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# The O. A. C. Review

Published Monthly During the College Year  
by the Students of the Ontario Agricultural College, Guelph, Canada.

*THE DIGNITY OF A CALLING IS ITS UTILITY.*

VOL. XIX.

ONTARIO AGRICULTURAL COLLEGE  
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No. 5

## The Value of Agricultural Training.

By PROFESSOR ANDREW M. SOULE,

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THE subject of agricultural education has been neglected more in proportion to its importance and relation to the progress of our country than any other subject. Ample provision has, as a rule, been made in the realm of classical and scientific knowledge, and these departments of our colleges are overrun with students who seem to think that there can be no possible future for a man in the field of agricultural education, and this belief is evidently participated in by those charged with the administration of our Colleges of Agriculture and Experiment Stations, or else they would provide larger and better laboratories, and more elaborate equipment for instruction in this far-reaching and important subject. The difficulties of the present situation are many, but there is a silver lining to every cloud and rays of light are breaking through the rifts here and there, and it is not speaking too strongly to say that greater progress will be made in the sciences pertaining to agriculture and in the making of adequate provision for instruction in this subject in the next twenty years than has been made in the last one hundred.

The difficulties of the present situation and the indifference exhibited toward agricultural education by farmers and educators is due to an utter failure to conceive the true principles on which the business of farming rests, or to understand that the subject may be classified into groups of rules until it becomes practically an exact science. The beneficial results that would follow from a profound knowledge of the soil and the condition most favorable to the growth of plants, cannot be properly understood by the layman, and it will only be after years of careful study and research that those who devote their sole attention to the subject of agriculture will be able to appreciate the scope and influence of rational agricultural training, brought

within the reach and conception of the thousands of farmers who till the fields and farms of this great country. The prosperity of the nation is based on agriculture, and it must, in the future, be regarded as a great, profound and complicated business, and every legitimate effort made to raise it to the highest place of intelligence and place within the reach of our farmers the means by which they can acquire information that will enable them to have true power and dominion over the fields they cultivate; for then, and then only, can crops be produced in the most economical manner, and the plant food in the soil used in the most judicious manner, and a part at least preserved for future generations.

How shall the importance of agricultural education be brought home to the attention of the farmers of this country? This is the question above all others that needs solution in the present time. How shall this problem be made plain to the farmer so that he who runs may read? For the past fifty years there has been a profound contempt in the mind of the average farmer for so-called scientific agriculture. He no more believed that it was possible to secure better results from the soil through a knowledge of its composition and physical properties than he believed that it was possible to turn night into day. If his son was to receive an education he was to become a professional man, for in this field alone could honor, wealth and position be obtained. How very unfortunate, how utterly out of harmony with the facts, are these conceptions of the farm and the farmer. It is going to be a hard struggle to change views which have become so firmly fixed through usage and through the belief of past generations. Nevertheless, this is the task before us, and the work must be resolutely undertaken, and there should be neither faltering nor change of purpose until a complete revolution in the attitude of the farmer and educator generally has been brought about with regard to the questions of agricultural education and the fundamental principles of progress involved therein.

It is useless to pursue the question further from the academic standpoint. Rather let us look into the cause and effect and see wherein the benefits pertaining to agriculture lie, for when these facts are properly conceived, it will do more than anything else to throw light into the dark places and make for progress. How many of us realize that the soil is the farmer's capital? Quite as much so as stocks and bonds represent the wealth of the directors of our national banks, and pray you, what is in the soil that stands for the farmer's capital? Is it the acres he owns? Is it the rock from which the soil was originally derived and on which its firm foundation rests to-day? No, it is none of these things. It is the elements of plant food; the constituent parts of the soil that enable the little grain of wheat to grow and expand into the perfect plant and ripen into a harvest yielding, some twenty-fold and some a hundred-fold. The soil, therefore, is the storehouse of plant food containing a great variety of elements, of which some fourteen are more or less useful and necessary to plants. Is it not remarkable that thousands of farmers should cultivate the soil from year to year without knowing why they do it and without understanding what the elements of plant food are, without

knowing the relations of these elements of plant food to plant life? Such, nevertheless, is the case, and is it any wonder that the soils in many sections of the country have become impoverished under such unfortunate methods of management? Is it surprising that the soil should be frequently cultivated in a manner that rather locks up instead of setting free, plant food? Is it surprising, under these conditions, that the soil should be systematically robbed of the vitalizing food it contains, until it is brought into such an impoverished condition in a few years that its cultivation is no longer profitable? Have you ever ridden across the country on a train and examined the fields and farms as you passed along? Have you ever thought of the millions of dollars uselessly spent each year in an effort to wring from the soil a bare existence by brute force, when the same industry, applied with intelligence, would have made the farm profitable and a source of joy and pride to the tiller of the soil? Is not this a sad picture, and yet it is one witnessed on every side. There is enough potential energy ignorantly wasted on the farms of this country to turn every mill wheel and run every factory we possess. And what is the result of this useless expenditure of effort? Impoverished farms, plain and unadorned homes and a life of drudgery. Is this painting the picture too strongly? Not at all, for those who are familiar with our conditions know these things to be true. At the same time this is not to be taken as a pessimistic view of the situation, not by any means, but rather as an attempt to call attention to some of the vital facts concerning agriculture which speak like the flaming sword of old, of the necessity of educating the farmers that they may rise about these unfortunate surroundings and become indeed the lords of nature which the Almighty intended them to be when he planted them in the garden of Eden; for the garden of Eden was after all, not confined, as some of us may think, to a small scope of country in some isolated section of the world, but rather the whole world, when viewed through the happy glass of prosperity, makes up the garden of Eden, which has been given to us for our profit as well as our pleasure and enjoyment. Think what it would mean then if it were only possible to teach every farmer the rudimentary principles of soil formation, the relations of soils to heat, light and water, the value and importance of each element of plant food, the conditions under which these elements of plant food may be stored in the soil and brought into rich contact with the growing crops. What nobler, grander work awaits the young men of this country than to become the leaders in a movement that will bring a sense of peace and happiness and prosperity and contentment into the hearts of thousands of farmers, who to-day ignorantly toil and sweat to no purpose and without profit to themselves or to their families. This picture is not overdrawn. It is not possible to paint it in too glowing colors, and yet all this and much more may be accomplished through the teaching of agriculture intelligently in our great colleges and in the public schools of the country; for we must reach out and assist the children in the public schools, as a great majority of them will never have an opportunity to study elsewhere, and they, after all, must furnish the brawn and muscle and the brain that shall build up



our farms so abused through ignorant and careless culture in the last hundred years.

