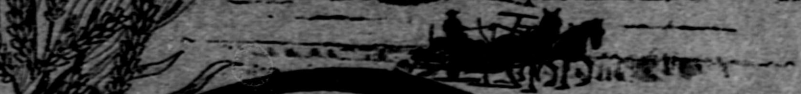
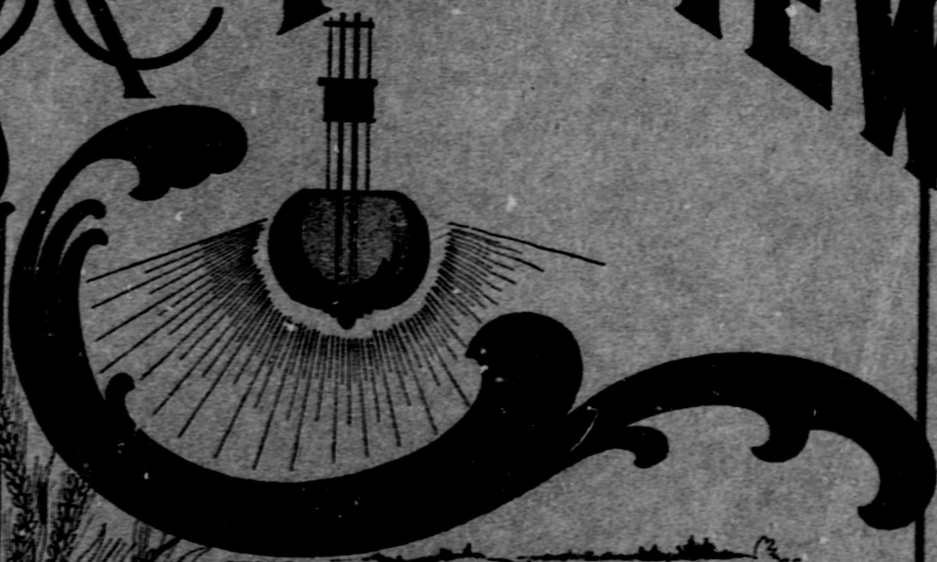


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OCTOBER
1904

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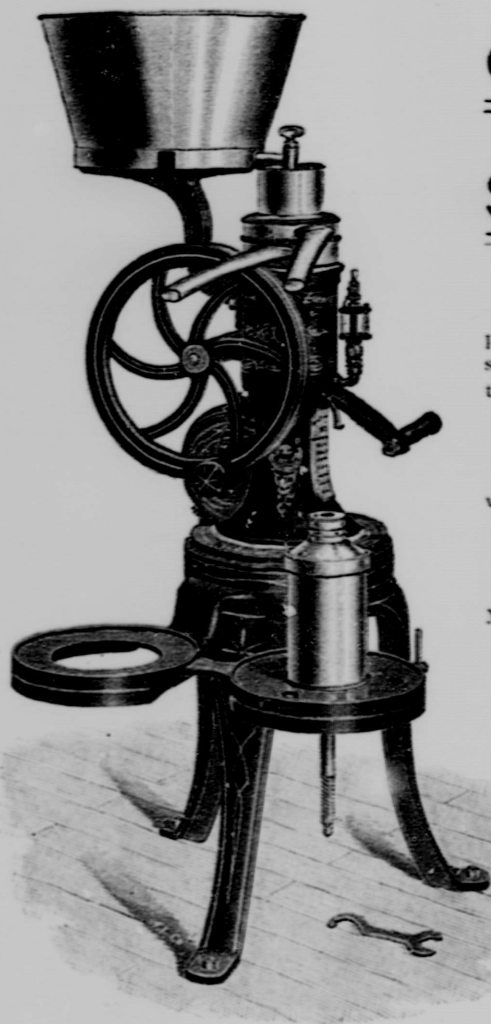
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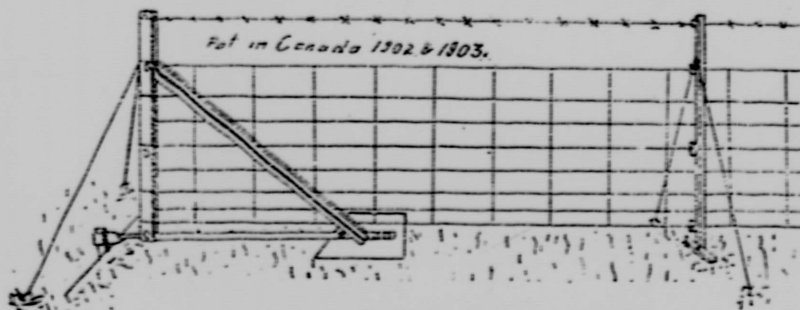
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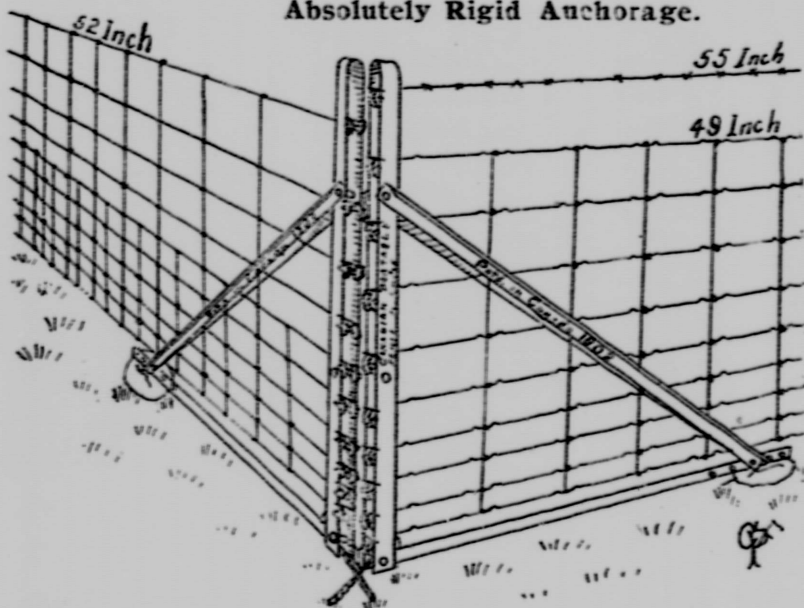
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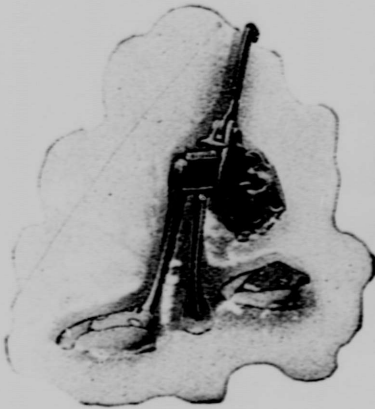
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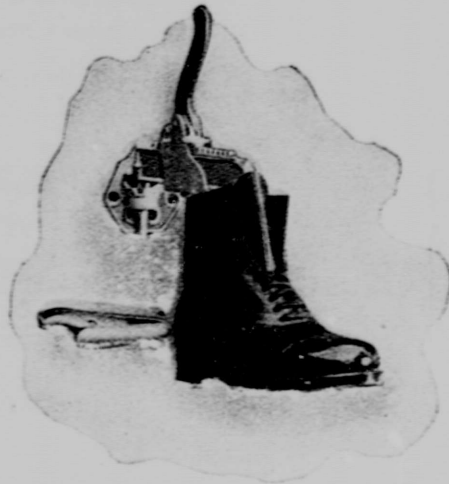
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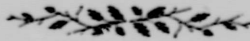


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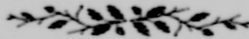


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Published Monthly during the College Year
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THE DIGNITY OF A CALLING IS ITS UTILITY.

Vol. XVII.

ONTARIO AGRICULTURAL COLLEGE,
OCTOBER, 1904.

No. 1

HAVE FARMERS' INSTITUTES COME TO STAY?

G. C. CREELMAN, B.S.A., M.S.



President Creelman.

GOVERNOR SIMCOE arrived at Niagara in 1792, and the same year he organized an Agricultural Society among the United Empire Loyalists. The country was then almost an unbroken forest, and we are surprised to learn that for years this Society met regularly once a month. The Upper Canada Gazette, in its issue of Thursday, July the 4th, 1793, has this item of local news: "On Saturday last the Agricultural Society of the Province dined together at Free Masons' Hall. Several gentlemen were invited, which, with the members of this laudable institution assembled, formed a very numerous party. The utmost cheerfulness and conviviality prevailed on this occasion."

George Washington, President of the United States, writing from Philadelphia, on October the 20th, 1792 in answer to a letter inquiring about live stock for Canada, says: "I have to regret that the duties of my public station do not allow me to pay that attention to agriculture and the object attached to it (which have ever been my favorite pursuit) that I could wish; but I will put your queries respecting sheep into the hands of such gentlemen as I think most likely to attend to them and answer them satisfactorily.

"I must, however, observe that no important information on the subject can be expected from this country where we have done so little in the habit of attending to the breed or the improvement of our stock."

I call attention to the above incidents in our history merely to show that such great men as George Washington and Governor Simcoe were intensely interested in

agriculture, and in the second place to point out the fact that even in the earliest pioneer times farmers realized the advantages to be derived from meeting together to discuss matters of agricultural interest.

AGRICULTURAL SOCIETIES.

Agricultural Societies have, ever since Governor's Simcoe's time, been encouraged and assisted by the Government of Ontario. For years the Agricultural Society was the only organization of its kind in this Province, and under the Agricultural and Arts Act this organization is supposed to do, primarily, three things :

(1) The holding of meetings at which papers may be read, addresses delivered, and discussions entered into for the purpose of giving and receiving information on agricultural topics.

(2) The purchase and distribution by the Society of pure-bred live stock, grain and other seeds.

(3) The holding of Fall Fairs, at which is to be exhibited the best products of the farm and garden, together with agricultural implements and other things useful and desirable in farm practice.

As the Province grew older, the times demanded a specialization and centralization of the work. The result was that the work embraced in the first clause was undertaken by the Farmers' Institutes, under the direction of a Provincial Superintendent; the work in clause two is being done by the Provincial Live Stock Association and the Agricultural Experimental Union at this College; while the Agricultural Societies seem to exist solely for the purpose of carrying out the objects of clause three, viz., the holding of fairs and exhibitions.

FARMERS' INSTITUTES.

It is interesting to note the development that has taken place in the Farmers' Institutes of this Province since their organization in 1885. At that time the work was done entirely by Professors of this College during the month of January. The Christmas holidays then extended for thirty days, and the Professors employed the time in addressing farmers' gatherings in different parts of the Province. Twelve meetings were held the first season, while with each succeeding year came the demand for more and more, until we find for the year ending June the 30th, 1903, that 837 were held in all in this Province, with a total attendance of more than 150,000 farmers, and a paid up membership of 23,754.

The question has been often asked: "What is to be the future of the Farmers' Institutes of this Province? Have they accomplished their object? Have they passed the period of greatest usefulness? Or, is there yet work for them to do?"

I remember, one of the most successful Institute workers in Ontario coming to me in my office in Toronto at the conclusion of a thirty days' Institute trip and saying: "Mr. Creelman, Farmers' Institutes are about played out! I have been through four counties, have done my very best to interest the people, have talked such subjects as 'The Dairy Cow,' 'The Silo,' 'Soiling,' and 'The Care and Handling of Milk,' and I have apparently roused no interest and have nearly worn myself out in attempting to help the farmers in these counties." I could say nothing at the time but simply show him reports from other parts of the Province and ask him not to resign his position as an Institute Lecturer until he had seen what the results were for the whole Province. Within ten days I got a letter

This group is unique in that it shows a class of matured men who are taking a course of instruction at an Agricultural College. These men are leaders in Agriculture in Ontario, and they assemble at the College once a year to get new ideas and up-to-date methods for their Farmers' Institute campaign.



Farmers' Institute Workers.

from that man showing an entirely different spirit. He had received inquiries from a number of men in the district where he had discussed dairy problems, asking him for further information in reference to the subjects which he had introduced. He concluded his letter to me by saying: "I was worn out and entirely discouraged when I last talked to you in your office. I see the matter now in an entirely new light. A few men were interested in each of my talks, and I am going to take up the subject of Improved Methods of Agriculture along Dairy Lines with each of these men by correspondence. Please send each of the names enclosed a copy of your last report and oblige."

Probably the foregoing will illustrate as well as I can put it the changed conditions in Institute work within the last few years. At first there was a demand for eloquence. It did not make so much difference whether the man was practical or not, so long as he could make a good speech, and frequently lawyers and other professional men were engaged on

the Farmers' Institute staff. Then, the farmers asked for men who could give a straight-forward, practical talk on improved methods in agriculture. Now, they ask and will accept only men who have been a success in some line of the work and who talk very little but simply lead the discussion, in which the farmers themselves do most of the talking. This is the most hopeful sign of the times, for when the time comes that the 200,000 farmers of this Province, and their wives, and their sons, and their daughters, each and every one of them, make up their minds to find out what are the best methods of farming, and then proceed to put them into practice, there will be such a development in agricultural work as the world has never seen. Already, without any appreciable increase in population or acreage, the farms of the Province have doubled their output, and for this the work of the Agricultural College and Experimental Farm, the Agricultural Experimental Union, the Experimental Farms of the Dominion, and the Live Stock Associations may take the most of

the credit, but the Farmers' Institutes have been the mouthpiece of these organizations and institutions, and they have tried and are still trying to carry the gospel of agriculture to every farmer.

WHAT OF THE FUTURE?

There is no doubt that the Farmers' Institute of the future will be an entirely different affair from the One-Meeting-a-Day arrangement of the present time. Three avenues of usefulness appeal to me at this juncture:

(1) Seed fairs in March.

In the counties of York, Waterloo, Ontario, Huron and Halton, Seed Fairs have already been established under Institute auspices. I attended one of these shows where 20,000 bushels of clean, plump grain were offered for sale at 10 cents a bushel above the market price. Can any one estimate the value to a community of having an opportunity right at home of buying clean seed of a first-class quality? These Institutes are doing a good work for their members, and other Institutes should follow their example.



A Good Beef Type

(2) Live Stock Judging Contests at Institute Meetings.

A few Institutes have tried this feature with splendid success. The young

men especially will attend a meeting of this nature, and will ask questions and enter into the spirit of the programme as in no other kind of gathering that has been tried. But the Institute must go farther. In the County Towns or some other central point judging courses of one week should be held for the benefit of the fathers and older brothers on the farm who are not prepared to attend an agricultural college. Eighty per cent. of all the products of Canadian farms are fed to live stock; therefore, farm animals are our most important asset. How necessary that every man who feeds a hog, or a steer, or a cow, or a sheep, should know the characteristics of a good "feeder." I believe that every Farmers' Institute in Ontario could well afford to spend some of its surplus funds in establishing and carrying out a short course of live stock judging.

(3) Our Fall Fairs.

If these shows are intended for anything it is certainly to bring before the eyes of the people at one time and at one place the best products of the farm and the garden. Many of them do this, but the mere exhibition, without explanation of any kind, has little educational value. What every Farmers' Institute might do (and some have started it) is to co-operate with the Fall Fair Management and make the exhibition a "Short Course in Agricultural Instruction":

(1) By labelling the grain and roots in such a way as to tell the variety, the number of bushels obtained per acre, the kind of soil in which it was grown, the method of cultivation, etc.

(2) Requiring the judges in all cases to give reasons for their awards, and to go further and point out the especially strong features of the prize winners.

(3) By providing a tent or other meeting place where short, practical talks may be made by Institute workers, or other competent persons, using certain special exhibits on which to base their remarks.

(4) By encouraging the boys and girls

to make exhibits gathered from the garden, the field, and the woods.

In fact, to help to make the Fall Fair a big Instructive Institute Meeting.

I believe that the Farmers' institutes are tending in these directions, and I hope to live to see some of these suggestions carried out.



Preparing for the Future.
The Senior Boys in a Sheep Judging Class.



THE SQUIRRELS.



As the Squirrel appeared to the
Writer.

If you have ever gone into the woods on a nutting expedition in the fall of the year, you will doubtless remember the sounds that greeted the ear as you neared the trees whose fruit you were seeking. You will doubtless remember the chattering in the trees, and accompanying this chatter a somewhat hoarser monotone, as if the musician that was giving forth those inharmonious sounds was being accompanied by another with a baser instrument.

When in a chattering mood, the red squirrel is usually to be found sitting upon his back legs with his bushy tail curled up over his back. It is not the smallest but it is the most common of our squirrels. Its upper parts are covered with red fur, while its under parts are white. The body is about seven inches long and its bushy tail about six.

The squirrel is a good climber, and is as much at home in a tall tree as on a fence or on a log. It is very agile, and when in a tree will leap from branch to branch, distances of from ten to twelve feet, with perfect ease. It is but little afraid of man, and will sit upon a branch of a tree a few feet above his head and chatter as if in defiance. It is active all day long, summer and winter, and only the most severe weather in winter will keep it in its nest.

The nests are usually made in hollow trees, hollow logs, or in any place that is sheltered and protected from enemies. They are usually made of a mass of wood fibre, leaves, and any soft, woolly material that can be procured. Sometimes the summer nest is made in the bough of an evergreen tree. It is usually made of the same material as the protected one, but it is a great deal larger.

