites  
You made us vow to honour and obey,  
And you will own, according to our  
lights,  
We fairly kept the promise made that  
day.

We thought you very wise and very  
great,  
You talked of things we did not under-  
stand,  
But you were willing to illuminate  
Our darkness, and hold out a helping  
hand.

And as the year rolled on, you nearer  
grew,  
We feared you less and learned to love  
you more,—  
You, who are looking out on vistas new,  
Whose steps are turning toward the  
open door.

And must you go? Must we return and  
find  
A blank where friendly faces used to be?  
Yes, for the raindrops meet, the brook-  
lets wind,  
The rivers flow to join the boundless  
sea.

All life is change and progress, so you  
leave  
Our little world to fill a wider sphere,

Henceforth your share of service to  
achieve  
The better for your brief experience  
here.

And we who stay will strive to emulate  
The best that we have found in you,  
that so  
We too may leave, when we shall gradu-  
ate,  
Juniors who truly grieve to see us go.

## FOOD REGULATIONS

ON April 27th, Macdonald Hall  
adopted the food regulations bind-  
ing upon all restaurants and boarding  
houses in Canada. In order to comply  
with them more perfectly, the principal  
meal of the day was shifted to the even-  
ing and served at six o'clock. It con-  
sists of meat or fish with vegetables and  
a substantial dessert. The noon day  
meal is now luncheon, but it provides  
more satisfaction than the old supper,  
as it always begins with soup, and, as  
a general rule, the Mac Hall soups are  
excellent.

The only noticeable restrictions are  
in bread, butter and sugar. Those  
people who were accustomed to take  
two cups of tea or coffee at a meal and  
take them well sweetened may find  
that two lumps of sugar are a small  
allowance, but as the little sugar bowl  
is usually half full at the time of leav-  
ing the table, there is evidently not  
much suffering caused by the limitation.  
The portion of butter is quite sufficient,  
but more can be obtained by asking.  
Probably the reduction in the amount of  
bread which each person may take is  
the feature which is most noticeable,  
but all willingly endure this slight in-  
convenience. The various substitutes  
for white wheat flour which are em-  
ployed in the making of bread, muffins,



cookies, scones, etcetera, are most acceptable; in fact it seems strange that a war was needed in order to give these palatable and wholesome confections a place in the daily menu. On the whole, the change makes for variety and there is no danger of inadequate nutrition. There is no self denial involved in observing these regulations, and those who really wish to give up something that they will miss, must turn their attention to afternoon teas, candies and other unnecessary gratifications.

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Miss Roberta MacAdams who has been visiting at her home in Sarnia, is returning overseas. She has already served overseas as a nursing sister for a long time.

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#### MAC HALL AND THE FARMERETTES.

As soon as the doors of the O. A. C. closed behind the men, they were opened to a different crowd, composed of girls who intend working for four months on a farm. Since that time the work and energy of the farmerettes has proved a revelation to many and their stimulative influence has been far-reaching. Their coming had been awaited eagerly by the girls at the Hall, and so, on the Saturday evening after their arrival they were invited to cross the campus. The Juniors at the Hall were in charge of the party, and they decked the gym to make it look more festive. About eight-thirty the girls assembled in full force, each one with her name written on a slip and pinned to her dress. After a few minutes spent in getting acquainted, the music began, and dancing became the main centre of attention. Later on, ice cream cones were passed, then more dancing and finally "The King."

Two weeks later, on the eighteenth of May, an invitation came from the farmerettes to the girls at the Hall to spend a "night off" with them. An arrangement had formerly been made for a programme—the farmerettes providing charades, skits and readings while the Mac girls supplied the music. It was such an attractive affair! The exceeding cleverness of the farmerettes, at recognizing and placing their leaders was well illustrated. Though they had known one another only three weeks their organization was evident. (May we add just here that their president, Miss Jones was attending convocation that week-end, and while there received the degree of B. A.) A splendid part of the programme consisted of the parodies on popular songs, which the farmerettes sang full lustily. Mrs. Shaw, the mother of one of their numbers, gave one or two splendid readings, and later, she and her daughter gave an interesting dialogue. Even to refreshments the farmerettes were original, for they passed all-day-suckers! About eleven o'clock the party broke up and the farmerettes were assured of the best wishes of the Macdonald girls, for their work during this season.

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#### THE FRUIT-PICKERS' CHORUS.

Pick all the currants off your darned  
old bush,  
And smile, if you can!  
While you are sitting on a hay stuffed  
cush,  
The stems drop in your pan.  
What's the use of hurrying?  
Two cents are not worth while,  
So pick all the currants off your darned  
old bush,  
And smile, smile, smile!

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Mr. Clark is once more around after being laid up for several weeks with a

serious injury to his knee, the result of an auto accident which occurred soon after the commencement of the term. He has been very much missed. In his absence, water taps have been leaking, electric irons have gone out of commission, lights have behaved weirdly, and, worst of all, the Institute clock with its elaborate system of warning gongs has been sulking, and entirely refused to do its duty. Perhaps, it is not altogether a misfortune that students have had to keep an eye on the time and develop a certain sense of responsibility in connection with putting in a punctual appearance, instead of depending entirely on the bells. However that may be, all are glad to see Mr. Clark back at his work, and hope he will soon make a complete recovery.