But shall our conceptions of agricultural education end with the soil? Not by any means. Our farmers must have some intelligent conception of many of the principles of physics; he must understand how water moves through the soil; he must know about capillarity; and he must understand how he can control the ebb and flow of the soil water, and how, by changing the physical nature of his soil through the addition of vegetable matter, he can increase its capacity for holding and storing water so as to make it resistant to the sudden droughts which visit our country.

Then he must understand something about how the plant grows and develops, what the roots of the plant are for, and why the plant has different kinds of roots and how he should cultivate the soil, so as to insure the greatest possible development of plant roots with the least waste of energy and time on the part of the plant. To speak of the plant wasting time and energy seems ridiculous to many. Yet if a plant is put in a soil broken six inches deep and the tenacious subsoil meets the tender roots which strike out in search of food, what is the result? A little stalk of corn two feet high, a nubbin weighing an ounce or two, and a disappointed and disheartened farmer. Why? Simply because he does not understand the principles of plant growth, nor the relation of the soil to the development of the plant. Therefore, our farmers must have an intimate knowledge of how plants grow and thrive and how to ameliorate the environment of the plant, so as to insure its greatest development. Then he must have some idea of how to improve plants. He must understand the principles of selection as applied to plants, and the importance of seeking out the characteristic individuals in which the hereditary qualities are firmly established. He should, therefore, become the progenitor of future generations of corn or wheat or whatever grain he may desire to improve.



## Retrospectus.

By J. BRACKEN.



FROM the broad acres of Western Canada's prairie land and the problems that face a population whose one and staple industry is wheat-growing, I am asked to transport my thoughts for a short time back into the past, to the happiest time of a student's life, his college days, and as one who belongs to that ever-increasing number of ex-students to send forth a message to those who are now passing through this "setting" period of character formation. In the "light of the after glow" we gain a perspective view of college life that perhaps the actual participant, being engaged in the activities thereof, fails to comprehend to the fullest extent. It is with a view to further the appreciation of college life by college men that these few thoughts are written.

A calm review of the lives of college men is but a confirmation of the opinion that the foundation of character, while probably shaped in the mould of earlier environment, is, during the two or three or four years of college life, either strengthened for a superstructure of future usefulness or weakened so that the tower of later possible achievement rests but insecurely on an unsound base. If these are facts, then we are justified in looking deeper and analyzing the complex influences that result in such extremes of life characteristics.

Generally speaking, the influences that affect the life of a college man are four in number. 1st. The influence of early training. 2nd. The influence of college friends. 3rd. The influence of college discipline. 4th. The influence of student organizations. With all of these the student is continually in contact, and according as their standard is elevated or lowered, so is the character of the man affected, since "heredity and environment alone are responsible for the sum total of a man's character."

"As the twig is bent the tree inclines," and the early environment and training of the young man is never of so much consequence as during the first few weeks of his college course. It is then his future friends are chosen; then the training of early youth tested; then the fortification of principles bombarded; and it is then also that the paths leading to truest and most honorable success—hitherto broad, open, free—converge only to subsequently divide and subdivide, each way leading to a destination, the character of which can best be judged as in inverse ratio to the ease which it offers the traveller. How important that start; how important that early training which alone assists the young man in this important decision.

But having entered college, the surroundings of previous influences are cast off, the man stands on his own resources of sound judgment, stripped

of all restraint, save his own will. Henceforth, only two factors influence him, the man strong as previous influences leave him, and the environment with which he is surrounded. The strength of character resulting from early influences combines with the environment which a college life affords, and together they are wrought by the hand of time into the future man. Will the environment counteract the good influences of the home life and produce a hesitating character, or shall they work in harmony, and combine to place the individual in the van of human perfection? Let the student body answer by their attitude, for upon them rests the responsibility of providing a wholesome environment for the freshman.

The men he chooses as his associates have perhaps the greatest influence on the now plastic character of the young man, especially those who are to be his nearest friends. A misdirected gouge in the rough-hewn stone can often be worked out ere the completion of the statue, but if in the last stage of the artist's work the chisel makes one unerring glance, the flaw can never be removed. And so while early training is all important, the companionship of strong, upright, broad-minded men is necessary at this time in a young man's life. For it is here on this little mound of knowledge that as yet the broadest outlook on life is given. If such is hampered by other than the most lofty aspirations, the result is a stumbling block in the way of future attainment. "I am a part of all that I have met," and if we meet the same man twice, a double effect is produced on the character plate, and in proportion as that man's personality is greater or less than that

of the average man, so the effect will be deeper or shallower on the character now in process of formation.

As the life of President Lincoln passed away, one who stood at his bedside remarked, "He belongs to the ages," in other words, "his influence lives, though Lincoln the physical man be gone." But his influence lived from the time he was a child, and through every day of his future life the men he came in contact with were influenced by him, and in turn influenced others. Every man belongs to the ages just as much as did Lincoln, though comparatively few leave so deep an impress. The point is, our associates are a factor in our character composition, bricks in the wall of achievement. Are they sound to stand the storms of life, or when the first trial comes will they weather and weaken, and let fall the super-structure? That influence lives is indisputable, but our appreciation of that truth is very doubtful.

