

THE O. A. C. REVIEW.

The Dignity of a Calling is its Utility.

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THE O. A. C. REVIEW.

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BY THE LITERARY SOCIETY OF THE ONTARIO
AGRICULTURAL COLLEGE, GUELPH.

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Ex-students will confer a great favor on the Editors
of this journal by sending news, particularly experi-
ences of practical value.

EDITORIAL.

Our readers will remember that the O. A. C. Literary Society offered a prize of \$10 for the best essay on "The O. A. C. as a Link in the Educational System of Ontario," the competition being open to all students and ex-students of the O. A. C. A number of the best writers among the students, past and present, competed, and the judges, Prof. Shaw and Mr. Hobson, have awarded the palm to Mr. W. J. Palmer, whose essay accordingly appears in this issue.

* * *

Once more in the history of this paper have a few words of farewell to be penned. To the year that has just gone, to the association with

our brother editors, and all the enjoyable work that the conduct of this journal has brought, we shall ever look back with feelings of pleasure. The trials and difficulties of the task have been indeed but few, thanks to hearty co-operation among the staff, and ready assistance from our contributors.

Our readers may be anxious to know whether the REVIEW has been successful. That depends on how success is to be gauged. If we had been working for an enormous circulation and a large balance to our credit at the year's close, then perhaps we could not claim exceedingly brilliant results. But in so far as we have supplied a readable and interesting account of the progress of events at the dear old O. A. C., in so far as we have recorded the doings and whereabouts of ex-students, published instructive articles on various topics connected with the grand science of agriculture, and had the pleasure of exchanging papers with other Colleges, and finally honestly paid our way, thus far we have succeeded.

But we by no means consider our sphere of influence to stop with these achievements. We trust the REVIEW has served its purpose in keeping fresh the memory of the O. A. C. with its many attractions, enjoyments and privileges, in the hearts of those who have left its hospitable walls. We believe that every right-minded ex-student cannot fail to cherish a most kindly feeling towards it. If that be so he will be only too glad to obtain regular and definite information of the old place. Beyond that he will surely feel inclined to contribute an occasional column, for if the REVIEW is worth any thing at all to him it is undoubtedly worthy his hearty support. If led on to write, a great object has been

attained, for that can only be the outcome of thought, and as we lead men to think, to exercise to the highest degree their powers of intellect, we aid them to further development and their enjoyment of the powers and dignity of manhood.

We hold that the pages of this journal should be filled with the best thoughts of the finest agriculturists in the Dominion, for such the graduates, associates, and ex-students ought to become, so that no outside help should be necessary. With such a number of students annually going through the College there should be no lack of "copy"; indeed it will be a marvel if before many months are over the size of the paper is not greatly and permanently increased.

Then, we must again remark, that this paper offers exceptional advantages for correspondence between ex-students, and the exchange of notes on improved methods of work in addition to the regular publication of the Experimental Union reports. We honestly believe there are many such communications which would be of untold benefit to our readers, and we half suspect that some subscribers are sorry that they have not written during the year. "It is never too late to mend." We hope to see a great development along this line in future editions.

Now that our little barque is in harbour again waiting for the next voyage, let each student, past and present, be cogitating some plan for the improvement of the paper and extension of its circulation. Send in your suggestions to the new captain so that when the time comes to weigh anchor once more he may be well furnished with charts, new sails and all the latest possible improvements in machinery and steering gear.

It is a great pleasure to reflect on the sterling worth of the present students at the O. A. C., as well as the graduating classes; it bodes well for the future conduct of the paper.

While we are sorry to break up the pleasant acquaintanceship formed at the College we

cannot but rejoice that the world's stage will see such well-graced actors and reap the benefit of their example in applied scientific agriculture.

And now the present staff of editors has to resign. They do so conscious of many shortcomings personally, yet happy in knowing they have endeavored to fill their positions honestly. Their heartiest good wishes will ever follow the fortunes of the REVIEW, sincerely trusting that it may always be an unbounded success, and that year by year better and more competent men than themselves may be found on its staff.



Agricultural.

The supply of Phosphates for the Manufacture of Super-phosphates.

Abstract from a Paper by Mr. H. Voss, London, England.

GEO. HARCOURT, B. S. A.

(CONTINUED FROM JUNE ISSUE.)

CRUST GUANO.

The island deposits previously named under-go and all supply guano in a powdery form, the actual droppings of birds more or less washed out, whilst there are others such as Sombaero, Curacao, Aruba, Mexico, Navassa and Cayman which supply soft rock phosphate which has been termed crust guano.

The origin of most of these phosphates is probably to some extent bird deposits, but having been for a long time in contact with coal rock, the carbonate of lime has been converted into phosphate of lime and we now have the phosphate as rock.

Sombrero and Curacao supply the purest phosphate of lime, being free from oxide of iron and alumina, while the deposits on Aruba, Navassa, and some other West Indian Islands, contain considerable quantities of these oxides.

MINERAL PHOSPHATES.

Apatite, phosphonite and other mineral phosphates of lime were known to geologists

for a great many years, but their utilization for the manufacture of manures is of very recent date. Since then the quantity of superphosphate manufactured has been greatly increased, mainly owing to the more recent discovery of cheap phosphates in Germany (Lahu), France, (Lot, Ardennes, Boulogne, Somme), Spain, (Estramadura, Jumilla), Norway, (Apetite), Algeria, (Toumai), South Carolina, Canada (Apetite), Russia (Caprolitis), and Belgium.