The young are born in April, in the nest within a tree or log, so that the young are well protected. The family usually consists of three, four or five members. These are small, furless animals from two to three inches in length. They grow so rapidly, however, that they are ready to leave the nest by the first of July, and are of sufficient size in the fall to aid in storing food for the winter.

Their favorite food is nuts, but they are not averse to grains when the supply of nuts is low. They are not good providers of food for winter, although they usually store a little food in many different places. I have known a pair of red squirrels to store a half bushel of walnuts in one place, but this is rather an exception, as they usually store a little food in many different places. They will store it on fences, in crotches of trees, in hollow logs and stumps, and sometimes they bury it. In fact, they store their food wherever fancy suggests. I have seen one come out of its nest in



The Flying Squirrel.

winter, run over the snow, suddenly disappear beneath it, and in a moment appear again with a nut in its mouth. Upon examination the snow showed no evidence that the squirrel had ever visited the same place before.

Closely related to the red squirrels are the grey or black squirrels, with habits very similar to the former. They are not so common, however, and are much less hardy and spend much more time in their nests, which are made in hollow trees and logs, and their food, which consists mostly of nuts, is stored in hollow logs and stumps, and under logs and fences, but not all in the same place.

The flying squirrel resembles the red species, but it is smaller and has a web on each side joining its fore and hind legs. It makes use of these extended webs as a parachute when jumping from tree to tree, and can very suc-

cessfully escape from its enemies. It can with this contrivance jump very long distances, and its gliding descent is familiar to any one who has been in the deep woods.

This species is a night prowler, in contradistinction to the other squirrels which roam about in the day time. The winter nest is usually made in a hole in a tree, and has two exits or entrances for safety's sake. The summer nest, made of moss, is found at the fork of a sapling. In winter several occupy the same nest.

The chipmunk, which is about the same size as the flying squirrel, does not have the web structure on its sides, but as a characteristic it has cheek pouches for carrying food. The little fellow is ordinarily recognized by its striped back, with five brownish stripes running lengthwise between the two outer stripes, and on each side a stripe of white.

This species is more timid than the red and grey squirrels, and does not climb much, although it can climb well. It spends most of its time on the ground, where it is very inconspicuous. It nests in the ground, usually, under a stump or brush pile. It is a good provider of food, and stores large quantities. It puts away such large stores that often most of the supplies remain untouched. In winter it is rather sen-



The Chipmunk.

sitive to the cold, for it spends most of the time in a semi-dormant state, and does not venture out of its burrow except on fine days.

All of the squirrels and chipmunks may be considered beneficial where they confine themselves to the woods. Most of us who have a liking for nuts do not regard the squirrels in such a light owing to their habit of carrying the nuts away, but it is just this habit that makes them valuable.

Sometimes, however, the red squirrel will take up its residence in an orchard, or in a farm building, where it usually does more harm than good. In the orchard it will feed on the seeds of the apples and pears, and these fruits it will nip off and let fall to the ground, as if for the pleasure of hearing them fall. It destroys large numbers of the eggs and young of our valuable birds, and frequently will instal itself in the granary and spoil much good grain. The farmer is therefore quite justified in shooting the red squirrel whenever he finds it out of its proper sphere, the woods.

The grey or black squirrels, owing to their timidity, and to their habit of storing their supply of food in various places on the ground, are of the utmost value to the wood lot. Moreover, they seldom forsake it, and so do not get into trouble outside.



The Haunt of the Red Squirrel.

The chipmunk is not as valuable as the grey or black squirrel, owing to its habit of storing food in one place, and that usually under ground. The result is that but few nuts germinate, and the seedlings soon die on account of the large mass stored.

In the maintenance of the wood-lot squirrels perform an important function. Some store their food on the ground, some drop their food in carrying it to their homes, and in various ways through the industry of these small furred creatures seeds are scattered. Many germinate, and in time trees grow up and occupy places in the wood-lot which would otherwise be vacant.

ARTHUR MASON, '05.

We are indebted to MORSE & CO. for permission to use the illustration in this article.

BREEDING AS A BUSINESS.

ADDRESS OF HON. JOHN DRYDEN BEFORE THE BREEDERS'
CONVENTION AT ST. LOUIS.



TO be able to plan and carry to completion a modern city building, without a mistake or a misfit, or to build one of the great floating palaces now used for commerce on the ocean, are feats worthy of the twentieth century. Scientific knowledge is essential to those who undertake such tasks; and accuracy in every detail of workmanship can alone lead to success. The whole world gives its meed of praise to those who undertake and carry forward such enterprises to completion.

But these men are dealing with dead matter which can be seen, which can be measured to the closest fraction, and shaped according to the will of the builder. How much more credit, therefore, is due the man who, dealing with living matter, shaped under influences which he can only indirectly control—trying to build what his eyes cannot see, and yet with an ideal in his mind and working year by year nearer its approach—he eventually succeeds in presenting for your inspection a living animal, healthy and vigorous, developing for you thick flesh in the most desirable parts, and, withal, keeping an eye to beauty and symmetry, so that the animal delights you as you gaze upon it. I assert that such a man deserves far more credit, and is in the highest sense a more worthy builder than he who deals only with stone and wood and iron.

Especially is this true when it is remembered that the ideal cannot be

reached in one generation. A single individual may be produced, but that is but a beginning. What the breeder aims at is uniformity in his whole herd or flock, all being of one type, and that type of the greatest excellence possible.

Let it be conceded at the outset that this will never be reached by accident or in any haphazard way. It must be by carrying out a well considered course, intelligently planned by one conversant with all conditions with which he has to deal. The man who builds a herd or flock or stud is in precisely the same position as he who erects a building or a ship. The result or outcome of his work must first exist in his own mind. The chief difference in the two lies in the fact that in the first case the builder will be able, before he commences his building, to place his model on paper, while the latter cannot do so, nor can he perfectly show it to another. But, I repeat, the ideal towards which all his work continually points must be ever present in his own mind.

I am not setting forth the course of the ordinary breeder, but rather of the man who has by diligent application of correct principles, reached such results as prove to the onlooker his sound judgment in the selection and mating of his animals. Such men, I admit, are not numerous, but they have lived in the past, and have shown to the world marvellous results. I have had the very great pleasure of coming in contact with a few such men who have been prominent in successful

work of this character in recent years. The late Mr. Cruickshank of Sittyton fame was admittedly one such man working with a definite plan for the perfecting of his Shorthorns. Andrew E. Mansell, had he continued in England, would undoubtedly have proved his right to be classed in the same list as he perfected his flock of sheep. Others are working along the same lines at the present day, but they have not yet reached their conclusions. The vast majority, however, are working entirely at random. How many men in any given township in your State could give you an intelligent reason why they are using a certain horse, or what they expect to produce by the mating proposed? They hope to produce a living colt, but the precise type is a mere guess. I am not going too far when I say that the vast majority of the breeders of live stock on this continent are following, in part at least, the same happen-chance methods. To some extent good results are seen, but my point is that it is not generally the result of any definite plan. A male animal is selected which happens to be a wonderfully prepotent animal, and the result is satisfactory; but he is probably followed by one which tends to spoil the former success, and it may be years before the owner can happen on another.

I am ready to assert that the results of mating animals together are controlled by certain definite principles, and it should be our constant study to discover what they are. The subject ought to be more frequently discussed, so that by a comparison of ideas from different individuals wise conclusions may be more rapidly reached. After all you can do, the fact will remain that the most successful breeder must depend on his own judgment and intuition for success. So much must be taken into consideration; such

nice balancing of points. For instance, a grand and masculine head against a weakness of the loin, where the choicest of cuts are obtained; a noble carriage, but a lacking in width of chest. Which ought to be taken? An unlimited number of problems are always facing you, and that close, keen judgment which always chooses the best under the circumstances is seldom found in one man. It is so natural for most men to see always one or two points and miss altogether others that may be of greater value. The color of the horn, or its particular shape, seems to some more important than the covering of flesh, the quality of which they may not feel competent to judge. Others may be enamored of a level rump, while they do not see a narrow chest; and still others with entirely different points, which are always in view while others are unnoticed. Such persons can never reach anything like perfection. The whole animal must be considered, and as none are absolutely perfect, the greatest ability to evenly balance the various points always wins in the result.

There are some things which, in my opinion, ought to be considered as essential. A horse which is used to draw a load or travel long distances, no matter how handsome, is useless without sound limbs and good feet. A cow kept for dairy purposes, with beautiful conformation but no milking propensity, is utterly useless. A beef animal which cannot be brought to selling time under four or five years, is but a cumberer of the ground, and gives no profit. The essential points ought always to exist, but if not, then the skill of the breeder must supply them by proper selection and mating, or his breeding operations will prove a failure.

The essential points cannot well be named in this address, for the reason that

they differ in different species. For instance, an essential point in a dairy cow is ability to give milk in sufficient quantity and of proper quality; no matter what else exists, this must always be essential. A beef animal must be of the early maturing kind, in order, in these days, to give profit. This is not essential in the dairy cow, but certainly it is

the principles which govern? (In discussing this matter further I shall use the term herd alone as covering also flock and stud.) The herd consists of two parts, the females, and the male with which they are to be mated. In its commencement, it is well that the proprietor should have a definite idea of what he wants and make his selection of the fe-



CHARACTER.

for beef production. It is essential that the horse which is to show great speed must possess entirely different characteristics to those just mentioned, great breathing power as well as strength of muscle and bone, and so on as to other animals.

Suppose, then, it is desired that we should embark in the business of breeding, how are we to proceed and what are

males first, so that in the beginning the herd may show some degree of uniformity. This is specially important where only one male is needed. Then the male may be selected with a view of improvement, and considering the needs or weakness of the females. When the herd is sufficiently large so that several males are required, a greater opportunity is afforded for complete success. It is said

that the male is half the herd. I would go farther and say that, if he is of the right sort, he is frequently far more than half the herd, and his selection becomes of the greatest importance, because in this there will frequently lie success or failure.

Suppose you have decided what is needed in conformation in your sire, and you are fortunate enough to find him, will he certainly fulfil your expectations? He may prove a complete failure, because he does not, when mated with your females, either improve them or reproduce himself. What is the matter? I cannot certainly answer, but I venture to assert it will most frequently be found in the lack of one or both of two characteristics. First, a lack of strength in blood lineage, or, second, a weakness in impressive character, which precludes the possibility of accurate reproduction. In order to discover the character of the blood lineage it becomes necessary to examine the breeding. This can only be ascertained by a study of the pedigree. Here the young beginner meets another difficulty. The pedigree conveys to him no information. There are some who would improve it by extending it so as to show a more complete lineage. Still it expresses nothing which gives complete information as to the power of the animal to transmit his own excellence. If it is to be of any value there must accompany the pedigree a statement of the history of the individual animals mentioned in it. An extended pedigree will not furnish this, and to him who is well informed it is not needed. To a man well versed in modern Shorthorns, the name of "Heir of Englishmen" or "Champion of England," or his son, "Lord Lancaster," or "Perfection," "Scottish Archer," and others is sufficient. The line of breeding as well as the individual characteristics

are at once before the mind, aiding in forming a correct judgment. If these ancestors are known to carry the same useful qualities, then it may be taken for granted that the animal being considered will have a much better chance of prepotency than if a diversity of qualities is seen to exist in the ancestry.

But the pedigree is not alone sufficient; the individual character of the animal must be under inspection also. All of us have seen animals carrying a pedigree which could not be questioned, and yet the results from their use were entirely disappointing. It is evident that the individual qualities must first be considered, and if these are satisfactory then the pedigree may be studied with a view of ascertaining the probable prepotency of the animal as a sire. What I am now seeking to impress upon you is that both in individual character and pedigree, the animal should please you. You will then have a double reason for his use. Yet it is true that occasionally an animal inferior in quality, but tracing to a splendid ancestry, will give greater success than another with less intensity of blood, but much superior in appearance.

I presume that "Champion of England" was the most prepotent bull among Scotch Shorthorns in recent years. He was well bred but he was not intensely bred. His appearance to the practised eye of his owner indicated from the beginning his value in this respect. His sons for many years were selected in the same way; then his grandsons; until the blood of every animal in the herd possessed great power to reproduce a similar type.

Some one will want to know what are the marks of such an animal? Can he be always distinguished from his inferior mate? I believe it is impossible to fully and completely describe him. He should

be looked at all at once, and not merely point by point, so as to balance the whole animal; defect against strength and strength against weakness in the different parts. There is a kind of intuition developed by experience and observation which aids in right conclusions, but which cannot well be described. It is no doubt true that a sire cannot be properly selected unless a knowledge already exists of the females with which he will be mated; and it is quite possible that two men standing at the ring side may purchase two animals quite different in special characteristics, and yet both be abundantly satisfied.

In a general way, a female should be feminine in character, while the male should be entirely the opposite. He should not be coarse, although he may be large. Experience proves that the very worst results are seen from the service of a large, coarse animal. He should be straight in his lines, with compactness of body; fairly strong in his limbs, but of good quality. He should have a brave, gentlemanly bearing, with clear evidence of intelligence and docility as indicated by width of forehead, and a short, rather than a long face; a bright, keen eye; a neck not too long and well joined to the body, and a good width of chest. It is impossible to fully describe a strongly prepotent animal; he needs to be seen, when the expert at once is attracted; and the learner can only in that way really begin to be seized with a knowledge of the essential points of a prepotent sire. If we are to perfect these living animals, it can only be by intelligent action and not a chance conclusion. Our best men and our college professors should study and discuss the breeders' problems, so that here and there shall be found young men who, receiving a right start in this great field, shall de-

velop that innate intuition which is hard to describe but which seems essential to success.

There is no good reason why there should not be developed American breeds of live stock, suited to the climatic conditions in which they are placed, and producing results suitable to supply the needs of our own people. In this connection let me say how pleased I was to learn that, under the approval and assistance of your national government an effort is to be made at the Agricultural Station in Colorado to establish an American breed of carriage horses. It may not reach immediate success, but it should be followed with intelligent persistence, as the proper result, when reached, will be a great blessing to all the people.

A great many problems not mentioned here will inevitably face the breeder. A red sire and a rich roan female produce when mated, a white calf, or a well-bred pair with beautiful muzzles present you with a black-nosed calf. How does it come? Who can answer? Yet I have a firm conviction that both are controlled by some (to us) unknown law. I feel sure that with continuous observation and experience under differing conditions and by different men, and with frequent discussions of such questions, the truth will some day be found.

Again there is the difficulty in determining what really exists under the skin. Is it mere tallow, or rich, juicy flesh? A practiced hand may discover it for you, but the young beginner is lost, and too frequently those who are older are in the same predicament. I remember on one occasion asking the late Mr. Cruickshank whether he could distinguish flesh from fat. His answer was characteristic. "I can aye tell in my ain beasts, but I dinna ken whether I could or no in

others." Many cattle look plump when fully grown, but it is a filling up of fatty tissue, and not flesh, and the killing is in such a case very disappointing.

There is in this business of breeding an open field and an abundant scope for our wisest and best men. The way in many places has never yet been trodden. In following it let us always remember that we seek to produce an animal of commercial value; an animal which the world needs and will appreciate. Animals which will greatly add to the comfort, happiness and success of our people. It is not, therefore, what you or I may like, or for which another may have a fancy, but rather what the world needs and demands at our hands. Our minds must not be filled with fads or mere notions without reason. We ought to throw aside all prejudice, brought about either by education or historical reminiscences, and seize at once the real object aimed at. If you are breeding for milk, then let milk always be present, or discard your animal at once. Don't, I beg of you, listen to the argument so often thrust upon you:—"Just look at the pedigree!" Remember you cannot draw milk from a pedigree, no matter how perfect or what its length may be. And if you insert the name of your milkless cow in the continuation of such a pedigree, and her history is written with it, as it should be, you are surely fastening on it that which destroys its value, for opposite this milkless cow there can be

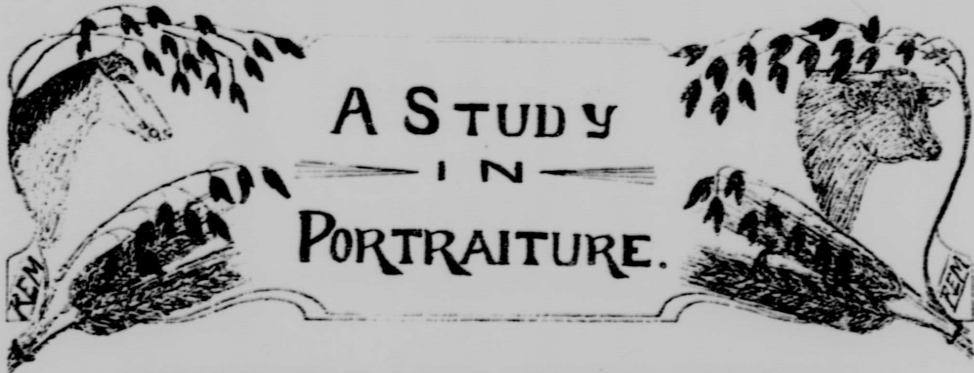
placed as fully descriptive only two letters, "N. G."—(No good).

If you are seeking to produce a road horse, then you will keep in mind that which is under the horse—his feet and limbs. But that is not enough; you will want to know whether he can properly use them. They are not intended merely to be looked at, but to take you from place to place without too much wear and tear, and in a reasonable time. If the road horse cannot do this, then, I fear, however handsome he may be, I shall be obliged to label him also "N. G."