College discipline is "good citizenship" in the student body. Some times the courts of order demand that for certain breaches of student manners and etiquette a man be disciplined, and only students know how such is accomplished. That is for a breach of society's unwritten law in the student body. But this is not the discipline that we particularly refer to. It is the discipline within the man, the faculty of making his thoughts, his desires, his ambitions, bow to his own idea of what is truth. It results in the curb that holds the temper in check; the possibility of emphatically saying "No"; the power of application. Without moving the muscle, it becomes atrophied, without exercising the faculties they become dull, without training the forces that go to make strong

manhood. character development ceases. Let every man look upon every force in character as upon the athletic muscle, by disuse atrophied, by irregular exercise weakened, but when properly trained and disciplined, strong enough for victory.

Do we find ourselves subservient to that impulse which drives us to our neighbor's room when duty demands our application to the preparation of an essay the following day? Are we inclined to skip a lecture merely because we cannot see it is important enough to have a place on the curriculum? Do we yield to the temptation to excessive brain work in order to win a place at the top; to excess in muscular exertion to win the praise of our fellows; to excess in sport for the "fun" of it? Has the selfish desire to excel domination over the will power to demand "moderation in all things?" Then it is time we applied the law of exercise to the will, and commenced to discipline impulse, desire, ambition, self-enthronement. For just as training increases the strength of the muscle and exercise the acuteness of the senses, so training and exercise combined, develop in the man a will power capable of mastering his feelings and holding them within bounds. This is discipline; the savior of despondent moments; the means by which we grow; the strength of strong men.

A man enters college with the primary object of preparing himself more thoroughly for his life work, and it is essential that his apprenticeship be thorough. The problems existing in any sphere of action can best be solved by a specialist. He should know all about one subject. Agriculture today presents many unsolved problems, and to specialists is given the opportunity

of answering them. In such work the greater the fund of information the investigator has to rely upon, the greater are his chances of reaching valuable results. College days are the "seven years of plenty," during which the granary of knowledge must be filled. There will come "seven years of famine," when the professors are separated from you by many miles of space, when the lectures cannot again be heard, when the library is not at hand, and perhaps the Biblical injunction given in early days is not inapplicable here. In your course of instruction discipline has its place. Study to "know," and not to pass exams.

The Athletic Association encourages physical development, the Literary Society the power of conveying our ideas intelligently to others, and the Young Men's Christian Association the development of the spiritual side of human nature. Thus the proportionate growth of a man morally, spiritually, intellectually and physically, with the course of instruction given, is provided for. And it is well that the students realize that the course of lectures in the broad art and science of agriculture is not more important than the training given by these other institutions. Our conception of the principles that underlie this broadest of all sciences is important, but without the physique that regular training gives the dissemination of such information is hindered, without the power to place our views intelligently before men the force of such facts are lost, without a confiding faith in God and humanity the real object of life can never be gained. The student organizations constitute a large half of a man's college life. Without them his college life is not college life, and his fu-

ture life but a dwarf to what it might be.

Throughout all history there have been men in every generation and in every phase of human activity who were not in harmony with the general order of things. Society was bad and getting worse, human institutions were full of flaws, and his best friend was his enemy when out of sight. Such men exist in college communities. They, like the proverbial poor, "are always amongst us." We find them criticising the actions of the Literary Executive, calling down curses on the Athletic Association management, and dealing death blows to the Y. M. C. A. (not to say anything about their opinion of the college staff), and more, even refusing to connect themselves with these institutions. Fair criticisms are just and tend to elevate the management of any institution, but where there is criticism without an effort to alleviate the cause of the wrongdoing, there is manifestly something wrong with the faultfinder.

There are those who say, "the Lit. is monotonous," "a few are monopolizing its privileges," "it is not enough for utility and too much for show." And we ask why? Simply because those who say this are apathetic toward the organization. It can be made otherwise, and those who grasp the opportunity to overcome the obstacles that make it what it should not be, have placed their feet on another stepping stone to further achievement. Energy and action will work wonders in the society and make men of the reformers. May none forget that the power of intelligent speech is not the least of the mighty forces lying dormant in the human frame. While the world today consigns to the grave of oblivion,

where he properly belongs, the man who talks fluently for half an hour and says nothing, it is reaching out after those who have ideas and can express them. The Literary Society offers you an opportunity.

"The Y. M. C. A. men are 'a bunch of mournful fellows who see the bad side of everything.' Is it so? We think not, but if so, who is to blame? Not those who are in it, for they know no better. It is those bright, though short-sighted men who are not members, but who for the sake of the cause should be. "There is no utility in pointing out a misfortune, unless we indicate a remedy." The Young Men's Christian Association stands for the broadest development of any kindred organization in society to-day. It recognizes that a one-cornered man is not the sort the world demands, and so, besides the work of spiritual growth, we find provision made for the development of the physical, the intellectual, the social and the moral, by the establishment of gymnasiums, reading-rooms, classes for technical education, and social functions of a high moral nature. If the circumstances in a given institution are such that the latter are not supplied by the Y. M. C. A., but by some other institution, there is no reason why, if there is a spiritual side to man's nature, it should be neglected. By all means be a Y. M. C. A. man, and if the association isn't what it ought to be, remember that your influence was not given you for nought, that it spreads either positively or negatively in spite of your own desires, that you live in a land where freedom of speech and action is yours, and for the present state of affairs in your association you are in part responsible.