The Lahu Phosphate, Germany, was discovered in 1864, it contains a good deal of oxide of iron and alumina, consequently is not of high grade.

Belgian Phosphate, a large deposit was found a few years ago near Mons. The higher qualities have been worked out, so there are only the lower grades left, much of it is in pockets.

French Phosphates, a large share of them contain a high percentage of oxides of iron and alumina, but a recently discovered deposit at Somme, which seems to be a continuation of the Belgian deposits, has been found to be very pure, yielding from 50 to 80 per cent. of phosphate of lime. The higher grades contain a very small percentage of the oxides of iron and alumina. The lower grades are used at home and the higher exported.

Spanish Phosphates, at Estramadura and Jumilla are of low quality and have not been exported in large quantities yet, though used extensively at home.

The shipment of Norwegian Apatite and Russian Caprolite has almost ceased on account of an export duty.

England herself supplies a large amount of Caprolite, but this supply is on the decline, its place being taken by South Carolina phosphate.

Phosphate of lime has been found at Toumai, Algeria, but only small shipments have been made.

South Carolina phosphates, were discovered some 20 years ago, since then some 4,000,000 tons have been shipped. This phosphate is of good quality, very free from oxides of iron and alumina and the supply good for another one hundred years being the most abundant deposit found. This phosphate has driven out of the English market nearly all the European phosphates sent to that country on account of its high quality, and the demand for it is on the increase.

England is the greatest user of phosphates, then comes Germany and France. The use of them is extending rapidly in the United States and is stiffening the price of the Carolina phosphate so that England may soon have to depend largely upon the European deposits for her supply.

Canadian phosphate has only been worked for about ten years. The annual output amounts to about 30,000 tons. The Buckingham (Quebec) mines yield the richest phosphate. Much of it is shipped to England, but the use of it is extending here also; this is as it should be and the mines should be conserved as we will soon want it all for our own use.

BASIS SLAG.

This is a new fertilizer that has found its way into the field of artificial manures. It is obtained from the slag of the smelting furnaces. It contains a varying quality of phosphoric acid, according as it is found in the iron ore and is combined with lime in the tricalcic form. The German slag seems to be the richest in phosphates, containing as high as 25 per cent. of phosphoric acid while the English slag only contains from 8 to 12 per cent. of the acid.

From this hurried review of the phosphate supplies at present known, the conclusion may easily be drawn that there is a large quantity of them stored throughout the world.

Much of it may not be of as good quality as is desired, this may be overcome to some extent as their value becomes better known. The French and Spanish phosphates contain rather high percentages of the oxides of alumina and iron, yet in their respective countries they are giving good results, in time it may be with many of those now considered inferior.

England is more concerned about the supply of phosphates than any other country, as she has to import them all. So far Canada has not concerned herself at all in regard to the supply of phosphates. In the older sections of our Dominion, more intensified methods of farming are coming in vogue, along with this a demand for fertilizers of which phosphate manures come in for their share. Thankful should we be that nature has stored in our own land a liberal supply of the raw material which will soon be needed to keep up the fertility of the land.

The Education of the Farmers' Son.

We may consider this subject from two different standpoints: First, that part of his education which he naturally receives in working upon the farm; and second, that part which he usually receives apart from the farm, dealing more particularly with those subjects, which, though often neglected, are of greater practical importance to him.

The education which a boy naturally receives in working upon a farm is by no means as limited as some would imagine, for farming educates; all things educate, but in different directions; some educate upward, some downward, some are elevating, some degrading. The educational influences of the farm are many. In no other occupation is there exercise for so many of the faculties. Growing various crops, raising domestic animals, using the latest machinery and labor-saving devices, all should tend to quicken the observation, and mature the reasoning powers.

To the farmers' son the round of the year's labor has in it something of continual interest. In growing crops and raising animals, the natural laws and phenomena relating to daily work are more obvious than in ordinary occupations. The season's mean more than merely heat and cold; the weather more than pleasant skies and gloomy days.

In this farm education the boy sees the business of the father go on from day to day and from a very early age he begins to take part in it, and soon becomes a member of the firm. From the time he begins to feed the chickens or drive the cows, he becomes a member of the establishment, and has a sense of responsibility in the management of affairs. His estimate of his own importance is increased with his increased actual usefulness, and never will a boy amount to anything unless he have a sensible, though it may be a large idea of his own importance.

In no other occupation can a boy be so well trained to habits of industry without detriment to his health or intelligence. In no other calling will a boy receive such a sound education in prudence and forethought. Most of the work which he sees going on, or takes part in, is for the future or unseen results, rather than for immediate or obvious uses. Each step is an education in forethought, a making provision for the future. The ground is ploughed and grain sowed for a future crop;

Provisions for man and beast are stored up for use long months ahead; animals are reared, requiring months of care before they are, comparatively speaking, of much value; orchards are set out, which will not bear fruit for years to come, and so on through all the varied work of the farm, scarcely anything is for to-day, nearly all is for the future. The whole work of the farm is an education in habits of industry and thrift, an education in providing for the future, an education in patience in awaiting results.