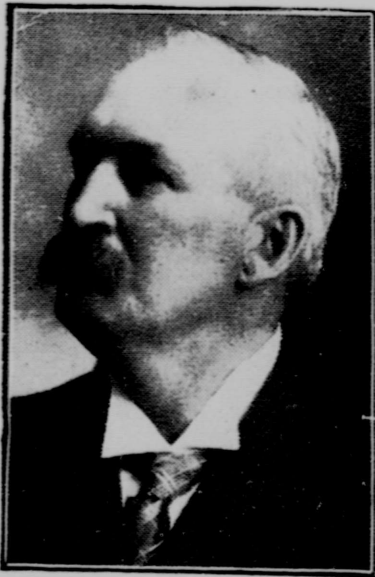
If you are producing beef or bacon, you must secure the quality desired and demanded by the commerce of the world. But that is not all; you will be bound to consider the cost. The value of the animal is commercial; can it be produced at a profit? Does it grow fast enough to give quick returns? If not, you ought to secure another; the great value of the pedigree of such an animal is not warranted by the results reached.

I might multiply instances as illustrating my point, but these are sufficient. This is a practical age, and the successful breeder must be practical also. The main issue must be kept always to the front. In conclusion, let me say that he who succeeds in improving any branch of our live stock industry will not only give pleasure and satisfaction to his fellow men, of whatever calling, but deserves that his name shall be held in esteem as one of the great of the earth.





**MEN WHO ARE DOING THINGS
IN AGRICULTURE.**



"DAN" DERBYSHIRE.
President Eastern Ontario Dairymen's
Association.



J. E. BRETHOUR.
Breeder and Importer of Yorkshire Swine.

Mr. Derbyshire, who is one of the leading dairymen of Canada, has been the inspiration of this organization since its inception. He is a fluent, interesting and convincing speaker, an ideal chairman, and a star in any convention.

Mr. Brethour has been styled the greatest living judge of Yorkshire swine, and he has probably had more to do with fixing the type and increasing the popularity of this breed than any other man on the continent.

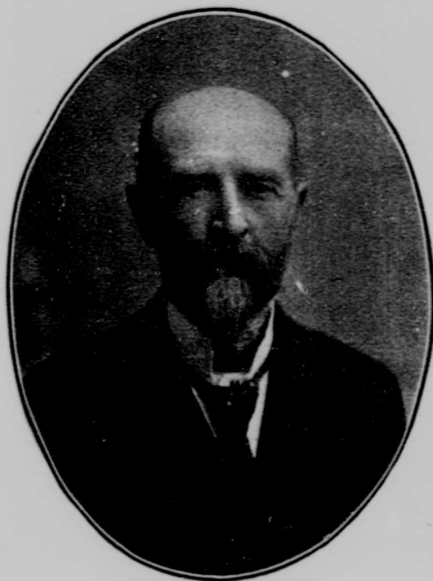


ROBERT BEITH.

Though a prominent public man, Mr. Beith is best known to those interested in live stock, through his brilliant achievements in horse breeding. The Clydesdale and the Hackney have received his special attention, and perhaps his greatest success has been attained with the latter breed. Mr. Beith is a keen judge of a horse, and some of his most brilliant victories in the show ring are due to the fact that he is able to recognize merit in an unfitted animal. In this connection, one need only mention the Hackney stallion, Robin Adair, which he purchased from the importers, the Rawlinson Bros., near Calgary, and the ranch bred son of Robin Adair, Saxon, who swept the boards at St. Louis. The value of Mr. Beith's work consists, not so much in the honor

which justly comes to himself, but rather in the distinction his efforts have won for his country; and the public reception tendered him upon his return from St. Louis, was a timely recognition of this fact.


The name of Arthur Johnston is inseparably connected with the fortunes of Shorthorn cattle, though he is also a successful breeder of Cotswold sheep. As a breeder and importer of Shorthorns, Mr. Johnston is right in the front ranks, and it would make too long a story to attempt to recount even a tithe of what the breed owes to his skill, energy, and enterprise. Time deals kindly with him, and as years pass by he loses none of his enthusiasm nor his faith in the animals of his choice. It is a pity that such men are not more numerous, and lucky is the breed which owns him as its champion.



ARTHUR JOHNSTON.

Agriculture.

The Dairy Cow.

T is a bright June morning. The dazzling rays of an early summer sun rest upon scenes of cultivated beauty. The eye of the farmer views with delight the luxuriant fields of clover, redolent with perfume from the white and crimson heads; the deep glossy green of the grass and cereals; and the hopeful springing green of the lately planted corn. Beyond these fields, deep green shade-trees, blocks of woodland, vistas of valley and upland, with here and there a neat farm steading, combine to produce a scene of sylvan loveliness.

Yonder in that field, knee-deep in clover and grass, a herd of lean-featured, fine-boned cattle are feeding. Their melancholy eyes look their satisfaction, and their whole attitude speaks a deep content as they fill their capacious stomachs with the rich herbage.

Glance for a moment at the form of these noble animals. Note the large, barrel-like body; the long, wide, and evenly balanced udder; the general wedge-shape of the form, and its leanness and fineness throughout. There they stand, specimens of dairy beauty and utility, with nothing to mar their enjoyment or hinder their industry.

The malignant horn-fly has been dealt with earlier in the day, probably just after milking, and now these beautiful bovines feed, secure from all annoyance. As the day advances and the appetites are sated, the grateful shade of those

trees will enable the cattle to digest their food in comfort. Near the lane is a well or spring, and a trough full of clear water. Thither the animals take themselves many times in the day, and drink deeply of the pure and abundant supply. In the later afternoon, the herd, each individual resembling an inflated balloon, slowly wends its way to the stables, where the care and attention of the day is many times repaid by the bountiful milk-offering.

As the summer advances and the pasture becomes dry and short, another clover field will be provided, or probably, if labor be sufficient and clover be scarce, a soiling crop will be fed to replace the loss of the pasture. If the latter plan be adopted, however, the crop will be convenient, and every precaution to minimize labor will be taken. In conjunction with the green food, the cattle will receive a meal ration of bran, bran and oats, or gluten feed, distributed among the members of the herd according to the milk they are giving.

But the time when pasture and green crops are not available will be approaching. For this period, those many tons of clover will be harvested carefully, that all the constituents may be preserved, and form an appetizing food. The springing corn, which we noticed, will have developed into a forest of stalks and ears, yielding many tons of fodder per acre. This crop, stored as silage, in conjunction with the clover, will form the bulky part of the winter ration, while the oats of the farm, together with mill-feeds and oil-cake will give the concentrates,

Thus throughout the year these beautiful animals find their every want supplied, their treatment kindness itself, their surroundings clean, bright, and comfortable, and their gratitude is tangibly expressed by the rapidly growing bank account and improved material surroundings of their owner.

Of the owner it is unnecessary to speak. We know him without further introduction. He is a man who is willing to learn, and who has energy to put what he learns into practice.

Adjoining his field is the pasture field of another. See the contrast! The grass is short, the field being an old timothy meadow. Shade-trees are entirely absent, every effort having been made apparently to simulate a treeless plain. The water-supply is obtained from a pond-hole in the creek which crosses the lane at a considerable distance from the pasture. And the cattle—what forlorn looking creatures as they nibble away at grass, which only a sheep could enjoy. Their opportunity for grazing is not improved by the covering of horn-flies which blackens their bodies, or rises like a cloud at every toss of the tortured animal's head. This condition with short pasture, blazing sun and stagnant water would appal the heart of the stoutest bovine that ever rustled for a bare living, so what must be the effect on those which are expected to be profitable milk-producers.

From seeing a few of the details of this man's management, we may predict the rule that prevails throughout. Nor is it necessary to introduce the owner. There is no one who has not met him. He lives in every county, in every township, on every concession in Ontario. He is an industrious man: he does a great amount of manual labor. He is econom-

ical; he hires little if any help; he struggles on with antiquated and inadequate farm machinery, puts up with delapidated fences and buildings, and foregoes needed improvements that he may save (?) a little money. He grows corn. Yonder is a small, dense patch of small, watery stalks which he will feed his cattle when they can get nothing else. Of clover he grows little. Hay of any kind is too expensive to feed cows, and since timothy commands the higher market price per ton, it is his staple hay crop. He also strives to grow large quantities of grain, despite the fact that through long years of cropping his land is rapidly deteriorating. The grain goes to the nearest elevator, the straw is fed to the cattle.

During the summer he is very busy, and the cattle are left largely to their own devices, except when they devise mischief. They are milked very early in the morning and very late at night, during harvest. Herd discipline is enforced by other means than moral suasion, and, as a result, the cattle are not extremely tractable. The infant members of the herd are treated much as their elders. They are fed whenever convenient, and whatever is convenient, and are left to bask throughout the long day in the rays of the fervent summer sun. The nondescript head of the herd wanders at will in the fields of his owner, or in the fields of the neighbor. Thus, in taking note of these various details, we must assuredly conclude that the profit from this herd is nil, and its future hopeless.

To some the latter picture may appear overdrawn, but not to those who know the average dairy district of Ontario.

True, this man is more numerous in certain parts than in others, but he is

far too prevalent throughout the Province, and throughout the Dominion. He has many relatives whose methods vary more or less widely from his, but the same

cannot fail to be instructive, nor can the study of the management of dairy cattle fail to be directly beneficial to the student.



A DAIRY COW.

Rettie's "Highland Cornelia," a noted Prizewinner.

general characteristics of self-sufficiency, and a tenacious clinging to old methods, prevail throughout this large family.

It is under conditions of management simulating or approaching the one just outlined, that the majority of our dairy herds are kept. Doubtless each year sees some improvement in methods, but the advance is slow. The Canadian dairy cow does not receive justice at the bar of Canadian agriculture, nor, we believe, the attention which her importance demands from the educational authorities of the country.

It would appear that at our own institution somewhat more instruction on dairy cattle and their management might be given, even at some expense of the time applied to the beef breeds. True, the most satisfactory way to judge dairy cattle is by means of the scales and test, but the judging of types is more than mere lottery. Careful observation of the achievements of dairy cattle breeders

Among the various classes of live stock the premier place of the dairy class is assured. Ours is a dairy country, especially the Eastern Provinces and British Columbia. These all have a more or less humid climate, favorable to the growth of pasture and forage crops, and dairying has taken a hold upon them which grows and strengthens. At present, the North-west can raise great numbers of store-cattle on her broad ranches, but she cannot finish them cheaply for export, nor can any part of Canada at present build up a large and profitable trade in store-cattle in competition with the cheap corn-fed American cattle. The slightly superior quality of Canadian over American beef has not created appreciable preference in the English market for our article, an article which it costs more to produce. In the English market, however, we hold first place as regards the quality and quantity of our cheese, and a growing prestige on the butter market. Our exports of cheese and butter for 1903 exceeded by over two million dollars the value of all other exported animal products, pork and bacon included.

Thus we see the present proportions of the dairy industry. Its future is bright. We can and will improve the quality both of our cheese and butter, thus inducing better prices and enlarging our market. By improving the quality of our bacon, an allied and dependent industry has infinite possibilities of expansion. Not only in foreign countries but also in our own may the dairy markets expand. Appreciation of the food value of milk grows daily, and is leading to increasing business of city dairies. Local butter

trade, too, has room for expansion, while still greater expansion should occur in local cheese markets. As a nation we consume but little cheese, only about one-fifth the amount per head that the average Englishman consumes. There seems to be no reason why, if cheese were made to suit local demands, a good local trade in this wholesome and valuable food could not be established.

Considering the present proportions of the dairy trade and its possibilities of expansion, every means should be taken to place it on a better foundation. The Government recognizes its duty, and has done much in the right direction. The responsibility rests mainly with the individual farmer. Education is doing and will do much to arouse him, and probably the education that he most requires is the practical illustration of dairy types, and correct methods of breeding dairy cattle. A thorough course in judging dairy cattle would give all students a training which would enable them to help forward the good work of education. If the former type of dairyman is to replace the latter type, practical illustrations and object lessons are the kind of education that will accomplish the desired end. With thorough practical knowledge of dairy types and of dairy cattle management among farmers, the dairy cow will receive justice and her owner become prosperous.



The Reviving Sheep Industry.

The general optimistic feeling of sheep-breeders and sheep men seems to have good foundation. Throughout the United States and Canada there is a sudden revival of interest in that profitable and easily kept animal, the sheep. There is a sudden demand for breeding animals,

which breeders find difficulty in supplying.

There is never an effect without a cause, however, and the cause of the present revival of the sheep industry is far-reaching, and extends over a considerable period. For a number of years past sheep have been generally at a discount. The demand for wool, owing to commercial depression, had fallen off. The value of the sheep as a cheap producer of good flesh was not generally understood by either feeder or consumer. Lastly, the easy keeping qualities of the sheep, with its value as a weed-destroyer were not fully recognized. As a result, many farmers forsook the sheep entirely, for apparently more profitable classes of stock, and the aggregate number of sheep was greatly lessened.

Population has not remained stationary. People have to be fed and clothed, and increasing demands were made upon the sheep. The wool supply was not, and is not, equal to the demand, and it is probable that for some time to come strong prices will rule. Then, too, the consumer recognizes that mutton is good food, and the farmer recognizes that it is easily produced. These considerations, combined with the sheep's economy of food and value as a weed-destroyer have caused the revulsion of feeling among farmers generally.

It is well that farmers are taking kindly to the sheep. Its easy feeding qualities are so widely recognized as to require little comment. These are practically shown by the thriving condition of sheep pastured on hills or rocky ground, where other classes of live stock could not obtain a living, and are further illustrated by the rapidity with which lambs fatten when fed for market. It has been found by experiment tha

fairly good lambs will yield from fifty to one hundred per cent. of profit under good average conditions. In these days not merely the amount of money received for the final product, but the cost of caring for the animals must also be considered. Here again the sheep excels. The labor required to care for sheep successfully is less than for any other class of stock. The housing is also very cheap. A dry place, with ground floor and some bedding, free from draughts and wind and storm fulfills the ideal conditions. Considering the good feeding qualities and the ease in housing and caring for sheep, we begin to recognize their value.

They have still another important attribute—the power and inclination to destroy weeds. Prof. Shaw, of Minnesota, recently conducted experiments to prove the value of sheep as weed destroyers, which resulted in proving their

usefulness in this regard. He named several very bad weeds of which sheep are fond, stating that they destroyed large quantities of them, in nearly all stages of growth, and he especially emphasized the thoroughness with which they did the work, as they penetrated every nook and corner where weeds grew. His experience is corroborated by shepherds generally. It is plain, therefore, that sheep will help to solve the weed problem.

One drawback to sheep raising in certain sections is the prevalence of mischievous dogs, but we believe that this obstacle would not long remain if farmers generally recognized the value of sheep. Recognizing their three-fold value as mutton and as wool producers, as weed destroyers and easy keepers, it must be apparent that the present revival of interest in sheep has a sound basis, and will be a good thing for the farmers.



Experimental.

Experimental Work.

IN these days when progress is the spirit of the age and the watchword of success, there is an ever increasing demand for definite information on questions pertaining to agriculture. Farmers have at last awakened to the fact that the successful pursuit of their occupation consists not in following an old routine marked out by their ancestors, but in keeping abreast with the times and seeking a correct scientific explanation of the problems which are continually confronting them.

When interest in agricultural questions became thoroughly aroused there was naturally a great demand for definite information which would help the farmer solve the problems of the soil and stable. But the demand for such information merely brought to light its dearth. However, the demand was not long unanswered; by practical experiments and the search-light of science, much light has been thrown on the perplexing question of agriculture.

In this great field much valuable work has already been done, but as yet merely the fringe has been touched, and to the workers of to-day and to-morrow a field of boundless scope presents itself.

By the co-operation of practical experimenters and scientific men much valuable information can be acquired, and at present a great work is being done along these lines by the College and outside men.

Information gathered in this way is of inestimable value, but in order that it may accomplish the most good, it is necessary that the results obtained be presented to those interested.

It is the aim of the Experimental Department of the O. A. C. Review to disseminate among its readers a knowledge of the latest reliable scientific experiments, and thereby afford a medium of obtaining valuable, definite information on agricultural work.



The Black Rot of Grapes.

Essex and Niagara Peninsulas are the only regions in Ontario where grapes are at present grown to any extent in a commercial way. It is interesting to observe that these districts are both situated to the south of comparatively large bodies of water, namely the western end of Lake Ontario, and Lake St. Clair. The great grape district of New York and Ohio has a similar physical outlook, in that it looks north towards Lake Erie. There is no doubt that the presence of these large bodies of water, with their moderating influences, has much to do with the position of the grape regions.

During the past two or three years, while the acreage devoted to grapes has been largely increased in the counties of Lincoln and Wentworth, a fungus disease, which threatens to do much injury, has made its appearance. In Essex the disease has been known for a much longer time, and has completely uprooted



A Bunch of Grapes Attacked by the Downy Mildew, or Brown Rot.

many of the old established vineyards along the Detroit River.

This dangerous fungus enemy of the grape is commonly known as the Black Rot. Its activity is very great during a warm, moist summer, and if not met with stringent counter measures it will soon ruin the crop of the vineyard.