The college paper is the pride of the ex-student. As the copies come no time is wasted before devouring their contents. In nervous haste we scan its columns to learn of some old friend or to read of college victories on the platform, in the stock-ring, or on the gridiron. And then, when we have read "finis," we close the magazine and wander back in memory to the time when it was ours, all ours, for we were students, and the "Review" was the students' paper. Did we support it, did we encourage it in every way, did we work for a place on its staff? Some did, many did, but all should have. Such a student institution, unlike other organizations, must be produced by a few. Its advantages in affording a training for the body politic of students are limited, but it provides a goal for those who can get there, and stands as a high incentive to worthy endeavor, as well as a monument to the high calling which it espouses. By all means support it, and lead your efforts to make the "Review" a tie that binds student and ex-student and Alma Mater in the strongest trio for agricultural advancement the continent has yet seen.

And the Athletic Association! How the old friendships loom up before the memory, the committee meetings, the field days, the indoor contests in the gym, and the struggles on the rink or campus for inter-year or provincial honors. It was in these contests that we learned the value of preparation and training for the conflict, and in no other place could it be learned so well. It was there that "pluck" and "stick-to-it-iveness" taught many a man lessons that will at some future time bear fruit. It was there we learned the value of combination, or working to-

gether as contrasted by individual grandstand work. It was there we learned how to take defeat like men and congratulate our more efficient competitor. It was there that organization was power. It was there we were up against human nature in all its varied phases, there where we learned more of men than in years of companionship. But for us 'tis gone, our day is gone, we profited, others profit. Someone has said "the Battle of Waterloo was won on the football fields at Eton." Of this we know not, but we feel sure that athletic contests have resulted in many victories never advertised to men. Organization, preparation, training, endurance, pluck, courage, opportunity, action, application, spell victory in any sphere. Where but on the campus can these be learned so well, where so forcibly impressed?

But while athletics provide many and varied ways of development, we would not be fair to this consideration of them if an adverse tendency were not pointed out. It was not born of the true athlete and was never practiced by him, but arises from the desire in modern athletic contests, to win, fairly or unfairly, if impossible as a result of merit, then by the introduction of foul tactics. The greatest evil of present-day athletics is the opportunity they present, or rather the opportunity which is taken advantage of, to give vent to a sudden impulse, born of a perverted desire for victory, to injure an opponent and thus facilitate the means of his defeat. This is probably more evident in hockey and football than in other athletic competitions, although each one has its attendant evil according to the nature of the game. The crime is all the more hid-

eous because it is a stolen one, practiced when the referee's back is turned. If the spirit of true athletics is not to be lost, let those in authority make every provision for clean contests, and every competitor remember that greater victories have been won in defeat than in apparent success.

A game of football between the Carlyle Indians and one of the Central State colleges was in progress. The Indians were the visiting team, and it naturally followed that the home team was supported by 80 per cent. of the rooters. It was the last quarter, and the score was even. The Indians had possession of the ball; from the scrimmage came a low swift pass from the quarter, and the fleet-footed right half was around the end and passed the opposing halves before they could grasp the seriousness of the situation. The fullback was the only obstacle in an open field to a score and success for the Indians. The crowd held its breath in expectation, for the position of the home team was dangerous. But the full back knew his business, and the grandest run of the game was culminated by as brilliant a tackle. A low long dive resulted in bringing the Indian down. The rooters went mad with cheers, for defeat had been prevented. As the pile of human beings reluctantly removed themselves from the scrim-

mage that ensued an opportunity was given the Indian to grasp his victor's hand, and contrary to the usual greetings received on such an occasion, true sportsmanlike spirit shone out in his eyes as the short though impressive words, "Good tackle," came from his lips. In defeat he was victorious; while he had failed to score and consequently to win the game for his team, in the exhibition of the spirit of true sportsmanship he had won a signal victory. A little more of the Indian's ethics of sport mixed with Anglo Saxon athletic contests would relieve the latter of many of its unsavory aspects.

As we look back on our college days we are both happy and sad; happy that they are over, sad that we cannot live them again; happy for the opportunities gained, sad for those lost; happy for the advantages given, sad that they were not more appreciated; happy for the friendships formed, sad that they must be broken. But amid these conflicting feelings, we are ever conscious of a sense of pride when the name of our Alma Mater is mentioned, and are more than ever determined that the part of the Guelph graduate shall be played well, and the honor of the Ontario Agricultural College upheld by those who are privileged to style themselves "ex-students."



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## The New Machinery Hall.

**M**ANY generations of students have left reminders of themselves and of their College days upon the walls and beams of the carpenter shop. But their landmarks so to speak, have been removed, for the carpenter shop is now a thing of the past. Last summer it was razed

the development of the O. A. C. The old shop was a frame building built in the early days, which wore an air of rural simplicity. The new building, though not particularly ornamental, wears an aspect of solidity and business. Built of red brick, upon stone foundations, it is well in keeping with



THE OLD CARPENTER SHOP.

from its foundations and moved down the hill to make room for the Machinery Hall. Now that the new building is ready for occupation, the Carpenter Shop has been demolished.

The accompanying illustrations are a study in contrast, and an indication of

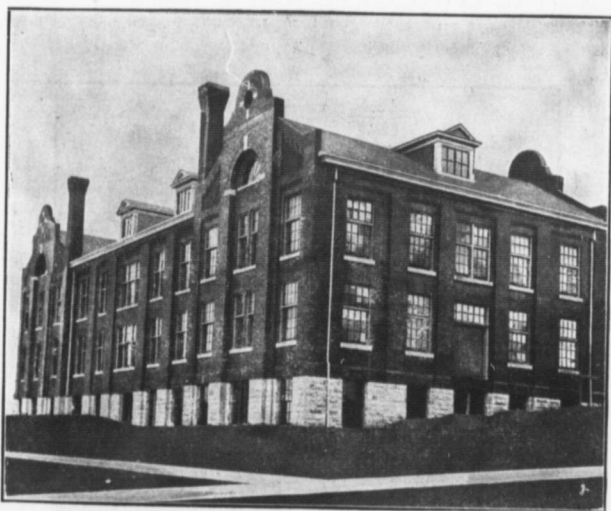
the other buildings which have been erected here during the past few years, while in size it is nearly the largest on the campus.