Success in life depends upon overcoming difficulties, rather than in the avoidance of them, on industry rather than genius, and the education received on the farm is eminently adapted to strengthen along this line. Thus during the boy's early life on the farm, is laid the foundation upon which a noble manhood may be built. But, as with all building, it is important that this foundation be well laid, for upon it depends the value of the whole superstructure.

We have been mentioning merely a few of the educational influences which surround the boy on the farm. These in themselves are good, but a great deal more is needed. In this advanced age of civilization and competition, perhaps no other occupation requires men of broader or more liberal education. The farmers' son of today should be posted in the principles of science governing the various branches of agriculture.

Could a uniform system be laid down, that every farmer could employ with equal success, there would be no need of this extended scientific research now advocated. But it is impossible for the wisest to establish any system of tillage, which shall be applicable to all climates, seasons, soils and situations. But one may ask: "Would you have us all practical geologists, chemists, botanists, entomologists, physiologists, etc., etc.?" Yes, we certainly would, and why not? The successful farmers of the coming day will be scientific farmers. No doubt some will question us here again, and point to the successful farmers of to-day, who in early life had not the advantage of such instruction. We grant you there are many of these, but they have acquired this information by a life of toil, observation and experiment, attended often with failures. And it behooves us to profit by their experience, and study in our youth those scientific principles which have cost them a life of toil and observation to find out.

We have only to consider that all true science is but an exposition of the laws of God in nature, and all the laws which govern the motions, affinity and development of mind and matter are unchangeable. The laws of nature are the same yesterday, to-day, and for ever. The same conditions that were essential to the development of organic life, vegetable or animal, ages ago, are essential to-day, and will be ages to come. Indeed, harmony, uniformity and perpetuity characterizes all the laws of nature, and these laws governing the development of vegetable and animal life, and the relation which they sustain to the soil, the atmosphere, and the surrounding circumstances of whatever kind, constitute the facts of science bearing upon agriculture, which every rising agriculturist should understand.

Is it not plain enough to be seen that he who possesses the most thorough knowledge of the principles underlying his operations is best prepared to prosecute them to a successful issue? And is he not likely have an easier pleasanter time of it than his neighbor, who does not possess such knowledge? It appears to us like two men laboring, one in the full light of noon-day, the other in the darkness of midnight. To be sure both labor, both plow, sow and reap, but while one is groping his way, half doubtingly, the victim of frequent blunders and failures, the other walks with firm, unhesitating tread to success.

It is hardly necessary to say that a knowledge of that science which treats of the formation of the earth can be useful to him who tills her surface for a living. The soil is, in a measure, formed by the gradual decay, or crumbling of rocks. If then, in addition to geology, we have a knowledge of mineralogy we can tell from the rocks that underlie any district what the nature of the soil from them may be, and for what crops it is best adapted.

Botany, the science which comprehends all that relates to the vegetable kingdom, teaches the nature of plants, their mode of growth, their uses to man, or their dangers, how important is the knowledge of such a subject to the farmer? Without it we should neither know when to sow, nor when to reap, when to cut hay, nor how to preserve it, how to detect seeds of noxious weeds, nor how to exterminate them.

It would probably be considered very small business for a boy, who hopes in the bright future to manage a farm, to spend much of

his time pouring over pages, which treat of no larger subjects than bugs and beetles, worms and flies, but those diminutive creatures are among the most powerful enemies with which the farmer has to contend. The aphid, the Hessian fly, and the codling moth leave ruin and desolation in their track! Will not the man thoroughly acquainted with the habits of these hosts of destroyers, be more likely to discover some effectual means of destroying them, or protecting his crops against their ravages? Should not every farmer's boy be a practical entomologist?

Nor should the would-be-successful farmer be ignorant of some of the revelations of the microscope. If he has a knowledge of the life history of many of the microscopic fungi, such as the rust which ruins his grain, the rot which destroys his potatoes, or the blight which kills his fruit trees, he will understand how to meet the attack of many invisible foes.

Some idea too of the science of mechanics would be useful to every farmer, and a moment's reflection will show us that without at least a practical knowledge of it, we could not use to advantage even so small an instrument as a crowbar or hand spike. How much more then is it necessary to enable us to understand and manage the more complicated implements of the farm?

Then, too, the rising agriculturist should understand the mechanism and function of each part of that most complicated of all machines—the living animal—by which the products of the vegetable kingdom are manufactured into energy for work or articles of food and clothing for man. Not only would such a knowledge be of value to him in assisting nature to repair breaks or injuries when these may occur, but guide him to run the machine to its fullest capacity without injury.

Chemistry has been looked upon by some as the most important of all branches of an agricultural education. It is defined to be that "science which treats of those changes in natural bodies which take place without sensible motion." Hence every such change we see going on around or beneath us, is in obedience to fixed laws, to make us acquainted with which lies in the province of chemistry. All the changes which take place from the time we deposit the seed in the ground, till the grain is ready for the reaper are chemical changes. By these the soil we till, becomes the bread we eat. The digestive apparatus of every animal we fatten is a perfect laboratory,

in which all they eat is analyzed and each component part applied to its proper use, one part becoming fat, another muscle, another bone, another wool or hair. It is quite evident that the farmer who has the most thorough understanding of these principles can most intelligently cultivate his land or most successfully feed his stock.