The Ohio grape growers, acting in cooperation with the Agricultural Experiment Station at Wooster, have been fighting this fungus for several years. Experiments on a large scale were carried out for several seasons, and valuable results were secured. The first and most important result was, that a perfect crop of grapes can be secured in spite of the presence of the fungus. This required six or seven applications by means of the spray pump, but the grape growers are willing to expend the time and money for extra sprayings as soon as the results warrant. The experiments also fur-

nished the information that dormant vines, sprayed with copper sulphate or Bordeaux, did not give any better results than the vines which were left unsprayed at this time. Moreover the experiments proved that the two most essential sprayings were those which were applied just before and after the blossoming of the grapes (probably an interval of four weeks), the first spraying made in the last week in May; and the second in the first week in July. The absence of one of these sprayings allowed the fungus to develop, and there was considerable loss in the crop. It was shown that Bordeaux is the standard spray for the first three or four applications. It is usually discontinued, however, about the middle of July, and the ammonia solution of copper carbonate, or soda-Bordeaux used until about the end of August. There is no doubt that the times of spraying as determined by the Ohio experimenters give about as satisfactory results as can be wished for.

In September I visited a large number of the vineyards in the Cleveland district, and without exception, those growers who follow the prescribed treatment had perfect grapes; while those who failed to spray regularly and at the right time had grapes which were more or less ruined.

The Black Rot of the grape attacks all parts of the vine except the roots. The leaves are the first to show the presence of the disease by the appearance of brown spots on dead tissues. About the same time the young shoots may be attacked. The fruit does not show signs of the disease until about two weeks after the first appearance of the leaves. Moreover the fruit is most frequently attacked when only half grown, and the greatest amount of destruction follows immediately



Grapes affected with Anthracnose,
or Bird's Eye Rot.

after warm, moist weather. The progress of the disease is quite characteristic. The affected berries become brown or dark colored in spots, which rapidly enlarge until the whole berry is soft. Through the drying of the tissues the fruit becomes wrinkled until finally there is nothing left but dark, wrinkled mummy fruit.

If the wrinkled surfaces of the diseased fruit be examined, it will be seen to be studded with minute points or pustules, which are in reality spore-producing cavities. Figures show clearly the structure of three kinds of pustules which liberate three kinds of spores. Two kinds are summer spores and have much to do with the spread of the disease during the summer; the third spore termed an ascospore is a resting spore, and is responsible largely for the carrying of the disease over from one season to another. This spore lies enclosed in little cavities and remains dormant until spring.

It is clear from a study of the reproduction of this fungus that a great deal

can be done to keep this disease in check by clean cultivation, by destroying all the old leaves and grapes, which carry the winter spores. If this precaution of cleanliness is not taken, it is very evident that the disease will gradually become more intense from season to season.

The grape growers of Ontario need not be unnecessarily alarmed about this fungus, if they will only take the usual precaution to destroy the hibernating forms of the fungus, and will spray six or seven times during the season at stated intervals with Bordeaux and soda-Bordeaux.

Illustrations are here inserted for purposes of comparison. The Downy Mildew, or the Brown Rot, is one of the most destructive diseases of the grape. Pale spots becoming brown on the upper side of the leaves, while on the lower side a whitish downy patch develops, which consists of microscopic branching stalks, bearing spores capable of infecting new vines. The fruit when attacked shows brown spots, which rapidly enlarge. Soon the whole fruit becomes rotten.

The Bird's Eye Rot is not a serious disease, but it is sometimes met with. The diseased spots are at first brown, with a distinct margin; later the centre is whitish, and the margin is purple, with a reddish inner circle.

The Powdery Mildew was very prevalent in the Grimsby vineyards this season. This fungus is solely a surface feeder, and is first noticed on the upper surface of the leaves as a white, mouldy growth. Two kinds of spores are produced, the summer spore, in immense numbers, and the winter spore, borne in brown or black bodies which are readily seen in late summer with a glass, immersed in the white growth.



A Bunch of Grapes many of which have rotted with Black Rot fungus.

Treatment for the Downy or Powdery Mildew and the Bird's Eye Rot is similar to that for the Black Rot, but usually fewer applications are required.

Strawberry Tests.

During the past nine years experiments covering the relative value of over four hundred varieties of strawberries have been conducted by the Horticultural Department of the college. In this work each variety is tested for both yield and quality, and if after a trial of four or five years duration a variety is found to be inferior, it is discarded and dropped from the list. Those giving the best results are kept in the test as standards by which

to measure the new varieties. At present about thirty to fifty new varieties are added yearly, many of these prove of little value and are dropped in a few years when their inferiority has been demonstrated, but some prove to be valuable and win a place among the standards. In this way much definite information has been obtained which will be of great practical value in selecting plants from the many varieties now on the market.

This year, among the one hundred and thirteen varieties tested, *Ruby* stood first in point of yield. This variety has been tested for eight years and has made a very creditable record, standing in second place last year. The berry is a good size and a fine dark crimson color, suitable for market. This variety has a perfect flower and is a good pollenizer for those bearing pistillate flowers.

Warfield is second in yield this year. This is looked upon as one of the best varieties for canning purposes, being very firm and dark.

Among the early varieties *Splendid* and *Anna Kennedy* have stood the test for several years and deserve to rank as perhaps the two best varieties for early use.

For a late crop *Buster* and *Irene* are proven to be among the best varieties. *Buster* has been tested for seven years and has proven an exceptionally heavy yielder. The berry is large but is not firm enough or dark enough for a first-class berry. The *Clyde* which has been so extensively advertised, made a good showing for a few years, but has not kept up its record, this year having dropped to nineteenth place.

As a result of the experiments the following varieties are recommended to cover the entire strawberry season: *Splendid*, *Warfield*, *Ruby*, and *Irene*. These are all heavy yielders and of excellent quality for table use or canning.

Experimenters' Union Meeting.

The next annual meeting of the Ontario Agricultural and Experimental Union is to be held at the Ontario Agricultural College, Guelph, on Monday and Tuesday, December 5th and 6th, 1904, commencing at 1.30 p.m. on the 5th. An exceedingly interesting and instructive programme is being arranged for the meeting this year. The co-operative work of the Union has been carried on more extensively this year than on any previous occasion. The number of co-operative Experimenters in Agriculture has now reached upwards of 4,000, and that in Horticulture is also increasing from year to year. Co-operative work has also been carried on in poultry raising, and valuable work has been accomplished during the past summer in the subject of Forestry. Reports, giving the most valuable results of the co-operative work, will be presented and discussed during the various sessions of the meeting.

The Women's Institutes of Ontario will conduct meetings at the Macdonald Institute, at the College, on Monday, Tuesday and Wednesday, in the same week in which the Union meeting is held.

Leading speakers from the United States and Canada will be present at the various meetings, and speak along lines in connection with Agriculture and household affairs. Several special features are to be introduced at the meetings this winter, regarding which notices will be made later.

Excursion rates on the various Ontario railways have been arranged in connection with the Experimental Union and the Provincial Winter Show. The programme, giving full information regarding speakers and excursion rates, will be printed about the middle of November,

and can be obtained on application to the Secretary.

C. A. ZAVITZ,

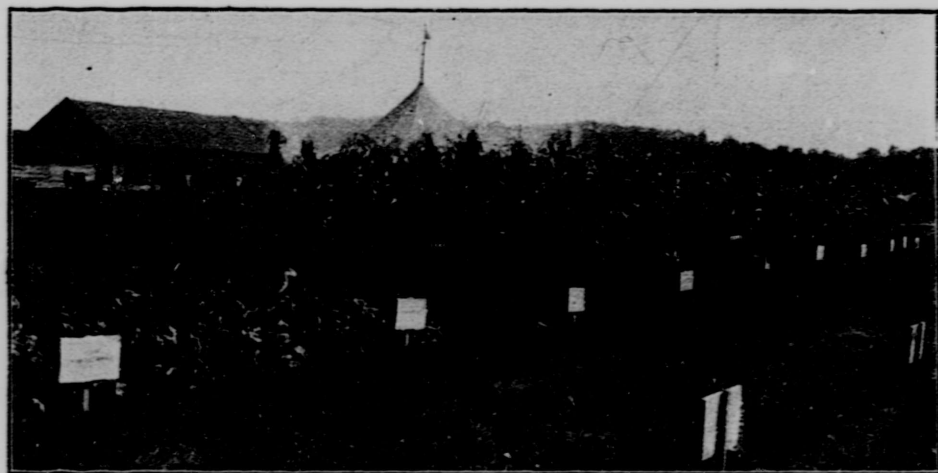
Secretary.

Ontario Agricultural College,
Guelph, Ontario.

Experimental Plots at Fall Fairs.

The mature days of Autumn again usher in the season of agricultural exhibitions. The most interesting topic in nearly every district and county is this annual event. Men attend these shows, some as exhibitors of live stock, agricultural products, poultry, or horticultural products, contrasting the degree of excellence with which they have been able to produce certain articles of the farm or garden with that of their neighbors; many as mere observers of the exhibits; but all with a desire to learn, whether such a desire be primary or secondary in their motives. Therefore, the annual exhibition becomes, of necessity, a medium of education. From their inception the popularity of fall fairs has increased to such an extent that their numbers this fall, in Canada, are in the hundreds.

The interest in the exhibits of live stock and farm products began to lag a few years ago, and in the attempt to revive the lost enthusiasm, the educational features of these two essentials remained undeveloped, since popular tastes seemed to prefer sports and side-shows. Thus the annual exhibition, established for the purpose of dispensing knowledge, has degenerated to a general meeting place where gaping crowds are amused by the trickery of jugglers, trapeze performers, and fakirs, or "jollied" by the smooth sophistry of some aspiring politician. This conspicuous degeneration of fall fairs led a number of directors to seek



General view of Experimental Plots at Brome, Que.

some remedy, and as a result the Association of Fall Fairs and Exhibitions was organized. Among the reforms suggested by members of this Association was the reservation of a portion of the fair grounds on which to place experimental plots.

The suggestion of experimental work at the fall fair had previously been made to the directors of the Whitby exhibition by Mr. F. W. Hodson, Commissioner of Agriculture, and President G. C. Creelman, of the O. A. C. This fair was the first to take up the work, and abolish superfluous attractions, in 1902. Two ranges of plots, 1 rod square, were cultivated and sown in the spring. Several varieties of grasses, corns, millets, roots and pasture crops were grown, from which many valuable lessons were deduced. For the show of 1904 these plots contain the following crops, in order:—

RANGE I.

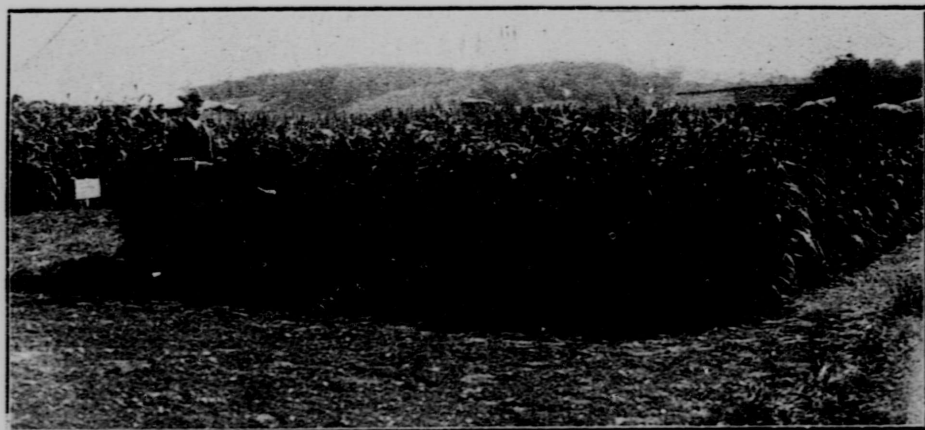
1. Leguminous crops—vetches, peas, etc.—5 plots.
2. Grasses—4 plots.
3. Large and small seed experiments.—6 plots.

4. Inoculation of Soy beans.—3 plots.
5. Rape.—2 plots.

RANGE II.

1. Corn varieties.—7 plots.
2. Millets.—3 plots.
3. Roots.—8 plots.
4. Fertilizers—experiments.—2 plots.

So evident was the interest shown in this work on the part of observant and alert farmers, when first undertaken, that the directors of Simcoe, Owen Sound, Walkerton, Renfrew and Brantford decided to try experimental work in 1903. Various degrees of success necessarily rewarded their efforts, for reasons which will be noticed later, but the general opinion seemed decidedly favorable to the work. This year there seemed to be promise of even a greater number of fairs adopting this feature, but adverse conditions of weather and other factors retarded some from carrying out their plans. The work has now spread to Quebec, where it was successfully carried on at Brome fall fair, Sept. 7th and 8th. This was quite typical of the character of work that the advocates of the scheme wish to introduce. As at Whitby,



Plot of Japanese Panicle Millet—yield 15 tons per acre.

ranges of crops were planted, and at the time of the fair Prof. Zavitz, of the O. A. C., visited Brome and explained the experiments, drawing many valuable practical lessons from the results. The corn crops showed that Red Blaze corn and White Cap Yellow Dent were very promising for grain and silo crops respectively, in this part of the country. The potato crops illustrated the value of spraying with Bordeaux mixture for the prevention of potato blight and rot. The rows that were sprayed showed some greenness at the time of the fair, while those that were not sprayed had died down some weeks previous. Perhaps one of the most striking illustrations on the plots was the extraordinary growth of millet, showing its adaptability as a crop for this section. The Japanese Panicle millet plot shown in Plate 2 would yield 15 tons to the acre. Many other valuable lessons were pointed out by Prof. Zavitz which lack of space forbids us recall. However, the consensus of opinion at Brome fair was that experimental work can be made a very valuable means of education when carried on in connection with fall exhibitions.

The success with which an effort to carry on this work is rewarded depends largely on the management assigned to it. None but enthusiastic officials can make this department successful. Prof. Zavitz has offered to supply seed and written instructions from the Experimental Department of the O. A. C. to any Agricultural Society that asks for it, but after that the thoroughness and effectiveness of the work depends entirely upon the men in charge of the several fairs. Probably one of the greatest difficulties to overcome is the lack of expert men to superintend the preparation and care of such plots. Mr. Zavitz, in his address before the Fairs and Exhibitions Association, this year, suggested that men from the Experimental Department of the O. A. C., who are in touch with such work, be employed to visit these grounds three or four times a year, to give instructions to the managers to suit the conditions they find. Furthermore, the success of the crops is frequently diminished by the choice of land made for their location. Good average land should be used in all cases; land that has a good natural or artificial drainage, and that is of average fertility.



Plots of Legumes at Whitby Model Fair.

The value of this experimental work to the various phases of Canadian agriculture must necessarily be great. On these plots the farmer sees the crops best suited to his climate and local conditions. A glance at the nature of the experiments made at Whitby, as mentioned above, will corroborate the statement that the most important problems of agriculture are considered here. For instance, in Range I, some of the new pasture crops that are giving excellent results on the plots at the O. A. C. are shown. Next are shown some of the new grasses which are giving profitable results in grass mixtures for hay. All these experiments must give very valuable information to the thinking farmer. We fear that the ultimate worth of this work is too often underestimated, from

the comparatively small proportion of attendants that take sufficient interest in the work to follow the explanations carefully. But the value must of necessity be apparent to the few at first. Directors must consider, however, that those who do take interest are the people who will apply what they have learned, and will educate the community to the value of such work. Therefore, it is to be hoped that the readers of this journal will thoroughly consider the real worth of this departure in its relation to the effort to remove all irrelevant attractions which may be all right in their proper places, from agricultural shows; and will give their active support to the movement that aims at developing the educational features of such organizations.

H. G. BELL.

Horticulture.

Importance of Location and Site.

EACH succeeding year finds many acres set out in fruit trees of different kinds, or devoted to some line of horticultural work, which formerly have been in ordinary farm crops. In most cases, perhaps, the land has been owned and worked for years, but great success in fruit or vegetables has been achieved by a neighbor or a friend in some adjoining county, so others are led to launch out into this most fascinating yet very uncertain line of work. However, there are other cases in which the land is not owned but in which, after considerable reading on the subject, decision has been made to buy a few acres and go in for fruit growing, or gardening, or both. In both these cases the measure of success depends on the *location*, and on the *site*. In the former, however, the location is already decided, so that only the site remains to be settled. In the latter both location and site are problems which should be studied very carefully.

In the first place what are the chief points to be considered with reference to location? One very important factor in determining the location is that it be within easy reach of a good market or good markets. This boon is more easily secured now than it was a few years back because of the increased facilities for transportation. However transportation facilities are yet far from perfect

and still much depends on nearness to large towns and cities, as the margin of profit would be greater owing to less loss of time and labor in packing. In any case it is well to have two or more means of shipping, since competition secures lower rates, and, a greater variety of markets may be reached. The question about more profits from home or from distant markets would be easily answered after the experiences of a season or two. Besides, different seasons will render different markets the most satisfactory.

Another most important factor on which location depends is the one regarding frosts. The general influence of the different zones is well known, and needs no comment, but then there are within the zones countless physiographical features which directly influence different sections. Fruit growers and market gardeners often wonder that their crops should be wholly or partially destroyed when no destruction was wrought on other farms near by.

With reference to location, proximity to bodies of water does much to secure immunity from early or late frosts. Water does not respond so readily as land to atmospheric fluctuations, and so bodies of water act as equalizers of temperature. As a result the surrounding country is cooler in summer and warmer in winter. In the spring, the cool breezes from the water, and the cold soil near the water, retard growth, so that the bloom does not appear until danger from frost is past. Then the even tem-

perature gives rapid and steady development throughout the summer, and in the fall warm breezes from the water keep away the early frosts.