The Carpenter Shop of the older days possessed but two rooms. In the new machinery department the basement

is to be used as storeroom for the implements used upon the College farm, together with space for paint shop, blacksmith shop and forge room, with down-draught forges. In the flats above are the carpenter shop, manual training department, hall for farm machinery instruction 60x70 feet in size, and locker rooms, offices and toilet rooms.

power hack saw and wet tool grinder; a room for wood-work, equipped with benches and tools for twenty students; a drawing-room for a similar number; and also a room for art metal work and basketry.

Upwards of \$30,000 has been spent upon this new department, and it fills a long-felt want. Machinery, during the past few years, has come to play



THE NEW MACHINERY HALL.

*Photo by E. J. Zavits.*

Hitherto the Manual Training Department has been located in Macdonald Institute. Now that it has a new home, it has much more space and equipment wherewith to work. In this section of the new Machinery Hall are to be found the machine shop with two screw-cutting lathes and two wood-turning lathes, power drill,

such an important part in the economy of agriculture that it is imperative that such an institution as this should be in a position to enable its students to become acquainted with farm mechanics. This we shall now be able to do, and as a result the O. A. C. will enter upon a career of still further and more wide-reaching usefulness.

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## Mr. James McIntosh.

**B**ACK to 1875 is a long call when talking of things collegiate.

When we remember that the first Ontario Agricultural College degrees were conferred in 1888, and that some of our graduates are really gray-headed, 1875 sounds very remote; and yet it was in this year that Mr. James McIntosh first became connected with the Mechanical Department of this institution. He was born in Huntley, Aberdeenshire, Scotland, September 21, 1824. He emigrated to Canada in 1854 with the family of the late James Innis, M.P., so well known for many years as editor and proprietor of the Guelph "Mercury." Mr. McIntosh first found employment in Hamilton as a ship-builder. He afterwards moved to Guelph, where, in 1857, he was married to Miss Margaret Innis, sister of Mr. James Innis. She proved to be a devoted and sympathetic wife, a sharer of his trials and triumphs for forty-seven years, until her recent death in 1904.

In 1875 Mr. McIntosh accepted the position as manager of the Mechanical Department at the Ontario Agricultural College, which position he held continuously for twenty-four years, and during all of that time he seldom lost a day from his College duties. He saw the College grow from an ordinary farm to a great educational institution; he saw the buildings develop from a farm-house and farm-barn to a multitude, with acres and acres of floor space; he saw the staff of teachers

and officers grow from nine persons in 1875 until the present time, when nearly two pages of the College calendar are filled with list of names, titles, and duties of the College staff. The following comprised the entire staff when Mr. McIntosh entered the institution: Charles Roberts, Esq., Principal,



MR. JAMES MCINTOSH.

Professor of Agriculture; William Johnston, B.A., Rector, Interim Lecturer on Natural Sciences except Chemistry; George Baptie, M.A., M.B., Interim Lecturer on Veterinary Surgery and Practice; Rev. Robert Burnett, Interim Lecturer on Horticulture;



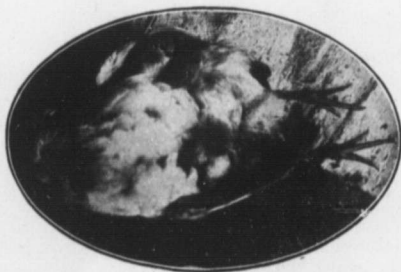
James Stirton, Instructor in Live Stock Department; James McNair, Instructor in Field Department; J. F. Barron, Instructor in Horticultural Department; James McIntosh, Instructor in Mechanical Department. As Mr. McIntosh is hale and hearty yet, it may be interesting to our readers to note the vast changes that have taken place at this institution during the lifetime of one man.

The old students who remember the kindly face here presented, and every boy who ever went through the College will recollect the cordial welcome

and simple, yet correct, instruction they always received when sent to work on "Shop."

Mr. McIntosh, who now lives with his daughter in Guelph, is still active and attends to all his home and church duties. Being elected to the eldership of Chalmers' Presbyterian Church in 1871, he still performs the duties of the office, although of that old church and session he is now the oldest member.

The Review wishes Mr. McIntosh many years yet of health and happiness.



A touching scene at the Poultry Department.  
They do not know she is dead.

# Agriculture.

## Pedigree in Plants.

By L. H. NEWMAN, B.S.A., Sec. C. S. G. A., Ottawa.

THE term "pedigree" as applied to animals does not suggest anything mysterious but merely the ability to trace the parentage back for a few generations. When applied to plants, however, this term does not bear the same significance to the ordinary person, though quite as applicable in this connection. An explanation of this fact lies in the deficient knowledge possessed by the general public in regard to the character of the plant and the analogy of plant life to that of the animal.

Before attempting to explain this analogy and to show the importance of pedigree in the work of plant improvement, we shall consider briefly some of the fundamental principles in animal breeding.

Breeders of live stock have recognized in a general way, for generations, the importance of breeding from specially desirable parents. This is simply a recognition of the fundamental law in breeding, viz., that "like begets like." It is because men expect a good animal from a good animal that they wish to know something about the sire and dam, the grandsire and granddam, etc., hence a genealogical record is kept of the descendants which have sprung from a certain individual of marked superiority which was taken as the starting point.

The value which the early breeders

attached to pedigree is now confirmed, not only by a careful cytological study of the fertilized egg, but also by statistical methods of breeding. Important though a record of ancestry may be to the breeder, yet the mere fact that an animal has a recorded pedigree is by no means an absolute proof of merit unless the individuals composing the ancestry were all superior animals. Even then the element of chance is strong, for though the evidence that "like begets like" is too apparent to be doubted, yet it must not be interpreted in so strict a sense as to exclude the possibility of variation, whatever the cause of such variation may be.