In conclusion we would not overlook the subject of English literature. In this age of enlightenment every farmer's son should be able not only to read and write, but speak his mother tongue correctly. And how can proficiency in this line be more readily attained than by the careful study of the best English authors? When farmers become so conversant with the English language that they can not only write their thoughts readily, but speak them fluently, then, and not till then, will they have that representation in parliament which their numbers and importance demand.

Our country's future greatness depends much upon the education of the farmer's sons. How important then that all should be interested in this matter? Let every farmer's son avail himself as far as possible of every opportunity provided for his enlightenment. And we may add, after three year's experience, we know of nothing we could more highly recommend to such an one, than a course at the Ontario Agricultural College.

"The Travelling Dairy."

To the Hon. John Dryden, our enterprising Minister of Agriculture, belongs the honor of conceiving the idea of sending a travelling Dairy through this Province to give farmers, their wives and families, partial instructions in buttermaking. For this purpose Mr. Dryden asked a small sum of money from the Legislature during its last session in March, and since that time he has given the matter a good deal of thought and attention.

PROGRAMME OF MEETINGS.

The work of arranging a programme of meetings and carrying out the many details necessary to insure success was entrusted to President Mills, who six years ago, organized the Farmers' Institutes of the Province, which he has ever since arranged and carried on yearly with great success. President Mills undertook this work with his usual determination and made such satisfactory arrangements that the Travelling Dairy bids fair to be a

grand success, and prove of incalculable benefit to those farmers who attend the meetings held in their district.

NO COMPETITION WITH CREAMERIES OR CHEESE FACTORIES.

Mr. Dryden does not wish to do anything, either in opposition to or in competition with our creameries or cheese factories. His desire is rather to encourage the factories and creameries by every legitimate means in his power, believing, as he does, that we must have a large quantity of a high and uniform quality of butter before we can satisfy the demands of the British market. His object in connection with the Travelling Dairy is to assist the farmers and their wives to make good butter, for their own use and for the local markets, to instruct them in the feeding of cows, the handling and testing of milk, the handling and churning of cream, the working and packing of butter, in a word, to assist them as far as possible, by simple, object lessons and lectures to making butter, which will command the highest prices in any market, thus proving a source of profit to those who handle it, and a constant delight to the travelling public, who are now compelled to eat so much poor butter.

PERSONS INTERESTED.

With the farmers their families, the country store keepers, in fact every inhabitant of every city, town and village, who ever buys or uses a pound of butter, the demand for a high quality of butter is ever on the increase and it remains with the farmer to make good butter suit the popular taste.

PROF. DEAN TO TAKE CHARGE.

Mr. Dean, Professor of Dairying at the Ontario Agricultural College, who, by the way, is a graduate of that Institution, will take a leading part at all the meetings. Prof. Dean has a thorough knowledge of Dairying, and is a fluent and popular speaker, and a man well fitted to stimulate the farmers to be more careful and systematic in their work. He will be accompanied by Mr. S. P. Brown and W. J. Palmer, B. S. A. Mr. Brown is both a scientific and practical butter maker, finishing his course at the O. A. C. three years ago. He then moved to the Dairy State, Wisconsin, where he assisted in the management of a dairy farm, and latterly has had charge of the Experimental Department of the O. A. C. Dairy, where he has made an excellent quality of butter. Mr. Palmer, a graduate of the College this year, and who

has since been giving special attention to butter making and the management of milk and cream, will assist Prof. Dean and take notes of the proceedings at the different meetings.

OUTFIT FOR THE WORK.

The appliances for the travelling dairy consist of:—1 No. 2 Daisy Churn; 1 20 Bottle Babcock Milk Tester (for testing samples of milk furnished by any who desire to know the quality of their cows milk), 1 Lever Butter Worker, Cream Can, Setting Cans, Thermometers and other utensils necessary for successful butter making.

Four or five pails of cream and some ice are required for each meeting. This is arranged for ahead and is supplied by some one near at hand, who, after the meeting is over, gets the butter in return for the cream.

FIRST MEETING.

The first meeting was held at Islington, on Tuesday June 30, and proved a success in every way. Islington is a thriving village on the C. P. R. about 10 miles west of Toronto, the centre of a rich agricultural country and surrounded by prosperous farmers, some of whom have private dairies, but the most of them ship their milk directly to Toronto. The Town Hall having been engaged for the occasion, proceedings commenced at about 9.30 a. m. There was a good attendance, not a few ladies being present. Among those present were Mr. McPherson, Township Clerk of Etobicoke, who occupied the chair, Messrs. Alger, Crawford, Secretary of Institute, Anderson, Scott, Chapman, Dawson, Mercier, Willcocks, Congdon, Wood, Canning, Tiffin, Kingdom, Bracey, Bigham and other prominent farmers; Mrs. Craig, who kindly furnished cream, and daughters, Mrs. Willcocks, Miss Anderson and other ladies. Mr. McPherson opened the meeting with a short address, introducing Prof. Dean, who, being called on, addressed the audience. He was glad to see so many intelligent ladies and gentlemen present; he always liked to address the cream of the farmers. He then briefly described the objects for which the Travelling Dairy was intended, viz., to stimulate the farmers to make a better quality of butter for the local markets. One great difficulty the farmers have to contend with is that the price of those articles they sell is fixed, and also the price of those they buy. Under these conditions we must (1) lessen the cost of production, (2) produce a better article. At the present rate of progress Canada may supply

the whole British market with butter and cheese, but to do this we must produce a first-class article.