Of course, the greater the body of water, the greater will be its influence. However, the area affected does not depend solely on the volume of water. Much more depends on the conformation of the land along the shore. In most cases there is a gradual slope from the water for some distance back. In other places the slope is steep, and again high cliffs appear. In the case of the grad-

the distance from the water and the elevation above it.

To the person who owns as well as to the person who buys land the site should be a mighty factor. Too many are inclined to choose a low sheltered place as the site for an orchard or garden. This is a great mistake. In northern districts especially, where the spring and early fall frosts are frequent, and many dollars' worth are destroyed in a single night, an open northern slope would be better. What is needed is a site where there are constant air currents or atmospheric



In a Favored Locality.

ual or the steep slope, the ameliorating effects are not usually felt beyond the crest of the elevation. Those who have made a careful study of this important question state that, if the elevation is over 300 feet, the effect of the water on the land is not felt more than two-thirds of the distance up the slope. In many cases the influence is not marked more than a mile from the shore, whereas in other instances the region of immunity from frosts extends three miles or more from the body of water. In almost every case the area affected is determined by


drainage. High or rolling lands suit best.

Cold air is denser and heavier than warm air and has a tendency to settle in low lying and well-sheltered lands. In higher or poorly-sheltered places there is always a slight air movement which keeps the cold air from settling and doing the damage. In no case is it wise to select a low place upon the farm as a site for orchard or garden.

Experienced fruit growers are not slow to advise planting an orchard of tenderer fruits on a northern slope. Since the

sun's rays fall on such a slope with greater obliquity the soil there is not warmed so early in the spring as the soil on slopes facing any other direction. Since the soil is not warmed, growth does not commence, and the bloom does not come until most of the heavy frosts are past, and so the season's crop is not in such danger of destruction. A northern slope if not too bleak and open gives best results in districts at a distance from any large bodies of water.

There are, no doubt, many other essential points which should be carefully considered by prospective orchardists or gardeners, which need no mention here. In this work, as in all other lines, experience is the most reliable teacher in most of its branches. But every one cannot afford to experiment on location and site, as it would entail the loss of too much time and money. Hence the better way is to profit by the experience of others and take caution concerning the location and site of a fruit farm or a market garden.



Results of Spraying.

Even in these days, many farmers and fruit growers still are doubtful about the practical results to be had from spraying. This, however, is largely due to the fact that many of them have sprayed at one time or another and no noticeable success attended their labors, chiefly because it was not done properly. In order to give returns in dollars and cents, this work must be done thoroughly, intelligently, and systematically. When so done, with due regard for the life histories of the insects and fungi to be combatted, the man who sprays is amply repaid for his time spent and money invested. Many fruit growers have satisfied themselves

by tests in their own orchards, and, in fact, no one can doubt it if he takes the trouble to compare the crops from orchards which have been thoroughly and properly sprayed, with orchards which have been left open to the ravages of insects and fungi.

The past season has been extremely favorable for both insects and fungi, and so many opportunities of observing the good results from practical spraying have presented themselves. With this object in view, three orchards, in a good district, and on practically the same kind of soil, were kept under observation throughout the season. In each case the orchard consisted of young trees—apples, pears, plums and peaches—and had received the same cultivation. In short, they were treated the same in every way, except with regard to spraying.

Orchard number one was not sprayed at all. Orchard number two was sprayed in a careless, haphazard way, whenever the owner could spare the time. Orchard number three received thorough sprayings, at stated intervals, great care being taken each time. The first spraying was with sulphur and lime, just as the buds were swelling. At the second spraying, just before the blossoms opened, a mixture of sugar of lead, white arsenic, bluestone and lime was used. The third application was given after the blossoms fell, and consisted of the same mixture as the second. Two more similar sprayings were given within the next six weeks.

From time to time during the summer these orchards were examined and the differences noted. Not a plum was harvested from orchard number one. The fruit was stung by the plum curculio and the foliage badly damaged by the shot-

fungus. The peach leaf curl destroyed the peach foliage, and the greater part of the fruit succumbed to the brown rot. At least 40 per cent. of the pears were cracked and disfigured by the scab. The total apple crop was very good, but the fruit small and scabby, and only classed as very poor quality. The scab was most noticeable on the Snows, Greenings and Spies, but no variety was free from the fungus.

Orchard number two gave somewhat better results. About one-third of the plum crop ripened, the remainder having been destroyed by the curculio or the brown rot. Some shot-hole fungus was present, but not enough to do serious damage. Very little curl appeared on the peach trees, but a considerable part of the fruit was destroyed by the brown rot. About 30 per cent. of the pears and apples were free from scab.

However, it remained for orchard number three to demonstrate the great benefits which may be derived from the proper use of spraying mixtures. In it fully 95 per cent. of the plums were harvested. There was practically no curculio or brown rot, and the shot-hole fungus was scarcely noticeable. The peach crop was about number one, very little damage having resulted either from the curl or the brown rot. The pears and apples, though slightly affected with scab, gave 50 to 80 per cent. clean fruit. As much as 70 per cent. of the total crop would class as number one.

These results are in themselves almost conclusive proof that it pays to spray, but they were not the only ones observed during the past season. Experiments were conducted by the Dominion Department of Agriculture in the spraying of apple orchards. These experiments were carried on in West Oxford,

near Ingersoll. About 2,000 trees in that district were sprayed systematically before the buds opened, and then three times after the fruit had formed, at intervals of about two weeks.

In September a comparison was made between the fruit from these trees and that from unsprayed orchards in the same section. In the first orchard examined the trees were too close together to permit of thorough spraying, but good results were shown, as from 70 to 90 per cent. of the fruit was free from scab. In two more orchards examined similar gratifying results were observed. Then an orchard which had not been sprayed was subjected to inspection. This orchard had been well cultivated and was then in clover for a cover crop. The apples were small and scabby, and of very inferior quality.

Those who were present expressed their satisfaction, and all were fully convinced that careful, up-to-date spraying of orchards is practically essential to success in fruit growing.

There was a time when Ontario fruit growers did not need to spray, but observations such as the two here described show conclusively that that time is no more. Both insects and fungi must be fought manfully each year if Ontario is to hold a high place as a fruit-producing country.



General Observations on Fruit Packing.

Ontario is recognized as one of the leading fruit provinces of the American continent. The flavor, color, and long keeping qualities of our fruit are unsurpassed. Why then does not this excellent fruit bring better prices when placed on the open market? Those who are

acquainted with and who handle fruit from California and British Columbia, tell us that our weakness lies in the grading and packing.

The lack of uniformity in grading fruit is largely responsible for the low price which our fruit brings when in competition with that from California and British Columbia, where great care is exercised in assorting fruits to specific grades and sizes.

Fruit as now packed and shipped is a very poor advertisement for our country. Just so long as we continue in this haphazard method of packing, so long will our fruit be outclassed by those sections which pay particular attention to careful selection and grading of their product. Let us, therefore, grade our fruit so that it cannot be surpassed by competitors and make it a credit to Ontario. Steps towards this end are being taken in some districts. Co-operative shipping companies have been organized by means of which fruits are handled without the agency of the local buyer. This is a step in the right direction. A step farther is necessary before even these corporations can be ultimately successful. That step is the establishment of a central packing and grading house. To this house all the fruit is brought as picked by the growers and is sorted by unprejudiced hands. Each member's fruit is graded separated, and credit given for the quantity of each grade. In this way the grower who furnishes good fruit will get more for his product than the one who supplies only an inferior grade.

By following this plan of packing, a uniform grade may be established which in a very short time will make for itself a name in the markets and a ready sale

can always be found for strictly honestly packed fruit.

As an example of what uniformity in grading and careful selection of individual fruits will do, compare fruit shipped from California with that from Ontario. We never need to admit that Californians can surpass us in the quality of our fruit, but when it comes to packing and marketing they are far in advance.

For those living in sections where large quantities of fruit are grown the question of erecting a central packing house need excite no adverse criticism. The cost of having the work done by skilled workmen all under one management is much less than having it done in a much less efficient manner on many farms where each foreman has his own ideals. Although many men consider that they are following closely the instructions of the Fruit Marks Act, they may be putting up an entirely different grade from that of their neighbors who think they are following the Act to the letter.

Uniformity in grading and packing is necessary to success in fruit marketing. Closely connected with these is uniformity of the package containing the fruit. Each class of fruit requires a special kind of package. Let the package be whatever style you wish, but have some definite size for each form. At present each factory has a shape and size of its own. When these odd sizes are placed on the market the general appearance is ruined and much confusion results from the misunderstanding between buyer and seller. With a uniform size of package this trouble will be avoided. Let us have a uniform standard and compel all factories to make that size and not something "about the same".

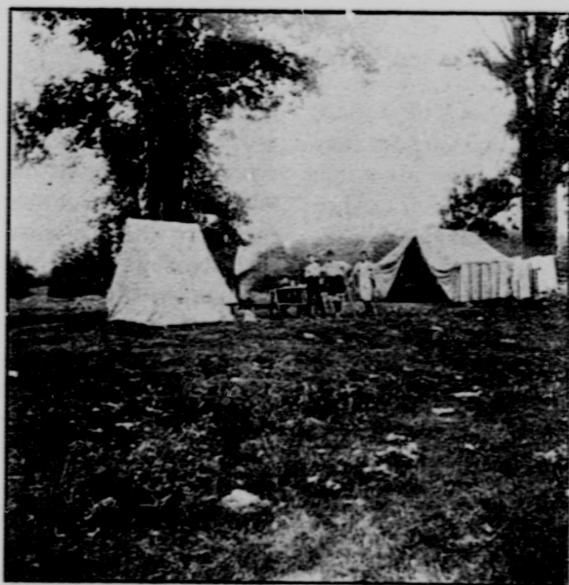
With the establishment of a uniform

size of box will come some definite system of packing. The old method of facing the top of the box or barrel and then filling up in a promiscuous manner with fruit of various grades and sizes must soon become obsolete. In order to secure the best results each fruit should be placed in the box separately and in some definite order. Notice the way the fancy fruits on our markets are arranged in the cups and boxes. Compare these with the shiftless mass in the boxes and

baskets alongside. Which attracts the eye of the buyer? The answer is too evident to require explanation. Now if this fruit can be so carefully packed and shipped long distances at a profit, how much more would it pay to carefully pack and grade the fruit which is near the market.

The great needs in successful packing are uniformity, neatness, good quality and honest work.

H. S. PEART.



The O. A. C. Review

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Editorial.

Perhaps no feature of the entire College course is of more importance than the work in stock judging, and in no other part of our work is more persistent effort needed to acquire proficiency. It is only by steady practice and by constantly keeping before the mind an ideal of perfection that the student may ever hope to become a competent judge. In addition to the work of the class-room, every available opportunity should be seized to acquire further practice, and it is here that the work of the stock-judging contest, approaching, as it does, more nearly to the actual conditions of the show-ring, proves an invaluable aid. In an event of this kind the student is put upon his metal, and he acquires that degree of self-confidence that enables him to hold his own in the judging ring against the persuasive logic of interested parties. It is

STOCK JUDGING.

the practical educational value of this work that has made it such an attractive feature of our leading exhibitions. In this connection it is interesting to the students of our College to note that the management of the Guelph Fat Stock Show contemplates the addition of a stock-judging contest to this year's programme. It seems more than strange that a show such as this, which has always striven to develop the educational side, should have been negligent in this important matter. However, it is never too late to mend, and we gladly welcome the prospect of the change. By all means let us have the stock-judging contest, with big entries and a high prize list, and we feel certain that our boys will not fail to demonstrate once more, as they have so often done in the past, the benefits of systematic training in the judging of live stock.

"All work and no play makes Jack a dull boy," is an old truism that time has not changed, nor human progress altered. Dull, monotonous plugging is conducive neither to high class standing nor to that all-round development of the mental, moral and physical qualities so essential to the successful man. Amusement and recreation are essential, and it is in this connection that we desire to say a word in support of that too often hastily condemned practice of theatre going.

Shakespeare has said that all the world is but a stage, and we are actors, and so long as this statement remains true so long must the good play remain a strong educational factor. We do not know that the theatre makes for righteousness, that is a polemical controversy which we may leave for others to decide, but we believe that it leads to a broader and fuller conception of life, and in that it well deserves support. We study the plays of Shakespeare, then why not secure a deeper impression by seeing them acted upon the stage? Mention is made of this author because his works are more familiar to the O.A.C. student, but many others could be mentioned almost equally worthy of note. Certain it is that the stage illustrates many of the lessons of life, and to the student of our College we unhesitatingly say, break away occasionally from the maddening books, take an odd night off, and sometimes take in a good, wholesome play at the Guelph theatre.



In its October issue the Canadian Magazine calls attention to the large

CANADIAN PERIODICAL LITERATURE.

number of American periodicals that, in an ever increasing stream, are finding their way into Canadian homes, and suggests that a duty be levied as a measure of protection to the Canadian producer. That this evil exists, if evil it may be called, is only too apparent. When our Literary Society selected the magazines for the library reading-room, the list contained eight American and only one Canadian publication. Yet the selection was carefully made, in fact, just such a choice as would be made by any intelligent party of young men. The fault was not in the committee, but in the fact that Canadian periodical literature is practically non-existent. In our own city of Guelph, which is as loyal to Canadian institutions as any place within the confines of the Dominion, we find the same state of affairs. One bookseller recently stated that he sold four hundred American magazines per month, but he did not handle any others, as the demand was so small. This is not a local but a national condition. In bookstores, on trains, in hotels, wherever magazines are sold or read, the Canadian production is conspicuous by its absence.

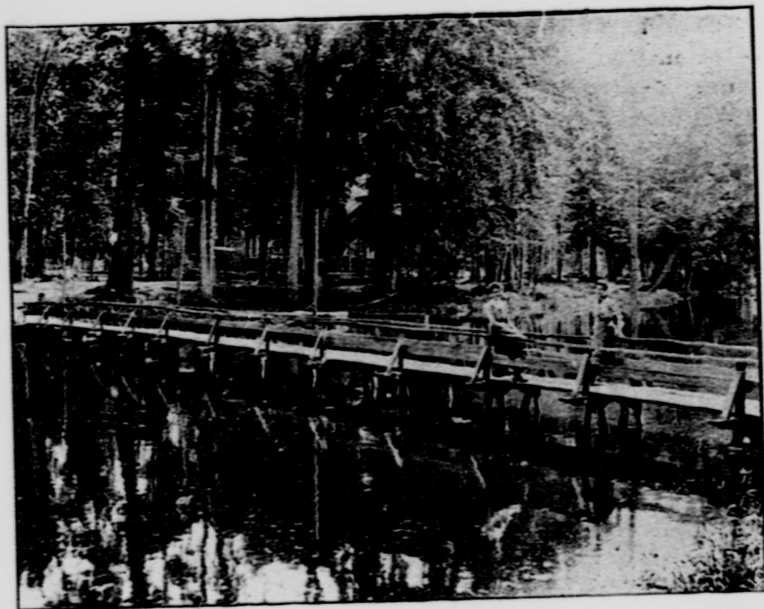
This seems all the more strange when, in other parts of the journalistic field we are so well abreast of the times. We have daily papers that are equal to the best; our religious and agricultural journals are second to none; but in the field of the popular magazine our efforts so far seem to have ended in failure.

What is the remedy? Would a duty of 25 per cent. prove a saving potion? We fear it would not. The demand

for the popular American magazine is too strong to be checked by a two cent addition to the price. The real remedy must lie in an awakening of our large publishing houses to the possibilities of this field. Here is an opportunity for Canadian brains and

ability. The demand exists. We can produce in Canada as good a magazine as can our friends across the line. Who will be the leader in the movement?

WANTED—A man, to build up a popular Canadian magazine.



Our Old Boys.



An ex-Student's Home.
The Residence of "Bill" Dryden, Brooklin, Ont.

A. M. Soule, '93, who, shortly after graduating, accepted the position of Director of Experiments with the University of Tennessee, has since been lured to Blacksburg, Virginia, by the offer of a more lucrative position. He now assumes the duties of Director of the Experiment Station and Dean of the College of Agriculture for that State. Success to Prof. Soule.

At present, J. R. Varcoe, '02, is farming near Carlow, Huron County. His happy, smiling face is an indication that farm life is agreeing with him.

Geo. W. Elliott, '00-'02, is assisting his father on the farm, near Cathcart, Ontario. He is especially interested in dairying, and finds that the associate

course has been very helpful to him in his work.

L. H. Newman, '03, who was engaged last year by the Department of Agriculture, Ottawa, in collecting samples of weed seeds, has been appointed Superintendent of the work of the Seed-Growers' Association in Ontario. He will govern the work of those members of the Association who are engaged in growing seed, and look after the interests of the Association in general. No doubt his work will bring him often to Guelph, as not all "Len's" interests are centered in tares.

W. C. Good, who was formerly Demonstrator in Chemistry at the

College, is at present farming, very successfully near Brantford, Ontario.

V. A. Hooper, of the Dairy Class of 1900, is another of the O. A. C. boys who is making "marks" across the "line." He is now at the head of the Dairy Department at the Agricultural Experiment Station, at Fayetteville, Arkansas. We predict a successful future for Mr. Hooper, and shall watch his career with much interest.