The individual must, therefore, be taken into account as well. During recent years breeders of certain classes of stock have been conducting a line of work which will have a far-reaching effect in the amelioration of our breeds. This has taken the form of what is known as the keeping of "advanced records" wherein is recorded the performance of the individuals under trial. Not only in the breeding of animals are performance records coming to be strongly in demand, but in the business and professional life of the country as well. The employer asks the candidate for a position what he has done or is capable of doing, and the man with the best record for usefulness gets the place. The advanced record in animal

breeding is bound to become a strong factor in the progress of the work, since many inferior animals will have to give away to those which are more deserving.

Pedigrees are now generally kept in some public record, commonly known as a "Herd-book" or "Stud-book." The main objects in keeping public records are as follows, viz.: (1) To preserve the purity of the breed and to furnish the breeder with a guarantee of purity of breeding. (2) To guard against the private issuing of manufactured records by designing breeders. In public records no statement can be recorded that is inconsistent with what is already recorded. (3) To furnish a ready means of tracing pedigrees.

Let us now turn to the plant kingdom and see how far these principles may apply. At the present time we have a great many different classes of farm crops, and of these we have an endless number of different varieties. Whence came all these varied forms? What are the methods employed in securing them? Practical gardeners, farmers and stockmen know that Darwin discussed facts and principles vitally related to every-day farming. This great scientist, whose work has become the basis for all similar lines of work, showed how breeds and varieties originate and change from one form to another. The changes which occur in plants and animals in their wild state are due to the "struggle for existence" and the "survival of the fittest." When our plants were brought under cultivation by man, and when our animals became domesticated, the former rapidly subdivided into many forms, which we, for convenience, term varieties, while the latter subdivided into breeds. The different

varieties and different breeds which now exist have been gradually developed by the accumulative power of man's selection to suit the different conditions in which they are asked to live. The success with which the process of selection has been applied by man in making his breeds of animals is well known. Selection acts only by the accumulation of very slight variations—the process is cumulative—and man's power in accumulating may be said to make the wool of one sheep good for carpets and another for cloth; one beet good for the manufacture of sugar and another for feeding purposes. While the process of selection, both natural and artificial, is largely accountable for the great diversity of forms, both in plant and animal life, yet during recent years many hybrids in the different classes of cultivated plants have also been developed through artificial hybridizing, followed by judicious selection.

Apart from the change in form brought about by natural and artificial selection and by hybridization, there is still another avenue through which new forms may be ushered into the plant kingdom. This is through mutation or discontinuous variation, which is claimed to be due to the inherent plasticity of the plant.

It may be said, therefore, that plant varieties may originate in any one of three ways, viz.: First, by selection, either natural or artificial; secondly, by hybridization, and thirdly, by mutation.

There is a difference, however, between plant and animal breeding which it would be well to notice. In animal breeding the production of new races is very rare. Ordinarily the improvement sought in animals is improvement in size, quality of beef, milk produc-

tion, etc., which is accomplished by means of judicious mating, followed by careful selection and handling. Plant breeding, on the other hand, as *generally* understood, consists in the production of new varieties, which correspond in degree of difference to the different breeds of cattle. The plant breeder handles thousands of individuals where the animal breeder handles tens, and while the former cannot register individuals as does the latter, yet he does name groups or strains. In plants, therefore, the basis of improvement is generally a *group*, while in animals it is a *single individual*. In both cases, however, improvement is governed by the same natural laws and the improved strains of plants must likewise have had their origin in some remote individual or group.

In animal breeding the presence of two separate individuals, the sire and dam, are necessary before offspring can be produced. In plants such as wheat and oats, on the other hand, the sire and dam, so to speak, are included in the one head and perform their natural functions there, which act results in the production of offspring, which is known as "seed." Hence each plant may reproduce itself in season and independent of outside aid. Where one plant is crossed upon another it is done simply with a view to developing a new race or variety, combining the good qualities of the parents. The act of hybridizing breaks up the type causing many hybrids of different types, and making it possible to finally select out the type for which we are seeking. Fortunately, however, much improvement may be made *within* the race without hybridizing, by simply selecting the most coveted plants—those plants which show themselves to be

most capable of thriving to best advantage under their respective conditions. Hence, since the male and female are to be found in the one plant, we can "breed up" our plants by selecting for seed purposes seed from those plants which we consider most suitable as parents.

In the past, it has been the custom to secure our seed from the bin, screen or fan it out, taking the largest kernels for seed purposes, giving no thought to the plant which produced it. In other words, the individual has been considered, while the pedigree has been ignored. Since the same laws prevail in plant life that are taken into account in animal life, it is just as important that both pedigree and individuality be considered here if we would realize best results. Many instances might be given to show the degree to which we may be deceived by appearances. That a grain of wheat or an ear of corn is very often not "what it seems" is too true, and this fact demands that we go a step further and give some thought to the ancestry or pedigree.

This is a problem which the Canadian Seed Growers' Association is endeavoring to solve. Not only does this organization aim to direct the work of plant improvement or plant "breeding," as we shall term it, along approved and scientific lines, but it aims to keep a record of the performance and purity of the different strains worked with from year to year. The practice of pedigreeing is found to stimulate care, not only in the growing, but in preventing the mixing of varieties. The importance of the latter is well known to all grain growers. If a pedigree is to be of any use it must represent: First, purity; and

secondly, utility. In animals the ordinary pedigree simply represents lineage or ancestry, while in plants we aim to make it represent both ancestry and utility. It is well known that all crops, or the different varieties of any crop, are not capable of being improved to the same extent. Some varieties are particularly adapted to certain conditions of soil and climate, and do not readily adapt themselves to new conditions, while, of course, we are well aware that other varieties seem much more ready to fit themselves to such changes. When careful records are kept of the behavior of a variety under certain conditions for a few years, and, believing that all plants are amenable to the laws of heredity, and that they will reproduce themselves true to type when grown under similar conditions of soil, climate, etc., the real value of a race or strain can be determined pretty closely.