Prof. Dean then showed, by means of a chart, the amount of fertilizing material taken off a farm by the sale of grain, compared with dairy products, after which he dwelt at length on the care of milk and cream for butter-making.

Question—When new milk is worth 10 cts. a gal, what is skim milk worth per 100 lbs. for feed?

Prof. Dean—20 to 25 cents per 100 lbs.

Question—Is ensilage injurious to cows when fed in large quantities?

Prof. Dean—No, not if the ensilage is well made and not too sour. We fed our cows at the College Dairy last winter 50 lbs. ensilage, 5 lbs. bran, and 6 lbs. clover hay per day and had good results.

Mr. Congdon—I have fed as high as 90 lbs. per day to one animal with no injurious results.

Question—What is your ration Mr. Ayer?

Mr. Ayer—3 gals., equal parts of oatmeal and pea meal, 40 lbs. clover hay and ½ bushel mangolds per day.

Mr. Wood—I feed 1 bushel cut oat straw and clover hay 3 equal parts ½ bushel pulped mangolds, 4 quarts equal quantities of pea meal and bran, fed morning and evening, with mixed cut hay and straw at noon.

Question—Do you recommend Brewers grains for milch cows?

Prof. Dean—No, unless they are fresh, and then only in small quantities.

Question—What causes ensilage to become sour in the silo?

Prof. Dean—Organisms floating about in the air attack the corn when put in the silo, changing the plant sugar to acid.

Question—Is under ripe corn more apt to make sour ensilage than that more matured?

Prof. Dean—Yes, matured corn is not so susceptible to the attack of these organisms as younger corn.

Question—If it takes 30 lbs. of milk on an average for 1 lb. of butter, at 25c., is there not more money, either in cheese at 9c. per lb., or in milk for consumption at 10c. per gal.

Prof. Dean—Yes, more direct cash, as 30 lbs. of milk made into butter will bring 25c., while made into cheese at 9c. per lb. it would be worth about 27c., or sold directly it would bring 30c., but in buttermaking the skim milk is retained, which has a high feeding value and contains valuable plant food.

While this discussion was going on Mr. Brown was churning, and soon had the butter ready for inspection in the churn, which, on being inspected by all who desired, was washed thoroughly, then taken out, worked and salted, made into neat prints, which were greatly admired by those present. 15 samples of milk supplied by different farmers were then tested with the Babcock Tester, which proved satisfactory. The per centage of fat found in the different samples was as follows:—(1) 3-5, (2) 3-4, (3) 3-5, (4) 3-4, (5) 3-3, (6) 3-4, (7) 3-4, (8) 3-4, (9) 4-4, (10) 3-0, (11) 3-1, (12) 3-8, (13) 3-0, (14) 4-2, (15) 3-2. Different dairy utensils were then shown and their use explained, after which the meeting broke up, all expressing themselves as highly satisfied with what they heard and saw. Although this meeting lasted for over three hours the interest was sustained till the close.



Correspondence

THE O. A. C.

As a Link in Our Educational System.

W. J. PALMER, B. S. A., '91.

It is not proposed in this essay to discuss very fully the Educational System of Ontario, its basis or its workings, but rather to consider the Ontario Agricultural College, its establishment and the rules under which it has been governed, whereby it has become a connecting link in our educational system, which if once broken might lead to results disastrous to the prosperity of the country.

Let us glance for a moment at the early history of this College. In the year 1874 the Ontario Government purchased the present farm of five hundred and fifty acres in the vicinity of Guelph, Ontario. The reasons for purchasing this farm were:—That it was deemed necessary that some institution should be established at which farmers' sons and those intending to follow farming as a profession should be given a thorough training in agricultural pursuits, and also that an institution should be established at which experiments could be conducted, tending to the solution of questions of material interest to the Agriculturists of the Province. A farm house

situated about the centre of the farm was at first used as a College and boarding house for students who were desirous of obtaining instructions in the various departments of agriculture, this building was enlarged from time to time until it assumed its present proportions.

Work was commenced on the farm in May, 1874, but owing to a variety of causes little was accomplished during the first year and a half, indeed for a few years it seemed as if the College could scarcely survive the attacks of its enemies and the mistakes of its friends, gradually, however, all difficulties were surmounted and the College attained that success which through years of prosperity and adversity it has since retained until it now bids fair to far surpass in its work and influence the objects for which it was first established.

The O. A. C. is certainly indispensable as a part of our educational system for the following reasons:—

(1) Ontario is a farming country, its soil, climate and the facilities for transport which it affords fit it admirably for agricultural pursuits, in fact its prosperity is largely dependent on the development of its husbandry.

(2) To aid in this development an institution is necessary where scientific agriculture in all its branches may be taught, where practical farming may be demonstrated and where experiments can be conducted tending to aid and instruct farmers in the way that they should go.

(3) Though our Public Schools are among the best in the world, the course of study embracing all the essentials of an elementary education. Still neither in these nor in our High Schools can agriculture be properly taught as facilities are not afforded for practical lessons.

(4) The successful farmer of today must be an educated man, must understand his business thoroughly. Farming is a profession, and the farmer, as a business man, must be able to cope successfully with those in other professions, both on the platform and with the pen.