We are very pleased to learn that C. M. MacRae, '04, who has been spending the summer at Gravenhurst, Ont., has quite regained his health. Diligent study, along with a serious attack of la grippe, left "Mac" at the end of the year quite unwell. We trust, however, that his health will soon permit him to take his "Second Degree."

James Murray, B. S. A., '02, who has been connected with the Department of Agriculture, Ottawa, will superintend the work of the Canadian Seed Growers' Association in Manitoba and the North-West.

Tommy Lloyd-Jones, '99, is at present engaged in farming near Burlington Ont. He makes a specialty of Shropshire sheep, and among his flock are to be found many prize-winners at our leading shows. A small herd of pure bred Galloways is also kept.

A short distance from the shores of Lake Erie, near Gravesend, L. D. Hankinson, '01-'03, is putting into practice the principles which he learned during his associate course.

Away down on the eastern coast of Canada, where the Atlantic washes against the shores of Cape Breton, Percy Manchester, '02-'04, is managing a large farm for Mr. Bell, of Telephone fame. When Percy arrived in the spring the condition of the farm was rather discouraging, but under his skillful management, aided by the knowledge gained from his associate course, the farm is rapidly showing signs of improvement. His address is Baddeck, Cape Breton.

On a large farm near Paris, Ontario, "Loopy" LaPierre, '03, is engaged in general farming. He is putting into practical operation the ideas which he learned at the O. A. C. It is by doing as well as talking that "Loopy" is convincing his neighbors of the utility of the College course.

John Taylor, '02, formerly of Todmorden, Ont., is now operating, very successfully, a dairy a few miles from Toronto.

T. Herbert Lund, '06, after working for the summer at the Model Farm Creamery, Compton, Que., under H. Weston Parry (Dairy School, '02), is now spending a few months in the North-West, previous to returning to Guelph for the Dairy course, in December. At present he is staying with "Spider" Barber, '05, near Yorkton, Assa., N. W. T.

N. F. Wilson, '97, has accepted the nomination for Federal honors from the voters of Russell County, Ont. We wish him success, for Parliament certainly needs more men interested in agriculture.

We frequently hear it stated that the O. A. C. takes a leading position among the Agricultural Colleges of the world, as an institution for the training of young men in the different phases of practical and scientific agriculture. No stronger evidence of this is needed than the fact that graduates of this College occupy honorable and important positions in various parts of this terrestrial sphere. There is a demand for good men, qualified to discharge important duties, so we find many of last year's graduating class already occupying positions of distinction.

Dewar and Galbraith have accepted positions in South Africa. Dewar has charge of the Entomological work in the Orange River Colony, while Galbraith has charge of the Experimental Farm. Cutting went to the Argentine Republic, with his class-mate, Pabelo, and is engaged in horticultural work. Hamilton also went to the Argentine Republic.

Readey is in P. E. Island, and is Secretary of Agriculture for that Province.

Pickett continues as Secretary to President Creelman.

Arkell is now Lecturer in Animal Husbandry at the Ohio State University.

Rivett is engaged in horticultural work in a Polytechnic School in Alabama.

Bray is Assistant in Animal Husbandry in the Mississippi Experiment Station.

MacRae was appointed Lecturer of Animal Husbandry in the Maryland State College, but was obliged to resign on account of ill health.

Fulmer is now assisting in the Chemical Department of the O. A. C.

Gunn has charge of a Cold Storage plant in the city of Montreal.

Henderson is employed in the Farm Department of the College.

Of the other members of the class we cannot speak definitely, but they are doubtless engaged in useful vocations, upholding the honor of their Alma Mater.



Book Reviews.



THE Feeding and Management of Live Stock, and Grasses and How to Grow Them are two books written by Prof. Thos. Shaw, formerly Superintendent of the O. A. C. Farm and now Professor of Animal Husbandry at the University of Minnesota.

The first mentioned is neatly and concisely arranged in a series of thirty lectures, each dealing with some important factor in the successful raising of Farm animals.

The selection and care of animals of the different breeds are discussed at length, as is also the fattening and finishing of animals suitable for the block test.

Eight chapters are devoted to Feeds, Feeding, and general preparation of food as many more to the rearing of the different kinds of cattle, while the remainder of the book describes in a clear and careful manner the most efficient methods for good results with swine, sheep and horses.

In his book "Grasses and How to Grow Them," Professor Shaw has departed from the all-prevailing custom of treating grasses from the standpoint of the botanist only and has written a book which takes up the economic grasses of America in orderly and comprehensive succession and points out to the farmer the best way to grow them. All the grasses at present found in the United States and Canada, as viewed from the standpoint of the needs of the stockman and farmer, are discussed in a logical and

lucid manner, and throughout the work the writer has aimed at a discrimination between the important and unimportant in economic grasses.



Vegetable Gardening is a Manual on the Growing of Vegetables for Home Use and Marketing, prepared by Samuel B. Green, Professor of Horticulture in the University of Minnesota. The sixth edition, containing 123 illustrations, has just been issued by the Webb Pub. Co., St. Paul, Minnesota.

The book contains 250 pages, divided into eight chapters, each dealing with a special feature of Olericulture and is so arranged as to be intelligible to a casual reader. Practically all the known vegetables are dealt with and the most successful means of raising them are shown on the basis of many years experience.

Soils, manures, tillage and implements of cultivation are all discussed, as well as the advantages and disadvantages of the various methods and conditions.

A whole chapter is devoted to Seeds and Seed Growing and a classification of the different vegetables, with a table of the longevity of their seeds complete the volume.

The three books mentioned above are published by the Webb Publishing Co., St. Paul, Minnesota, and may be ordered direct from the Company or through the Review.



A First Book of Forestry is the subject

of a very excellent work by Filbert Roth, Chief of the Division of Forestry, U. S. Department of the Interior.

The book is written to meet the growing interest in Forestry in all parts of this and other countries, and while no pretention is made by the author to make the work a text-book, yet the general principles underlying the science are put forth in a clear and somewhat detailed manner. Illustrations are freely used to make easy any technical terms that may be used in connection with the many features of tree growth and forest thrift.

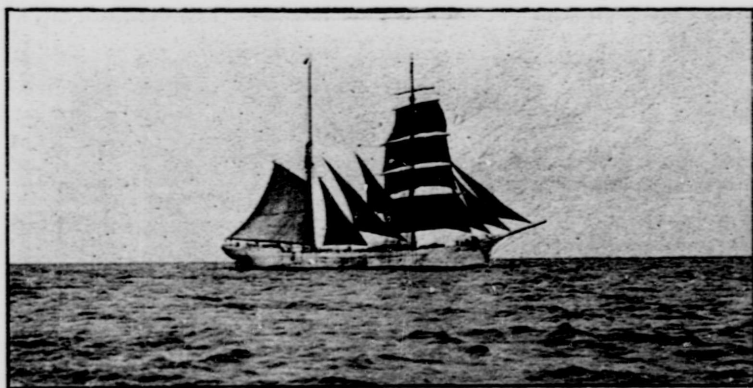
Special attention is paid to the selection and care of seed as well as to the starting of the young tree. A well arranged key to the common trees, with instructions for its use is also supplied by the author and in all the book contains almost 300 pages. The work is recommended by all who have studied it amongst whom is

the Professor of Horticulture of this college.

Published by Ginn & Co., Boston, U. S. A.



The Trust Company Idea and its Development by Earnest Heaton, B. A., a member of the Ontario Bar. Price one dollar. This is a new publication that has recently found its way to our table. The book is particularly attractive in its make-up and discusses the new development in quite a logical manner. It is possible that the author has been too lenient in some things; the system is not without its faults, but the work is attractive in many ways and we advise a careful perusal by all those having money to bequeath and a desire to leave it in the hands of competent and safe administrators.





MRS. SARA CRAIG.

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College Life.



ON Sept. 13th the doors of the O. A. C. were again thrown open. Freshies Sophomores, Juniors and Seniors stood before our worthy Secretary and duly recorded each his pedigree and moral standing. It was a day looked forward to with the keenest of interest, and truly it feels good to be back again in the old familiar halls to drink in the beauty of our unexcelled campus, surrounded with its stately trees and its profusion of shrubs; back again to the foot-ball and the speech-making; to the tappings and the mid-night feasts; to the spirogyra and the microbe; the nine cent cheese and the car-loads of beef; best of all back to the hearty hand-clasp of many a college chum, and the generous greeting from our Professors. These are joys that the Freshmen miss, but their place is amply filled with feelings new and strange. He walks about as though he were in the wrong house and is ever afraid of offending his betters. It is not long however before these men are imbued with the college spirit. We welcome them to our ranks.

Each year as we return to work, we find certain improvements have been effected, and this year was no exception to the rule. The sanitary and domestic arrangements of the college have been completely remodelled. We now have a set of shower and sponge baths that are modern and up-to-date. In the kitchen we have a new range with a 225 people capacity. A steam carving table and a large plate warmer have also been added, allowing of individual service in the dining hall. (Strange to say with this arrangement we use a half a side of beef less a week). Large tea and coffee urns form part of the new equipment. The old pantry has been turned into a bakery with a first-class baker in charge, so that we now have our bread and biscuits manufactured on the premises. All the domestic apartments have been refloored and repainted.

In the gymnasium the lockers in the basement have been removed and a cement floor laid down; the swimming tank has been lengthened by about 15 feet and now forms a commodious spot for this favorite sport. The dairy barns and the creamery room have been supplied with cement floors. The creamery is no more a double-decker, but the machinery is now all on the one level greatly facilitating the work in this department; also an engine has been placed in this room doing away with the old rope drive from the dairy department.

Of course during the summer months the Professors and their assistants are not by any means idle. Each department is overflowing with work, and investigations are carried out along many lines. Not only are they doing things themselves but they are studying the methods of work elsewhere, thus fitting themselves for more efficient work. We believe this is as it should be, and that the professors should be allowed as much time as possible to visit institutions elsewhere.

During the summer Professor Day, together with the Hon. John Dryden, spent about nine weeks in Europe, studying the conditions of the English market and in comparing the Canadian products with the products of other countries, on this market, with special reference to beef, bacon and butter. He also visited many Danish farms and saw something of where the raw material was produced. While in England and Scotland Mr. Day and Mr. Dryden purchased some pure bred stock from some of the best breeders in the home of the Hereford and the Shorthorn. With animals from the herds of such men as J. Dean Willis of Bapton Manor, Wiltshire, England; John Tudge, Hertfordshire, and Col. W. S. Ferguson, Perthshire, Scotland, there ought to be a decided improvement in the college herds. The cattle bought consisted of a Shorthorn heifer, two Hereford heifers, an Aberdeen Argus bull and a three year old Aberdeen Angus cow. The sheep bought consisted of six Leicesters and six shearling Shropshires. We hope in the near future to have an article from the pen of Professor Day descriptive of his trip.

Professor Gamble, of the Chemical Department, was also in England during the summer, and while there looked into the conditions of the canned fruit trade.

During the first part of June, Mr. W. H. Day, of the Physical Department, spent some time in Wisconsin, Iowa and Illinois, studying investigations in soil physics. Professor Reynolds has carried out an extensive experiment in shipping tender fruits of Ontario to the western markets by freight. Two cars of fruit were taken to Winnipeg, Professor Reynolds himself stopping along the road to thoroughly examine the fruit. The cars used were a Hanrahan car and a C. P. R. refrigerator car. Both of these cars of fruit were placed on the market in excellent condition.

And so, all along the line the motto is progress—"No Day Without a Line." With such an equipment of machinery and men as the Ontario Agricultural College now possesses, and under the leadership of a man enthusiastic in the work, we look forward to great things from the O. A. C. We expect her to keep that place which she has so hardy earned, the acknowledged peer of any Agricultural College in the world.

The sad part of our home-coming this year was the certain knowledge of the near departure of our worthy matron, Mrs. Craig. For fifteen years, as the students have returned to the College, or entered the doors for the first time, they have been greeted by her friendly countenance. To those of us who have known Mrs. Craig, it will seem strange indeed not to have her amongst us. We cannot at this time speak too highly of her services to the institution and to the boys, during this long term of office. Few indeed realize the work and worry connected with the smooth running of a house containing 200 men; the whole burden of the household cares has rested on her shoulders and cheerfully and well has she carried them. Her place will indeed be hard to fill. But the boys will miss Mrs. Craig in many other ways. To the home-sick student she has been mother—to the boy in the hospital a nurse, faithful and thoughtful. Little acts of kindness, that the many do not see but which are none the less appreciated, she has scattered amongst us, and we ourselves yet hardly realize how much we shall miss her. We know that it is as hard for Mrs. Craig to leave us as it is for us to part with her; but we also know that a mother's first duty is to her own, and Mrs. Craig has a son of whom the

College, as well as herself, is justly proud. Mrs. Craig carries to her new home the best wishes of all who have come in contact with her, both officers and students. We trust that she will often find it convenient to visit us in the future, and we assure her that there is always a warm welcome for her amongst us.

Mr. Roland Craig, her son, is now connected with the Forestry branch of the Dominion Government and he and Mrs. Craig will in future make their home in Ottawa. On the evening of September 29th, the members of the staff assembled at the home of Prof. Day to do honor to our departing matron. The wives of the married members graced the occasion with their presence. An appropriate address was read by Prof. Lochhead, and Prof. Harcourt, at the proper time, presented a purse of gold on behalf of the staff.

On the evening following the students assembled en masse in Massey Hall and presented Mrs. Craig with a silver tea set, in slight token of their esteem. Mr. C. W. Esmond presided and in a neatly turned speech introduced Mr. F. C. Hart, who made the presentation and read a short address, signed by the four presidents of the years:—R. W. Wade, F. C. Hart, J. W. Kennedy and J. E. Smith.

To both of these assurances of esteem from Professors and men, Mrs. Craig made feeling replies, thanking them for their kindly wishes and expressing regret at parting with old friends and associates.

We are as yet unacquainted with our new matron, a condition of affairs which we hope will soon be remedied. We assure Miss Nelles however, that she will have the sympathy and help of the boys in her arduous task. She comes to us highly recommended, having successfully filled a similar position in a number of other institutions. The fact that she was last employed in a hospital for the insane, is, we think, particularly appropriate, and we feel sure that Miss Nelles will feel perfectly at home amongst us.

We have with us this year two new men on the staff of the Biological Department. Wm. V. W. Jackson, the senior demonstrator in Biology, became connected with that department about August 1st, and Mr. J. W. Hagan some

time later. Both of these gentlemen are eminently fitted for their work, Mr. Jackson being an honor graduate of Queen's University in Botany and Biology, and Mr.



MISS NELLES,
Our New Matron of the O. A. C.



WM. V. W. JACKSON,
Senior Demonstrator in Biology.

Hagan, the Gold Medalist in Animal Biology, of the same University. With some six years experience in teaching, they ought to be well qualified to tell us something of what they know. We extend to these gentlemen a welcome, and assure them that their efforts to acquaint us with all the intricacies of plant and animal life, will not be lost on our young and receptive minds.

We regret to say Mr. Hagan's photo arrived too late for this issue.

The live stock judging competitions at the Toronto Exhibition were keenly contested this year. In some sections as many as forty competitors entered the ring, and fully two-thirds of these were students or ex-students of the Ontario Agricultural College. A glance at the successful competitors will show that our college is certainly a practical one.

The results were :

DAIRY CATTLE—1, R. H. Williams ; 2, James Ferguson ; 3, James McKenzie.

BEEF CATTLE—3, R. H. Williams.

SHEEP—1, R. H. Williams.

BACON HOGS—1, R. H. Williams ; 2, D. H. Jones ; 4, W. J. Lennox.

GENERAL PURPOSE HORSES—3, H. Mayberry.

It will be noticed that in the five classes R. H. Williams, one of our senior men, took three firsts, and the third in Beef Cattle. This tells more eloquently than words the practical value of a college education.



Prof. Dr. Weigmann, Director of the Experiment Station, (Versuchsstation und Lehranstalt für Molkeriwesen) of Kiel, North Germany, visited the Bacteriological Laboratory last week. He represents the Minister of Agriculture for Germany and intends visiting St. Louis Exhibition, as well as various dairy schools and experiment stations in the United States.

Dr. Weigmann is one of the leading dairy investigators in Europe, and his bacteriological investigations of dairy subjects are looked upon as authoritative.

College Choral Club.

In the early part of May a Choral Club was organized for the development of musical talent at the College. The first recital was given in the Massey Hall on Tuesday evening, July 19, when the following programme was rendered:

Opening remarks—Honorary President, G. C. Creelman.
 Chorus—"A Slumber Song"—Members of the Club.
 Piano Solo—"Fifty Nocturni"—Mrs. Harrison.
 Solo—"A Japanese Flower Song"—Miss Springer.
 Duet—"Life's Dream is O'er"—Mr. Buchanan and Miss Green.
 Solo—"Alone in the Desert"—Mr. de Coriolis.
 Chorus—Scotch Songs—Members of the Club.

INTERMISSION.

Piano Solo—"Oraviata"—Mr. Peltzer.
 Solo—"The Last Flaggon"—Mr. Lorne Knowles.
 Duet—"The Fisherman"—Miss Springer and Mr. de Coriolis.
 Solo—"Abide With Me"—Miss Green.
 Chorus—"Good Night"—Members of the Club.
 Mrs. Harrison acted as accompanist for the evening.