The very complete information which it is necessary to have, in order that the records may be of value, necessitates a great amount of work. The system by which this information is obtained is briefly as follows: After a member of the association has been well started in the work and has received all necessary direction from headquarters, he is sent suitable forms to use in recording the performance of the variety with which he is operating. The first form is sent early in the year and is used to enable him to record certain notes which are to be taken on his breeding plot during the growing season. He is asked to give the following information, viz.: (1) Date of seeding. (2) Amount of seed sown. (3) Per cent of smut and rust in the resulting crop on the plot. (4) Character of plants. (5) Date when crop be-

comes fully matured. (6) Date of choosing plants and selecting large heads therefrom. With crops such as corn and potatoes suitable information is also called for. Later in the year another form called the "Record Form" is sent to all members, in which they record the weight of cleaned seed secured from the hand-selected plants; the size of the hand-selected seed plot, and total yield of that plot; the weight of grain, per measured bushel, of the crop produced from the improved seed plot; the freedom from other varieties; character of soil on the plot, nature of preceding crop, and freedom from weeds. During the first few years the actual work of the member is also inspected during the growing season and careful notes taken, not only on the nature of the crops and soil, the percentage of rust and smut, the vigor of growth, the method of seeding, weediness, etc., but on the general appearance and condition of the farm as well. The report of the inspector is checked against that of the member, and every opportunity is taken to avoid errors or misrepresentations. Samples of the heads and grain are also sent in and examined carefully, and anything of importance is noted. All information obtained from these different sources is recorded in the "Record Book" year after year, and in course of time, when results come to warrant it, pedigrees are issued for the seed. According to the constitution of the association no pedigrees can be issued in any case until the seed has been grown according to regulations for three successive years at least. Since the standards must necessarily be approximate on account of the immense territory covered, the conditions peculiar to the respective districts are carefully con-



sidered before issuing any certificates, and creditable results with the strain, for the locality concerned, must be secured for a series of years.

Pedigrees, or as they are called in association terms, "Certificates of Registration," are issued in three classes, viz.: First, for that seed which has been selected by hand from standing plants for a series of years, each certificate representing 10 pounds; secondly, for the threshed and cleaned seed produced on the hand-selected seed plot, each certificate in this case representing 50 pounds, and thirdly, for the threshed and cleaned seed produced on the improved or multiplying plot. This last is called "General Crop Seed," and is the seed which is used most largely in commerce, each certificate representing 100 pounds. These certificates, to which the name of the secretary must be attached, certify that the seed for which they are issued has been grown and selected according to the rules of the association. On the back of each certificate is given the grower's certificate and the statement of transfer, which is filled out by him before it is transferred to purchaser of the seed.

While the utility of these certificates has not yet been fully demonstrated,

we believe that their use will stimulate to greater care and honesty. We now have not only too much renaming of varieties, but too many commonplace introductions. Some of these may do exceedingly well under certain conditions, the reports of which success stir up the all too prevalent variety craze. When given a trial, however, the great majority of these so-called "wonders" prove disappointments, and in the meantime much money has been spent and lost. Better by far to realize good, steady, average crops than spasmodic flights into the realms of perfection one year and into the depths of failure and despair the next.

A strong organization with power to discriminate and keep in check aggressors in this field has a powerful whip to prevent breeders, seedsmen, and nursery-men from going to extremes. In order that this organization be able to render the greatest public service, however, it is necessary that the people themselves come to know something of the laws which underlie the origin of varieties, and the principles of plant improvement, and that they will grapple with the problem themselves under the intelligent direction which the association aims to give.



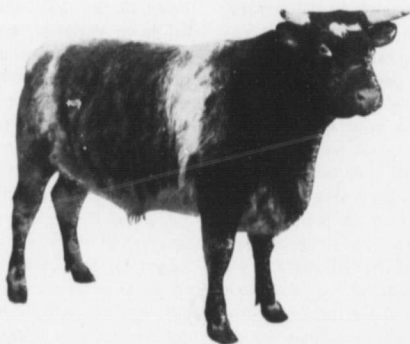
## Excellence at the Winter Fair.

*Photos by E. J. Zavitz.*



RED ROSE

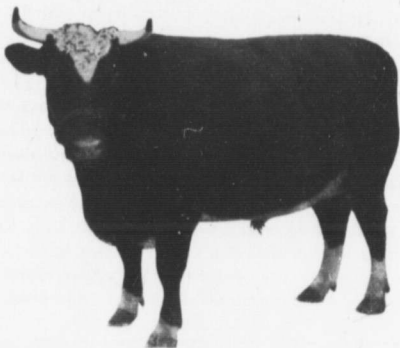
First in Glass for Heifers Under 2 Years Old.  
Property of W. G. Geary, Bellwood.



VICTOR'S FAVORITE

Grand Champion Steer.  
Property of I. & A. Groff, Alma.

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CHAMPION

First Prize Steer in 2-Year-Old Class.

Property of Joseph Stone, Saintfield.

## A Record-Breaking Cow.

Boutaje II., Pietertje De Kol, No. 6093.

**T**HIS Holstein cow, after winning first prize in the "under 36 months" class at the Guelph Winter Fair, 1905, was purchased by the O. A. C. from Mr. Geo. Rice, of Tillsonburg, Ont., the well-known Holstein breeder. Since dropping her second calf, Oct. 26th, 1906, she has made a wonderful record. During November she gave in one day 96 pounds milk; in seven consecutive days, 632 pounds, testing 3.5 per cent. fat, estimated butter, 25.80 pounds; and in the thirty days, 2,522 pounds milk testing 3.5 per cent. fat, estimate butter 103 pounds. This is as much as thousands of dairy cows in Canada give in the course of a year. During

December she gave 2,352 pounds milk testing 3.7 per cent. fat, estimated butter 101 pounds.