(5) Hence given a country favorable in every way for profitable farming, and a class of men eminently suited to make prosperous farmers, and also a system of education by which the children of these farmers can obtain a thorough grounding in elementary subjects, we still find the need of an institution where the farmers and their sons can obtain the in-

formation necessary to farm at a profit and to understand all the ins and outs of farming as it ought to be conducted. Such an institution we find in the Ontario Agricultural College.

That this institution, during the seventeen years of its existence, has done a vast amount of good is admitted by all honest thinking men. It has stimulated the farmers not only of Ontario, but of Canada as a whole, to take a greater interest in farming operations, to be more systematic in their methods of work, and hence has enabled them to make more out of their business. It has also raised the standard of Canadian farming in the eyes of the world, and given it a stimulus designed to expand and strengthen until the name of Canada shall resound throughout the civilized world as the abode of happy, contented and prosperous farmers.

To the farmers' son, or indeed to any young man, who has been "unfortunate" enough to be born and brought up in a city, but who having put in an honest year's work on a farm, is still desirous of following farming, or some special line thereof, as a profession, to both of these classes of young men, the possible advantages of a course at the O. A. C. can not be measured by mere words. In every young man's mind there exists the germ of unlimited possibilities, which, if properly developed, may lead to results broadening as the years roll on, until heights are reached where the man becomes "the pillar of a people's hope the centre of a world's desire."

At this College practice and theory are combined which would be utterly impossible in an ordinary College or School, advantages are afforded here to the studious man which are afforded at no other College in America. The Colleges and Collegiate Institutes of Canada are doing a vast amount of good in educating young men and women for the higher stations of life. Men flock from the east and the west the north and the south to our various seats of learning, to have their minds trained to think for themselves, to have their intellects quickened, to be taught wisdom and how to become more truly prosperous and happy, but at the O. A. C., besides all this, they are taught the most glorious, the grandest study of all, namely, how to till and cultivate the soil, that soil that has for ages produced food for man and will still produce, how to tend for some of the noblest animals which a merciful Providence has made for the use of man, how to understand and enjoy the beautiful works of nature which are about us on

every hand. Truly the possible benefits of a course at the O. A. C. are not to be put down on paper, they are like the small acorn which on germinating produces a sapling designed in due time to become an immense tree, capable in its turn of scattering seed abroad for the benefit of future generations.

That it is decidedly beneficial to the student studying agriculture to be kept at practical work is obvious. By this method of teaching he is not alienated from his future calling, the practical side of farming is kept ever fresh in his mind and when he finishes his course he is admirably fitted to take off his coat and buckle down to that steady work which is necessary to make his chosen profession successful, or should he choose to become a teacher or a specialist in some certain department he will still find his practical knowledge useful.

The time is now past when an agricultural education was sneered at, an agricultural professor nowadays is a man of high standing among his fellows, but we would like to see the farmers take a firmer stand in asserting their rights. Far be it from us to depreciate in the slightest degree the importance of the farmers' calling, but the fact remains that while lawyers, doctors, and other professional men fill our Houses of Parliament and all responsible positions, the farmers who ought to be the most powerful body in the land, are kept in a secondary place. To what is this due, chiefly to the fact that those in other professions have the advantages of a better education, and hence are better able to understand the Government and resources of their country.

It has taken the Canadian farmer a long time to awake from this apathy, into which he has been plunged, but happily he is arousing himself and is beginning to feel the need of a more thorough understanding of his business. Let this need once be felt then a change will come, the farmers will arise in their might and putting their trust in the O. A. C. they will work changes in the country which will soon make Canada one of the leading countries of the world.

Students and ex-students of the O. A. C. your duty is before you, remember that you carry a load of responsibility on your shoulders which is not to be lightly shaken off. Those of you who have already settled down on a farm, remember the lessons you were taught at your Alma Mater, strive to show your fellow farmers that the O. A. C. is

not a myth but a necessary reality. You who are now leaving the College whether with the intention of farming or intending to take positions in other Colleges, keep always before you the old maxim, "Make Hay While the Sun Shines," be in earnest in whatever you undertake, remember that the eyes of the people are on you, and so strive to do your work that you may honor the College at which you were educated. Then the fame of the O. A. C. will be proclaimed throughout all lands and it will be filled to overflowing with young men who will graduate, strong as lions, to fight the battles of life.



Local News.

Picnics to the college have been fairly plentiful, during this last fortnight, and unusual the fair sex turned out in strong force. Then it was that we could distinguish the lady's men, for these soon provided themselves with some fair lady-love. Some not content with one, took two or three, J—k—n, Th—m—s, and E—t—n being especially conspicuous.

On June 16th B. Battery trudged off through the sun and the dust to win for themselves fame and honour on the gory battlefield of the Exhibition Grounds. There the gallant defenders of our country bravely endured the discomforts of a camp life, and the perils of unlimited skilly, for a fortnight, cheering themselves by the patriotic thought that all their hardships were for Canada's good (and their own, to the extent of 75 cts. a day). Knowing how anxious the college was for constant information of them, they thoughtfully sent up every evening two gurners with the news of the day; and also—be it whispered—with secret instructions to neglect no opportunity of replenishing the commissariat. Our reporter intercepted this "hunger detachment" one evening, and in return for a liberal packet of sandwiches they informed him "that they were nearly starved, the wood had run short, the skilly tasted like diluted warm water, the tents were soaking wet, etc., etc."