The officers of the Club are:—

| | | |
|--------------------|-------|---|
| Honorary President | - - - | G. C. Creelman. |
| President | - - - | Tennyson D. Jarvis. |
| Secretary | - - - | J. Buchanan. |
| Pianist | - - - | Mrs. Fuller. |
| Committee | - - - | H. G. Bell, Miss Springer and Mrs. Fuller. |

The Club supplies a choir for music at the Sunday afternoon services, and they will also be pleased to furnish music for any other College function.

The next open meeting of the Club will be given in the Massey Hall, on Friday evening, November 18th.



The Panton Club.

The objects of this Club are, first, to discuss problems in Science, deeper than it is possible to go in the class-room lectures, and, second, to afford the students and officers a better chance of becoming acquainted. Meetings are held from time to time, and the officers of the College and students of the 3rd and 4th years are cordially requested to attend. These meetings, of which due notice will be given, will be found helpful and interesting.

The Late Dr. W. H. Muldrew.



THE announcement, on the afternoon of Friday, October 7th, of the death of Dr. Muldrew, Dean of the Macdonald Institute, came as a great shock to the College and the city. Many were unwilling at first to believe the report, for but thirty-six hours before they had seen him, a strong, sturdy man, in the best of health, hard at work with his classes in the Institute. But the report was all too true. He fell a victim to that fell disease, diphtheria.

The late Dr. Muldrew was born on the 25th July, 1867, in Hope Township, County of Durham, and spent his early years on the farm—the very best training ground for youth. Fond of outdoor life, he grew up sturdy, strong and athletic. On the farm he formed that acquaintance with nature which gave the bias to his life's work. He attended the High School at Port Hope, and there secured his teacher's certificate. He taught in a rural Public School for a few years near Rice Lake, then studied at Woodstock Collegiate Institute for a short time, where he secured his First-class Certificate. He then attended the Training Institute for High School Teachers in Owen Sound. His first High School experience was gained at Madoc High School, where he taught as Science Master for three years. During this time he prosecuted his College studies so well that, after an attendance of less than half a year at Queen's, he was able to take his degree of B. A. with honors in mathematics. His next position, in 1894, was as Science Master in Orillia High School. In July of this same year he married Miss Jennie Rollins, of Madoc, and in October was appointed Principal of Gravenhurst High School. There he remained for nine years, until invited by Dr. Mills to become Dean of the Macdonald Institute here. In May, 1899, while in Gravenhurst, he obtained the high degree of Doctor of Pedagogy from the University of Toronto.

It is needless to say much of Dr. Muldrew's work at the Macdonald Institute. Perfectly familiar with modern educational thought and its trend, he was eminently qualified to grapple with and solve the great problem which Sir William Macdonald had given the Agricultural College in the Macdonald Institute. He saw clearly the educational value of Nature Study, Manual Training, and Household Science, and was in hearty sympathy with the aims of Sir William that these subjects were to be important factors in the improvement of rural schools and rural communities.

As a teacher, Dr. Muldrew was almost without an equal, calm, clear, kind and inspiring; as an administrator and leader he was tactful and thoughtful of others; as a student he was hard-working, systematic and logical in his work, and keenly observant; as a friend he was true as steel, unassuming and thoroughly unselfish.

In his home Dr. Muldrew was thoroughly plebeian, and ideally simple in his manners. It was there that he was to be seen at his best. His children were his most intimate friends and his companions in the leisure hours when he was free from the duties of his profession.

By his death the College loses a great teacher and a friend beloved by all who knew him, and most beloved by those who knew him best.

The sympathy of the whole community goes out to his bereaved wife and family.

. . Etchings from . .

Macdonald Hall.

Who are we ?
Who are we ?
Macdonald girls
Of the O. A. C.

Macdonald Hall is now a reality ! Thanks to the generosity of Sir William Macdonald, Guelph has become the centre of the Domestic Science enterprise for the Dominion of Canada.



Monday evening we had quite a delightful tea party. The guests included President and Mrs. Creelman, Mrs. Hoodless, and Dr. and Mrs. Mills.

Before leaving the dining-room, Dr. Mills and Mrs. Hoodless addressed the students, giving a few words of kindly advice. They enthusiastically spoke of the pleasure it afforded them to be present, and their gratitude at seeing so many girls enjoying the advantages placed within their reach, through Sir William Macdonald's generosity.

The guests made a tour of the buildings, and a thoroughly happy evening was spent.



There must be, to the mature and experienced mind, something at once interesting and delightful in the observation of the frank and youthful natures of the Junior Normals. The ingenuous wonder and delight of these young creatures

over all that meets their gaze is something charming. To the Junior Normals everything is delightful. They investigate the cupboards of the school kitchen with all the joyous ardor of a Columbus exploring new lands. They stick their fingers into the flames of their little stoves to see if it will burn them ? and one of these dear girls, on being shown the tiny burner of the gas range, clasped her hands, exclaiming, "Oh, how cute !" They parade to the Chemistry building with modest mein and downcast eyes, and only when entrenched behind a fortification of bottles, the formulae of whose labels fill their minds with awe, do they dare to covertly peek around at the masculine forms opposite. Long may the Junior Normals show the same commendable innocence !



Universal sympathy is felt for our friend of the O. A. C. whose hat developed *speed-y* tendencies on the evening of October 5th,

"And he was left lamenting."



One of Erin's fair daughters :—
"You know, girls, when I was in the Reformatory,—"



Nearly forty students, representing the five Provinces, Ontario, Quebec,

New Brunswick, Nova Scotia and Prince Edward Island, are taking the short course in Nature Study at the Macdonald Institute. This first class of Nature students is a promising one. Their motto seems to be,

"Come forth into the light of things,
Let Nature be your teacher."

Much of their time is given to excursions and field work. Judging from the number and variety of specimens collected, they have made a good start on their term's work.

On Wednesday, October 4th, the classes in Nature Study and Manual Training, together with Dr. Muldrew and Mr. Jarvis, discussed the advisability of forming a literary society, which would devote itself principally to literature bearing directly on the work of these classes.

It was unanimously decided that it would be beneficial, and a temporary committee was formed to draw up a constitution. Mr. Jarvis was appointed convener, and represents the Faculty; Mr. Runions represents the Manual Training classes; the Nature students' representatives are, Mr. Blacklock, Ontario; Miss Ingalls, Quebec; Mr. Ackland, Prince Edward Island; Miss Spurr, Nova Scotia, and Miss Mulherrin, New Brunswick.

At a demonstration of the best method of changing an invalid's sheets without disturbing the patient—the sheet came off beautifully, but, alack!—so did the patient.

Chemistry Professor—working out an intricate reaction—"Three times two are six, and one is *four*."

A Picnic to Elora.

On Saturday last Miss Robarts very kindly organized among her Domestic Art pupils an excursion to the far famed Elora Rocks. Promptly at the appointed time, nine forty-five in the morning, a bevy of gay, chattering girls assembled in the main corridor, but thanks to the usual tardiness of *man*, it was half past ten o'clock ere we were gladdened by the sight of our van. We immediately pack ourselves into it like sardines, and in another minute are off for our drive.

Unfortunately the wind is terrific and somewhat delays our progress as one fair maid after another must needs alight from time to time in search of hat, veil, switch or wig!

But such trifles dampen our ardor not a whit, owing perhaps to our most efficient and entertaining guide, who enlivens the occasion with many choice anecdotes and clever imitations of various characters.

On arriving at the Rocks, even their surpassing beauty is insufficient until our ravenous appetites have been appeased. Accordingly a number of us set to work in a veritable Domestic Science manner, and in a short time we are all gathered around the festive board. After a delicious luncheon has been partaken of in a great cave, well sheltered from the wind, Miss Robarts takes a snap-shot of the whole party, and then we set forth in various directions to explore.

The rocks are certainly an ideal spot, and one is surprised at every turn by scenes of well-nigh matchless beauty. Here the river flows rapidly between great banks rising sheer on either side; there, are cliffs beautifully wooded, all gay in their autumn garbs of many colors; while still further on a lovely water-fall bursts upon our view, which

for rare beauty might be called a miniature Niagara.

But now old Sol warns us that it is high time to return to our appointed meeting place and we must perforce tear ourselves away from the enjoyment of scenery of which we Canadians may justly be proud.

A picnic however, as everyone knows, is no picnic without one race at least. So quickly a dozen of us take our places, and amid much merriment, speed over the ground as swiftly as it is in our natures to do. There are, of course, several mishaps en route, which but add to the general fun and then wee, small *Brantford* spurts ahead and in a twinkling has touched the goal. A perfect hubbub of applause greets the winner and she is literally carried to receive the coveted reward—a truly domestic science gift—a silver thimble.

A tug-of-war is next arranged and needless to say the girls most eagerly chosen by the foxy Captains are those most bountifully blessed with *avoirdupois*! Each side pulls its best, while the air resounds with cries of encouragement

from the spectators. For some moments the result is doubtful. Then slowly but surely Captain Hoodless' band gains ground; their opponents are seen to waver slightly, and finally are pulled over the line! Bedlam reigns! At length our chief restores some sort of order by presenting the conquerors with a prize, singularly dear to the majority of girls—a box of sweets to which we all do ample justice.

The drive home is a delightful one, at least to *us*, though perhaps the good people along our route might have a different opinion, for our one aim evidently is to inform all the world of our identity. Thirty-two strong voices are raised in songs and college yells until we can shout no more.

Upon reaching the O. A. C. residence, three cheers and a tiger are given for our President, and when finally we arrived at Macdonald Hall, tired, dishevelled and hoarse, we brace ourselves once more, and as a grand finale, from our hearts we give three more resounding cheers for Miss Roberts, to whom we are indebted for a very jolly day.





Athletics.

Again the college year has opened and with it the football season. The college campus has again become a scene of great activity, and indeed will be the real centre of interest to college students until after Field Day. Prospects are bright for a very successful season's sport, the new men taking a lively interest in foot ball, running, etc., while a glance over the names of the men on the athletic executive assures us that every opportunity will be afforded the students to develop their latent possibilities in the line of physical attainment.

The officers for 1904-1905—

Hon.-Pres.—Prof. Harcourt.
 Hon.-Vice.—W. H. Day, B. A.
 President—W. C. McKillican.
 Vice.-Pres.—J. Bracken.

EXECUTIVE.

Fourth Year—G. C. Warner, A. Leitch.

Third Year—W. H. Scott.

Second Year—Broderick, Green-shields.

First Year—Hodson, Stratton.

During the summer season, a lively interest was taken (by the boys who

remained at the college) in association football, lawn tennis, cricket and baseball. On the 24th of May, a team from the college and city of Guelph went to Galt to play that veteran eleven on their own grounds. Owing to the fact that the Guelph team had very little practice together, they were unable to do any team work and at the conclusion of the game the score stood 5-1 in favor of Galt.

Better success attended the college and city team in their games with Plattsville during the month of June. The first game was played in Plattsville and the second in Guelph, in both of which Plattsville was defeated.

During the excursion period in June a team came up from Halton and played the O. A. C. aggregation on the campus here. In this game the college certainly won, they not only sent the ball through Halton's goal but tiring of the monotony they kicked the ball between their own flags, the score standing 1-1.

On the 9th of September a team from Victoria College (Toronto) tried conclusions with the college boys on the campus at the O. A. C. This game was

well contested and at times very exciting but victory rested with the red and blue, score 1-0.

So we see that the college boys have been by no means idle during the holiday season, but have kept up the good old reputation of the college on the association field.

On Ladies' Day (July 20th), an interesting game of baseball was played here between the Bankers of Guelph and the O. A. C. The play was very exciting from the bankers' point of view, but soon became rather dull and monotonous to college sympathizers. Score 17-7 in favor of the O. A. C.

Lawn Tennis figured largely in the sports of the past summer. A club was formed with the following officers:

President—W. J. Lennox.

Secretary-Treasurer—B. Hoodless.

Committee—Mayberry, Duncan, Mulloy.

Two courts were laid out and were well patronized by the members of the club. During the early part of the season a tournament was arranged among the O. A. C. boys. All the sets were played off and most of the semi-finals, but owing to the poor condition of the court caused by the wet weather it was impossible to play off the finals.

There has always been quite a number of boys at the O. A. C., who are enthusiasts over England's national game, cricket. During the past summer these boys have been very much in evidence and have given a good account of themselves. Prof. Harrison was captain of the team and their success was due largely to his enthusiasm and the encouragement he gave the boys.

RUGBY.

In the O. R. F. U. games this fall the O. A. C. are in the Western Central section with Hamilton Juniors, Brantford and Dundas. The following is the schedule of games arranged for this section:

Oct. 1—O. A. C. at Hamilton; Dundas at Brantford.

Oct. 8—Brantford at Hamilton; O. A. C. at Dundas.

Oct. 15—Hamilton at O. A. C.; Brantford at Dundas.

Oct. 22—Hamilton at Dundas; O. A. C. at Brantford.

Oct. 29—Dundas at Hamilton; Brantford at O. A. C.

Nov. 5—Dundas at O. A. C.; Hamilton at Brantford.

O. A. C. football enthusiasts were somewhat surprised when their first game was sprung upon them at three days' notice. With characteristic energy and determination Captain Bracken and Mgr. Milligan faced the task, and in the short time left gave their men such excellent training that when they went to Hamilton on Oct. 1st, they were able to tow the Tiger cubs into port to the tune of 15 points to 10. A strong wind was blowing when the game commenced and it was decided to play in quarters. During the first quarter, the O. A. C. played against the wind and held their opponents down to 5 points. In the second quarter the O. A. C. scored 12 points; in the third Hamilton scored 5 points and in the fourth the O. A. C. scored two points.

All the boys did splendid work, the defence especially distinguishing themselves while playing against the wind. The teams lined up as follows:

| | | |
|----------------|-----------------|-------------|
| McCarthy, | <i>Back.</i> | Smith, |
| Zavitz, | <i>Halves.</i> | Kauffman. |
| Bracken, | | Tope, |
| McFayden. | | Harrison. |
| Shepherd. | <i>Quarter.</i> | Whiteside. |
| Mortimer. | <i>Snap.</i> | Norman. |
| McKillican, | | Mitchell, |
| Whyte. | | Parkhill, |
| Thompsonstone, | | Phillips, |
| Kelly, | | Halcrow, |
| Wade, | | Fletcher, |
| Warner. | | Potticanny. |

A WORD ON ATHLETICS.

The word athlete to many people is suggestive of something absurd, nonsensical or foolish, and for that reason those people, who are the victims of perverted judgment, look upon athletics as a hurtful thing, or at least as a waste of time; hence they have no sympathy with those who are trying to encourage healthful sport and they discourage indulgence in many sports. Others, though admitting the value of athletics, allow themselves to become so engrossed with other things that they have no time to devote to college sports; they too dis-

courage by their example, others who might derive great benefit from systematic practice at some game or other.

Neither attitude is correct and both should be discouraged by every one who has the good of the college at heart, for it is quite evident that it is for the good of the college, as well as for the individual, that every student should take a lively interest in athletics. It would be superfluous to enter here into an argument to prove this; the benefit to the individual, to the college and to the community in which the student may cast his lot after leaving college, is so marked that every man should not fail to take advantage of every opportunity for improvement along this line, i. e. if he intends to get the fullest possible benefit out of his college course; for active participation in this department of college life educates faculties which it would take years to develop in practical life. And last, but not least, in this as in all else, have a definite purpose and be systematic and persistent in the endeavor to attain that purpose.



Locals.



The Long and—

Poor sophs.

Wade—"I suppose the second year regard the initiation of the freshmen as their exclusive duty and pleasure?"

'Doc'—"Well, they rather look upon it as confined to a duty this year."

Dr. Monkman is reported to have stated that he did not give a "conditional" for algebra.

Freshmen—enviously surveying the notice on the bulletin board—"Those 4th year fellows don't think of anything but Feeds and Feeding."

"How to Get a Free Shave" by Mr. Morewood, is one of the most interesting books to be published this year, based as it is on the author's own sad experience.

FIRST YEAR.

Mr. Jackson—"Mr. Shepherd, can you give me an example of a dried fruit?"

Mr. Shepherd—"Why, yes, history dates".



The Short.

Why won't Hundred Yards Dash Murray have the fellows call around?

Mr. Smith, of the First Year is said to have given a most concise definition of the Pineapple Flower, during one of the Horticultural Lectures.

"Gases, their Expansion and Properties" by A. Bartlett.

B. S. Pickett, (meeting a junior, arrayed in purple and fine linen, hurrying down the hall), "Where is your excuse?"

Junior, glibly—"Oh its over at the Macdonald Institute".

At Afternoon Lecture.

Prof. ———,—"Mr. Zubiaur, I hardly think the remark I just made was funny enough for you to laugh all afternoon."

The Captain, (still grinning)—"Well, Prof, as a matter of fact, I am not laughing at your joke, but as I eat Force every morning, I can't help but wear 'the smile that won't come off'".

"How to initiate Freshmen" by Clarke.

I am told that certain young officers have lately become fond of the slow game of golf and that they are not satisfied with ordinary instruction but are making "Fuller" lessons in the art.

The editor was asleep. Suddenly two men with long hair sprang into his room. "Say, old man," they exclaimed, "are you carrying the ads. of downtown barbers? We wanted to get a hair cut and came to ask you who was giving the best ad.?" Who says it does not pay to advertise?

Scene 2.—A young man returned from a trip down town. He was

perfectly sober, no smell of I. X. L. or other brand come from his breath. "Could not help it" he said. "I went down for a drink, but I could not find an 'ad' from any hotel in the REVIEW, so I returned without buying."