#### ELECTION OF OFFICERS.

The election of officers for next year gave the following results:

##### STUDENTS' COUNCIL.

President—Miss Falconbridge  
Vice-President—Miss de Guerre  
Secretary—Miss Wismer.

##### ATHLETIC SOCIETY.

President—Miss Hyde  
Secretary—Miss Bishop  
Treasurer—Miss English  
Baseball Manager—Miss Clerk  
Hockey Manager—Miss Nicholl  
Basketball Manager—Miss Murray

##### Y. W. C. A.

President—Miss Germain  
Secretary—Miss Williams  
Treasurer—Miss Violet Reid  
Mimi Study Leader—Miss Eustis  
Bible Study Leader—Miss Germain  
Musical Convener—Miss Schofield  
Social Convener—Miss Todd

##### LITERARY SOCIETY.

President—Miss Muriel Watts  
Secretary—Miss Maclean  
Treasurer—Miss Beaman

PHILHARMONIC Representative—Miss Totten.

REVIEW Representative—Mrs. Smith.

Dr. Reed was telephoning to a farmer who had called on him for advice as to how best to treat a balky horse. An O. A. C. student was calling up his lady love at the same time. "Do you know what I would do were I near you?" he asked.

"No, dear, what?" came the reply.

Just then the wires got switched. She never speaks to him, now, though why he doesn't know. She thinks it was unchivalrous of him to suggest tying a rope around her neck, twisting a stick in it and then giving her a good thrashing!

Ever since the farmer has been wondering just what "Doc" meant when he said that he would put his arms around her neck and whisper sweet words of endearment into her ear.

In the gooseberry patch.

"Don't you love gooseberries?"

"Well, the trouble with a gooseberry is that when you bite it at one end, it goes out at the other!"

Professor—"The flies are very fond of these onions. In fact they just sit around waiting for them to grow."

Student—"Wouldn't it be a good plan to spread some fly-paper on the ground?"

Lord.—What was wrong with my collection, Professor?"

Prof. Howitt.—"You omitted the scientific names!"

S.N.L.—"I—I—thought the christian names were sufficient.

## *Trials and Tribulations*

THERE are a few troubles which nearly everyone will encounter when running an incubator for the first time. They can easily be avoided, provided the attendant knows what to watch for.

The beginner will probably have the most trouble with the lamp. It may smoke, refuse to heat the machine properly or even go out. The first thing to do is to be sure the wick is clean, free from moisture and long enough to reach the bottom of the reservoir with some over. From two to six inches of wick will be required per hatch. Allow no charred bits of wick or other refuse to collect on the gauze at the base of the burner. The small flue running up beside the wick tube must not become plugged.

Most lamp troubles come from improper trimming. To trim a lamp properly, first pinch off the charred top, then rub the wick down level with the top of the wick tube; now turn the wick up about one-eighth of an inch and round off the corners slightly. This may be done by rubbing up and over with the finger. If done properly this will prevent smoking, but if the corners are rubbed down and not up, the lamp is very apt to smoke. Smoking is caused by the flame having a long "tongue" or "ear" at one or both sides, which touches the side of the chimney causing a deposit of soot. This soot becomes hot, the smoking gets worse and the machine will finally catch fire. In a bad case of this kind as much as half a cup of soot may be found in the smoke flue. The machine will continue to smoke until this is removed. To clean it, remove the smoke flue, partly fill it with clean, dry sand and shake. This will cut out the soot and the flue will again be ready for action.

The lamp should be looked at about a quarter of an hour after it is trimmed, as it may run up. Never leave it until you are satisfied that it is working properly. Draughts in the incubator cellar are bad, as a very slight wind, coming from the right angle may put out a lamp.

The beginner will also find some trouble in regulating the heat. This is all done by the nut on the regulator rod, on top of the incubator. When the machine is cold this rod should have, roughly, half an inch of play. Light the lamp, put in a thermometer and in about six hours the heat will be up. To cool the machine, turn the nut to the left; to heat it, turn to the right. About half a turn will usually vary the temperature about one degree, but that is only an approximate guide. When the heat is right the disc on the regulator arm should be about one-eighth inch above the flue.

If the machine is too cold, it may be that the thermometer is set too low or the lamp may not be high enough. If the disc is down on the flue, the lamp is not high enough; if it is up then it must be lowered until the heat comes up. Outside of this it is not safe to attempt to regulate the heat by turning the flame up or down.

Turning and cooling the eggs may bother the beginner. This begins the night of the third day and ends the night of the eighteenth day. In turning, handle the eggs very carefully—a jolt or jar, especially during the early part of the hatch, is very apt to kill the delicate germ. It is not so essential that the eggs be left on the opposite side so long as they are moved in order that the germ may not become attached to the shell. Do not cool longer than

*(Continued on page xxv.)*