The Experimental Dairy has been thoroughly over-hauled and refitted, during the past three months. In one room may be seen

the various milk-testing machines, as the Babcock, Beimling, lactometers, pioscopes, etc.; in another the different methods of separating the cream from the milk are illustrated, a Laval and Victoria cream separator, cooley creamer, and shallow tank being in daily use. Other rooms are fitted up with churns, patent butter-workers, and all the other accessories of a dairy. Tests of general interest are being carried on daily, this institution will evidently fulfil the purpose for which it was erected.

THREE or four hungry-looking artillerymen were to be seen in the college dining-hall nearly every evening during the past fortnight. As Bombardier Carpenter naively remarked upon one of these occasions: "It was not hunger that brought us up, but our legs."

THE College groups of both this and last year were hung up in the reading-room the other evening; and the services of two artistic young ladies being called into requisition, a general rearrangement of all the groups took place. The improvement is great, the feminine taste, and love of beauty being visible in every detail, even in the cobwebs that adorn the picture-wires.

STRONGLY, deeply do we feel for those love-lorn students, who, during the exams, were unable to pay their adored ones the necessary amount of attention and consequently found that the affections they had once reviv'd in, were now appropriated by other swains. To see the abject misery depicted upon their countenance as they strolled sadly back to the O. A. C., after having that dismal fact impressed upon them, would "draw iron tears down Pluto's cheek." This common sorrow has brought together many estranged ones. McK—, H—, and Y—, who in days gone by, were rivals for the favor of an especially adorable one, now peacefully chew together the end of contemplation, and meditate on the truth of those so often illustrated lines:

"O women in our hours of ease
Uncertain, coy, and hard to please."

RECIPE for "skilly" as given by an artilleryman: 2 cups of water, a pinch of salt, boil 20 minutes over a green wood fire, and flavour with soot to taste. Serve up in tin cups (unwashed).

We cannot but feel, as we look back over the past year, that sometimes angry feelings have been raised, and malvolent passions engendered, by what undoubtedly was a "prin-

ter's error" in this department of the REVIEW. We reflect that at this, the close of the year, general feelings of peace and good will to all, rather than strife should be entertained, and the consoling thought that we shall soon have parted from many of these angry ones, in a great measure to them; to make this reconciliation complete, we will go so far as to apologize to any whose feelings we may have hurt, in the 3rd. year, the 2nd. year, or, so complete in our repentance, even in the despised 1st. year.

LATELY we have had quite an influx of distinguished visitors from the States, amongst whom we might especially note, Prof. Creelman, B. S. A., '88, and Hutchinson, of the Agricultural and Mechanical College, Mississippi, and Prof. Morgan, B. S. A., '89, of the Louisiana State University. The success with which these two of our graduates are meeting and the good work they are accomplishing is already so well known to our readers, that it is unnecessary for us to further allude to it. Prof. Whitcher, director of the New Hampshire Experimental Station, who spent a day inspecting the farm, seemed especially interested in, and pleased with, our methodical system of experiments.

IN the last REVIEW it was stated that "Joe" was kind enough to present some young ladies who called on him, with needles etc., and then beguile them with such interesting anecdotes that they forgot how rapidly time was slipping by. The other day a young damsel reading such a loving description of Joe's kindness took heart, and called on our worthy B. S. A.; it is true, only too true, that he howled in her ear in the most tragic tones "Pon me word, young woman, if you don't sew that button on, I'll run the needle through your head." It is needless to say whether Joe has been favored with another call or not.

THE closing exercises of the College were held in the dining hall on June 20th. The attendance was large, the hall being full to overflowing. President Mills opened the meeting, after which came the valedictory address delivered by Mr. McKenzie. This gentleman's speech proved thoughtful and well put together, and he was loudly applauded at its close. The President then introduced the associates, each in turn, to the Hon. Richard Harcourt, who presented the diplomas, saying a few appropriate words of encouragement and praise to each student.

ASSOCIATES.