Scene 3.—The business manager thought of an interesting play that was to appear in the Guelph Theatre at an early date. "By Jove!" he exclaimed, "I wish I could take a girl to that—a McDonald girl I mean—I should like to send her a bunch of flowers too—but we have no Macdonald girls advertising in the REVIEW, so I suppose I must go without." And the echo answered, advertise, advertise in the REVIEW."

What Doc. found in the pie at table No. 1: "a spool of thread, a stick of wood, three empty railroad tunnels, an auger hole, a monkey wrench, a book of street car tickets, bearing the well-known signature of J. Hackney, and several pages of copy that arrived too late for this issue. We may say in conclusion that some of these articles were left in Guelph by a group of engineers who were on their way west to build the G. T. P.

During the torrid days of the past summer our poet laureate, Kerry O'Byrne, was one day paying a visit to a lady friend in the vicinity of his home, but the call being unexpected and the girl bootless at the time, she beat a hasty retreat to cover. Now the sight of pretty girl is sufficient, at any time to draw from Kerry a perfect storm of poetry, and it is not surprising that under the circum-

stances we should be favored with the following:

Two pretty feet without stocking or shoes
Rushing to cover neath calico blue.
Why should you hide? You are nicer by half
Than trussed up and laced, in the hide of a calf.

Why blush pretty maiden? Whenever you're
caught
Without stocking or shoe when the weather is
hot;

Why rush away screaming "There's William or
John,
"My Stars!" keep them out till I get my boots
on!"

Dame Fashion demands that we dress up and
suffer,

Here's a toast to the girl who'll go barefoot to
bluff her;

And the man who will hoot at a pair of bare
pedals
Will never win glory, fair maiden or medals.

The Lord never meant you to bind them in
leather;

Or wrap them in woolen in hot summer
weather.

When he made Father Adam and Eve, his good
dame,

They hadn't a stocking or shoe to their name.

Your feet were not made to be hidden from
sight,

Like contemptible deeds of a thief of the night,
So don't be o'erwhelmed if someone should
call

Unannounced and discover you've no boots at
all.

Look up our "Bulletin Board"
among the advertising pages in this
issue. See it this time if you never see
it again. There are several important
announcements of interest to you.
Do it now. Don't forget.

Mademoiselle, (in French class),—
"Savey-vous le mot *dame*?"

A whisper in the rear,— "Yes
indeed."

The Biologist—"How do you distinguish between edible and poisonous mushrooms?"

Monroe, (conclusively)— "Eat them."

Shepherd, true to his name, gathered a lamb in Brantford, which he successfully herded the remainder of the day.

Overheard concerning the 4th year and their yell—"They began with whiskey, and the whole yell sounds as if they were full of it."

We throw up our hands. Just as we go to press "Acta" comes along with six full pages devoted to weddings. What's the matter? Are our boys not married enough or are the students of Victoria too much married. Explanations are in order. Will some ex-student give us a clue to the situation? If excuses are forthcoming, why, it's up to the boys. Get Married!

The Ledge of Nelson, B. C., in describing Hearst of yellow journal fame says that his soul may not be perfumed by the flowers that grow nearest the throne of literature but when it comes to editing the overdraft column, he certainly takes the automobile. This may be so but we should like to test him on short pay as editor of our local column.

Baker—"I had some Welsh rarebit this evening."

Young Lady—"Oh Yes, they are quite thick in the woods around here now."

A yell that savors of bacteria :
 Staphylococcus, streptococcus,
 Microbes all,
 Sterilize and fumigate,
 See them crawl,
 Big germs, little germs,
 Short and tall,
 Fat germs, lean germs,
 We kill them all,
 Antiseptis that's our call,
 We're the hottest class of all.

Old Songs Renewed :

We need a rink,
 We need a trainer,
 We need a coach,
 You need our paper,
 We knead your dough.

Who's who in Guelph? is the title of
 a new song by Kloepfer and Guthrie.

NEW BOOKS.

Butting in for the Grub, by Logan.
 The Sunday Leisure Hour, by Warner.
 The Cursed Scot, by Wade.
 The Horse that Never Smokes, by
 "Chumpy."
 Apples and How to Raise Them, (by
 night), Anon.

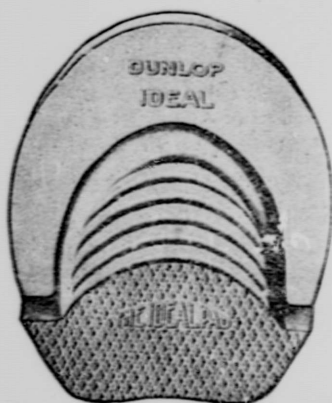
A stern reality — The man at the
 wheel.

NEW DEGREES.

Johnson, M. L. A. — Mighty Long
 Article.
 Hoodless, L.L.B. — Lovely Looking
 Bird.

"Aren't the locals funny?" Local
 editor, (dismally), "I can't see it."

Keep a Horse's Feet Sound



The useful qualities of a horse is particularly
 in his hoofs. If these go back on him his useful-
 ness is at an end.

Dunlop Ideal Horseshoe Pads

Prolong the working life of a horse—prevent
 cracking of the hoofs, balling in winter,
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Write for our Booklet, "Horseology."

Dunlop Tire Company, Limited
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Many of the up-to-date farmers in Canada have waked up, and more are waking up every day, to the fact that it is necessary to have an **Empire**, in preference to any other Separator: in order to run their Dairies on the most approved plan.

Why?

BECAUSE THE
“EMPIRE,”

On account of its ingenious skimming device, skims closer—on account of its smooth cones, is washed easier—on account of its light bowl and few parts, runs easier, and therefore lasts longer, and gives less trouble than any other machine on the market.

Look into these claims and see for yourself. We will be most pleased to demonstrate them to your entire satisfaction.

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A 9 to 1 Cement.

A Cement that when mixed in proper proportions of 1 part to 9 parts of sand will then set quickly and last perfectly and permanently.

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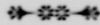
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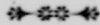
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That will not crack or crumble. That will set and harden quickly.
That will last permanently.

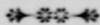
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We sell Fire-brick, Clay, Sewer Pipes and Chimney Linings. All sizes.



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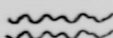
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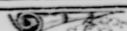
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elected by O. A. C. A. A.
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PHOTOGRAPHER

95 Upper Wyndham St.

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O. A. C.

Ra! Ra! Ra!

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This entire page belongs for one year to

**John D. McKee, Phm. B.
Druggist, Stationer & Bookseller****20 LOWER WYNDHAM ST., GUELPH**

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In our Drug Department, as in our Book Department, we lead always, with the finest that money will buy. We can supply you with everything in Drugs, Chemicals, Druggists Sundries, Soaps, Toilet Articles, Perfumes, Hair, Tooth and Cloth Brushes, Whisks, and all other articles usually found in a first-class Pharmacy. Prescriptions Skilfully Compounded Day or Night.

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By using Wampole's Fermolid Cream, the most scientific of all Tooth Preparations Antiseptic and Fragrant, Cleanses the Teeth, Perfumes the Breath, the ideal thing for smokers.

Put up in Tubes, 25c. each. Large shipment just to hand. Try it.

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**WOOD VIOLET
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To make you better acquainted with the superior quality of these goods we are offering while they last 100 regular 50c packages at 25c each.

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well, and wear well, go to

Rowen's Shoe Store,
WYNDHAM STREET.

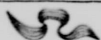
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Picture Frames and Souvenir Presents.

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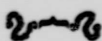
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Everything in Woodwork

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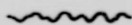
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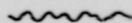
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* * FALL 1904 * *

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We cordially invite your inspection—feeling sure that you will not only derive pleasure but also much useful information as to the correct styles that will be worn by smart dressers this Fall and Winter.

THIS ADVERTISEMENT

Will naturally be of most interest to the young ladies. However, we shall be glad to have the young men read it. They will be likely to add their voices to ours in telling the young ladies that Ryan's is Guelph's

LEADING DRY GOODS STORE*G. B. Ryan and Co.***WE DO WHAT WE SAY****The Guelph Radial Railway Co.****TIME TABLE**

Cars leave College Landing for City as follows:

A. M.—6.25, 6.45, 7.05, 7.30, 7.50, 8.15, 8.35, 8.55, 9.20, 9.40, 10.00, 10.25, 10.45, 11.05, 11.30, 11.50.

P. M.—12.15, 12.35, 12.55, 1.15, 1.40, 2.00, 2.20, 2.45, 3.05, 3.30, 3.50, 4.15, 4.35, 5.00, 5.25, 5.50, 6.15, 6.40, 7.00, 7.20, 7.45, 8.05, 8.25, 8.45, 9.10, 9.30, 9.50, 10.15, 10.35, *10.55.

Returning, Cars leave St. George's Square 10 minutes later.
* Saturday Night Only.

The Lion

Guelph's Leading and
Largest Store.

5 and 7 Wyndham 56 McDonnell Streets.
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D. E. Macdonald & Bros.
Clothiers and Furnishers

For**I Do**

Your Hats, Shirts, Collars, Ties, Sox, and all Men's Furnishing Goods, no better choice for values in the City than we give.

An up-to-date Tailoring Business. Large Stock of the very Choicest Suitings, Trouserings and Overcoatings to select from Satisfaction Guaranteed. One Price. Goods marked in plain figures. Be sure and give me a call.

Next to
Traders' Bank

R. E. NELSON

Men's Furnisher

Hatter and Fine Tailoring

MEN'S
GOODS**E. R. Bollert & Co.**LADIES'
GOODS

THE Faculty and Students of the O. A. C. and Macdonald Institute will find this store ready to serve their wants to the best advantage. We are pre-eminently a Ladies' and Gentlemen's Outfitting and Furnishing Store. No matter what your needs this store is ready to supply them with good goods at moderate cost. We have always been favored with a large business from the personnel of the College. We shall pay special attention for its continuance and increase.

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Fine Ordered Clothing at Moderate Prices.
Fit-the-form, Ready-to-wear Clothing, very good and very cheap.
Best styles of Hats and Caps at closest prices.
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Underwear, Hosiery, Etc., grand values.

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Dressmaking at very reasonable rates. Ready-to-wear Coats, Skirts, Blouses, Etc., in great variety of new things.
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25 and 27
Wyndham St.**E. R. Bollert & Co.**25 and 27
Wyndham St.**O. A. C. and Macdonald Hall****The Big Bookstore—**

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O. A. C. Fountain Pens, \$1.00.

High Class Note Papers and Envelopes embossed with College and Hall.

Prices the Lowest ✂ ✂ Stock the Best
Parcels Delivered Each Day at 3 p. m.

CHAS L. NELLES, THE BOOKSELLER,
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Ring Out the Old; Ring In the New.

This issue we present to our friends a new cover, and some new things in the make-up of our paper. How do you like the move? Some of you are full of ideas. They flash from your brains like sparks from an emery wheel. Why not fire them at us? We want to get closer to you, to feel that you are watching, and know that you are interested. If you have any suggestions to make, let's hear them. Your hint may prove invaluable; your interest will be greatly appreciated.

**To Our
Friends,**

We have some good things in store for our November issue. Professor Reynolds will introduce the first article of a series on Canadian Literature. W. C. Good, B.A., of Brantford, will discuss the "Farm Labor Problem," and B. R. Nag-Tany, a graduate of a Japanese University, and now a student at our College, will tell us of the war as he views it. We have brightened up some of the departments. Improvements will be made in the illustrations. Altogether we hope to have a cheerful, home-like number, with contributions by men you know, on subjects you like to hear about.

**The
November
Issue.**

To-day we carry more advertising than any other College paper on the continent. We speak not boastfully; our field is larger, our limits less circumscribed.

**Our
Advertisers.**

But we are especially glad to welcome back our old advertisers, and to note the steady increase of new business. Results tell; advertising patronage is not secured by accident, and the REVIEW brings results.



It is just possible that during the next few months you may receive circulars and personal letters from business houses soliciting a share of your patronage.

**To the
Students, Ex-students,
and College Staff.**

Be careful! THE REVIEW is the proper advertising medium for those who wish to do business with the College. The College paper is yours. Its success depends on the way you patronize the advertisers in it. **GUARD YOUR INTERESTS.** See that every man you patronize ADVERTISES in the REVIEW.



Whereas, we have heard it said by various persons that the O. A. C. REVIEW was not an independent publication; and,

Declaration of Independence. **Whereas,** it has also been stated that political influence has from time to time been brought to bear on the placing of our contract for printing, and in various other ways; and

Whereas, such statements are absolutely false, without foundation in fact, and are inimical to the best interests of the paper;

We therefore declare, that neither the Staff of the O. A. College, nor the Ontario Government, nor any other power, has either interfered, or attempted to interfere, either directly or indirectly, or in any other way whatsoever; and,

Furthermore, be it understood that we make this declaration of our own free will, and for no other purpose than to vindicate our independence.

Given this day under our hand and seal, and signed by us.

THE O. A. C. REVIEW.

P. J. Deachman

Editor.

H. H. LeDrew

Business Manager.

October 20, 1904.

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To let your home be lacking in the very best that you can give it in the line of Good Literature, High-class Art and the most up-to-date Practical Suggestions of this Twentieth Century age in regard to Farming, Gardening, Flower Culture, Housekeeping and Home-making.

To Be Without

these things is to be without a great share of all that goes to make home on the farm what it should be, the most pleasant place on earth. Besides, the reading and thinking farmer of to-day is the one who fills the highest place in the profession of agriculture. The man who reads the best methods by his fireside is the one who goes out and makes a success in his fields.

The

aim of the Farmer's Advocate and Home Magazine is to supply every requisite to the farm home at the smallest possible cost to the subscriber. We wish to help young and old, rich and poor alike—to help our people to be better farmers, better home-makers, better housekeepers, better men and women for the country. Think of it—a comprehensive home paper joined with the best farm paper published in America to-day—and then ask yourself if you can afford to be without the

Farmer's Advocate and Home Magazine

There must be many intelligent farmers in your vicinity who would appreciate our paper. Why not secure some of our valuable premiums by sending us the subscriptions of these people? Premium lists may be had by applying to our office at London, Ontario.

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Send For a FREE Sample Copy.**

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For Information write to the Bureau of Colonization, or

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Alva Farm Guernseys.

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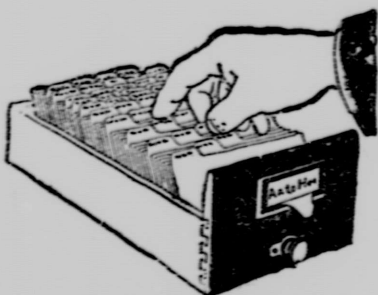
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✻ J. DRYDEN & SON ✻

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|---------|----|---------|-----|----------|---------------|------------------|-----------------------------------|
| 770 lbs | at | 6 month | and | 20 days, | Calf owned by | W. R. Stewart of | Lucasville, Ont. |
| 802 | " | 8 | " | 10 | " | " | J. Currie, of Eramosa, Ont. |
| 730 | " | 6 | " | 23 | " | " | J. Herriott & Sons, Souris, Man. |
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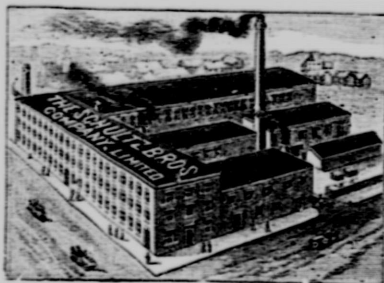
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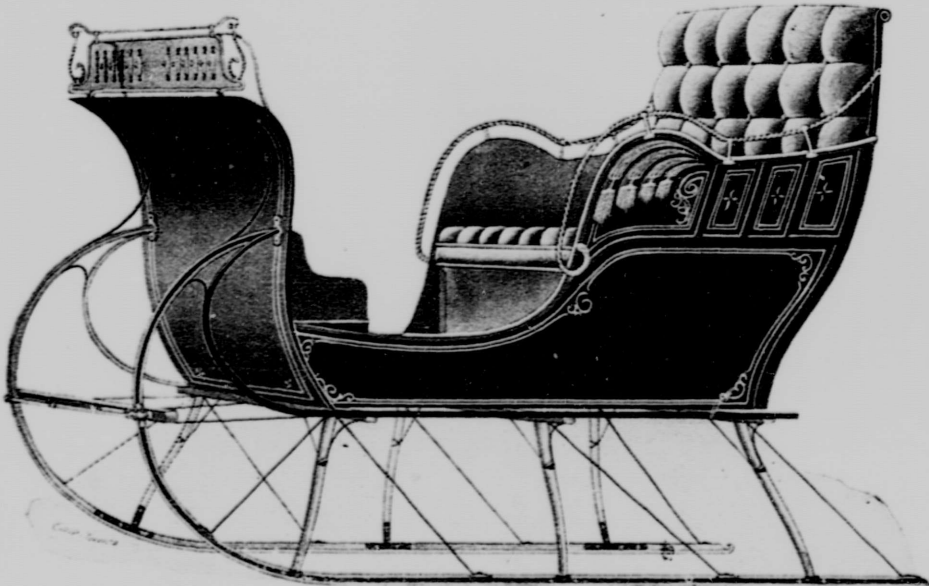
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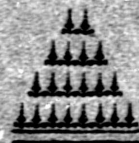
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