W. L. Carlyle, Chesterville, Dundas, Ont., D. Z. Gibson, Willow Grove, Haldimand, Ont., W. L. Haight, Wellington, Prince Edward, Ont., F. C. Harrison, Ronda Square, Spain, G. F. Marsh, Thornby, Grey, Ont., A. G. McKenzie, Fairview, Oxford Ont., R. N. Morgan, Kerwood, Middlesex, Ont., W. F. Newcomen, Epping, Essex, England, E. C. Perry, Smithville, Lincoln, Ont., J. C. H. Sparrow, Antrim, Carleton, Ont., W. A. Spencer, Salmon Point, Prince Edward, Ont., R. A. Thompson, Thornton, Simcoe, Ont., E. F. White, Clarksburg, Grey, Ont., F. A. Wilkin, Calgary, N. W. T. Mr. Morgan then delivered a farewell address, expressing the sincere regret which the graduating class felt at leaving the college where they have spent so many happy days. The medals were then presented as follows:—GOLD MEDAL, D. Z. Gibson, Willow Grove, Haldimand, Ont. SILVER MEDALS:—Stanley Silver Medal—F. A. Wilkin, Calgary, N. W. T. Second Silver Medal—R. N. Morgan, Kerwood, Middlesex, Ont. SPECIAL MEDALS, GIVEN BY J. W. ROBERTSON, DAIRY COMMISSIONER FOR THE DOMINION. GOLD MEDAL—1st in Live Stock and Dairying (2nd year)—W. L. Carlyle, Dundas, Ont.—SILVER MEDAL—1st in Live Stock and Dairying (1st year)—R. S. Shaw, O. A. C. The Prizes in the various departments were given as follows:—FIRST YEAR—Agriculture Live Stock and Dairying—1st R. S. Shaw, O. A. C., 2nd, J. E. Crealy, Strathroy, Middlesex, Ont. Natural Science—1st, R. S. Shaw; 2nd L. G. Bell, Qu'Appelle, Assa. N. W. T.—Veterinary Science—1st, R. S. Shaw; 2nd, W. D. Dyer, Columbus, Ontario County, Ont.—English Literature—1st, L. G. Bell; 2nd, R. S. Shaw.—Mathematics and Book-keeping—1st, W. D. Dyer, 2nd, Hamilton, Wentworth, Ont.—General Proficiency—1st, R. S. Shaw; 2nd, J. E. Crealy; 3rd, L. G. Bell.—SECOND YEAR—Agriculture, Live Stock, and Dairying—1st, W. L. Carlyle, Dundas, Ont., 2nd, D. Z. Gibson, Haldimand, Ont.—Natural Science—1st, F. A. Wilkin, Calgary, N. W. T., 2nd, D. Z. Gibson.—Veterinary Science—1st, W. L. Carlyle; 2nd, D. Z. Gibson.—English Literature and Political Economy—1st, F. A. Wilkin; 2nd, R. N. Morgan.—Mathematics and Book-keeping—1st, F. A. Wilkin; 2nd, D. Z. Gibson.—General Proficiency—1st, D. Z. Gibson; 2nd, F. A. Wilkin; 3rd, R. N. Morgan.—Special Prizes for Essays on Fat Stock Show—1st, R. N. Morgan, 2nd,

E. C. Perry; 3rd, A. G. McKenzie.—Literary Society Prize for Essay on the O. A. C.—W. J. Palmer, B. S. A. The Hon. Richard Harcourt, Provincial Treasurer then delivered a magnificent address, his subject being the educational system of Ontario, leading up to the results of a good education. He brought the address to a close by emphasizing the strong necessity for continual exertion on the part of those who wished to succeed. "If having worked faithfully and well, at school and college you will be content thereafter with a 'rest and be thankful' motto. I cannot promise you success" "always," he said, "in whatever sphere of life you are thrown do your best, if:—

"In the quarries, you should toil,
 Make your mark;
 Do you delve upon the soil,
 Make your mark,
 In whatever path you go,
 In whatever place you stand;
 Moving swift or moving slow,
 With a firm and honest hand,
 Make your mark."

Prof. C. C. James was then presented with an address and a pair of field glasses, as a slight token of the great regard and esteem in which he is held by the students of this institution. The Professor replied appropriately thanking the students, and expressing his deep sorrow at severing his connection with this college. The proceedings were then declared closed, the visitors repairing to the reading room, where they refreshed the inner man with cake and strawberries.

STUDENT:—"So you are going to do the Mackinaw trip, this summer are you.?"

LADY VISITOR: "Yes, for the benefit of the SEA breezes."



Something very many people often enquire about, but never have ready or handy for reference, are the College records, which we give below:

100 yards—10 seconds; Evert J. Wendell, Harvard.

220 yards 22 seconds; Wendell Baker, Harvard.

440 yards 49 seconds; W. C. Downes, Harvard.

880 yards—1 minute, 57 1-5 seconds; W. C. Dohn, Princeton.

1 mile—4 minutes, 29 4-5 seconds; C. O. Wells, Arnherst.

120 yard hurdle—16 1-5 seconds; H. L. Williams, Yale.

Running high jump—6 feet, 1 1/4 inches; F. J. Shearman Jr., Yale.

Pole vault—10 feet, 7 1/4 inches; S.D. Goodsell, Lafayette.

16 pound hammer—101 feet, 1 1/2 inches; A. B. Coxe, Yale.

16 pound shot—10 feet, 9 1/2 inches; A. B. Coxe, Yale.

Running broad jump—22 feet, 6 inches; F. J. Sharman Jr., Yale.

The following is a bill handed in by the repairer of the Cathedral of Milan in 1763. It is so good that we cannot help but copy it intact from one of our exchanges:

Correcting the ten commandments.	\$ 5 12
Embellishing Pontius Pilate and putting new ribbon on his bonnet.....	3 02
Replumed and gilded the left wing of the guardian angel.....	4 18
Washed the Servant of the High Priest and put carmine on his cheek..	5 12
Adjusted two stars and cleaned the moon	7 15
Put a new tail on the devil and mended his left hoof.....	7 17
Rebordered the robe of Herod and adjusted his wing.....	4 00
Put new stones in David's sling enlarged the head of Goliath and extended his legs.....	3 00
Decorated Noah's Ark.....	3 00
Mended the shirt of the Prodigal Son and cleaned his ears.....	4 00

Total, \$45 75

FARWELL.

'Tis your last call for copy, O! managing Eds,
 'Tis the last time for locals we'll rack our old
 heads.

'Tis the last time in print we'll see immortalized
 Our products of genius so much underprized.
 There is rest for the weary in store upon earth,
 There is something to live for, there's gladness
 and mirth.

Farewell, ye kind readers, you've treated us
 well,
 These O. A. C. doings are the last we shall
 tell.

"ADIEU."