Mr. Malcolm H. Gardner, of Delavan, Wis., Superintendent of Advanced Registry, replying to a question in *Hoard's Dairyman*, says: "I will, if I have made no error, give our best official records for senior 3-year-olds in milk and butter fat for seven and thirty days, as requested."

### Seven Days.

Aaggie Cornucopia Pauline, 599 pounds milk; 21.953 pounds fat; estimated butter, 25.61 pounds.

Quoque Clothilde Beets, 596 pounds milk; 17.415 pounds fat; estimated butter, 20.31 pounds.

Pontiac Rag Apple, 588 pounds milk; 20.993 pounds fat; estimated butter, 24.49 pounds.

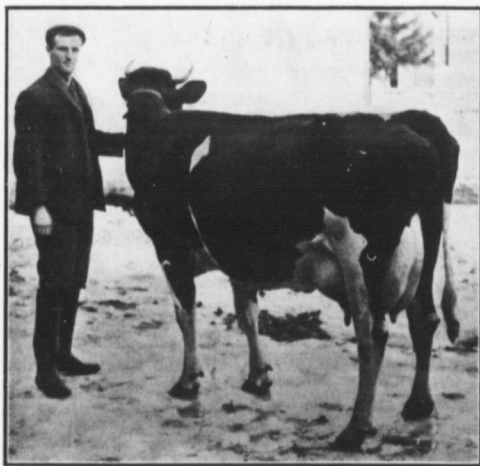
#### Thirty Days.

Maid Mutual De Kol, 2,341 pounds

milk; 80.235 pounds fat; estimated butter, 93.60 pounds.

Gracia Ward II., 2,257 pounds milk; 75.401 pounds fat; estimated butter, 87.96 pounds.

Mr. Gardner gave the pounds of butter fat and milk. The weight of the butter has been estimated by adding one-quarter to the fat.



*Photo by E. J. Zavitz.*  
Boutaje II., Pietertje De Kol, No. 6093.

## The Short Courses.

**F**OR the sixth time, the annual two weeks' course in Stock and Seed Judging has been held at the O. A. C. This year's course was one which was exceptionally successful. This success was manifested in two ways. Somewhere in the neighborhood of three hundred students attended the course, which was in itself a larger number than on any previous occasion, and no fewer than two hundred of these were here on the opening day and remained throughout the entire course. Such a large and well continued attendance signifies the value which the short course students themselves place upon the course. In addition to this large attendance, the course was a particular success from the way in which the students handled the work, and the keenness which they showed.

The short course fills a place in the progress of agricultural education



*Photo by E. J. Zavitz.*

Saddle Horses at the Short Course—The Pavilion in the Background.

which is untouched by other agencies. It reaches the men, young and old, who, more than any others, are "up against" the problems. It reaches those men who cannot in any other way obtain the instruction they seek, and at the same time puts them into touch and sympathy with scientific agriculture. That sympathy with the work is aroused was plainly evident this year from the large number of enquiries received from the younger men in the course, respecting the regular College courses, and from the fact that a request was made that a short course in horticulture might be started next year.

In the judging ring Professor Day and Mr. H. S. Arkell were assisted by various well-known breeders. In the sheep class, J. C. Hanmer, of Brant-



ford, George Telfer, Paris, and Wm. Whitelaw and George Laird, of Guelph, discussed breeds and lent animals for purposes of illustration. John Gosling, of Kansas City, and Col. D. McCrea, of Guelph, placed the beef animals, and Mr. Gosling judged the beef carcasses.

Dairy cows were placed by Jas. Rettie, of Norwich, and Dr. F. J. Smale, of the Wm. Davies Company, Toronto, discussed "The Bacon Hog."

Dr. J. Hugo Reed, together with Dr. Standish, of Walkerton, managed the horse ring.

The seed judging was under the direction of Professor C. A. Zavitz and



*Photo by E. J. Zavitz.*

At the Short Course—A Glimpse of a Winner.

Mr. John Buchanan. The work was done in the large hall of the new Machinery Building, and the average attendance at 8:30 each morning was not less than 180 men. In this work, importance was laid on the selection of varieties properly suited to the conditions under which they were to be grown, and also properly suited to the purpose for which they were to be grown. Three sessions were devoted to a consideration of the noxious weeds of the Province, and methods of eradicating them.

Three hundred men have returned to the work of the coming year, wiser, wider, and with a new store of enthusiasm for their calling.

# Experimental.

## Legislative Control of Feeding Stuffs.

ATTENTION has repeatedly been called to the desirability of some official system of inspection and analysis of concentrated feeding stuffs as sold in the Dominion of Canada, and which will further necessitate the manufacturer or vendor of these products to attach to each package or parcel a tag bearing a guarantee of the percentages of protein and fat contained in the food, or, if sold in bulk, to produce on demand a guarantee of the percentages of the two constituents mentioned. Such a plan has long been in force with regard to the essential constituents of plant food in commercial fertilizers, and the ever-increasing number of milling by-products now offered for sale renders it equally important that a similar plan be adopted for them. This matter was discussed at some length by the Experimental Union upon three occasions, and at the last meeting of the Union was again brought forward, because recent analyses ordered by the Dominion Government have furnished an excellent illustration of the force of this contention.

In the early part of 1905, recommendations, read at the last annual meeting of this association were forwarded to the Government. These recommendations have been acted upon in full, and the information is now to hand in Bulletin No. 116, Laboratory of the Inland Revenue Department, Ottawa.

It is not necessary to enter into any detailed discussion of these results in order to make good the point under consideration. A casual review of them with reference to the percentage of protein and fat will suffice to assure those informed on the subject that in most instances the food values and prices of these foods are not in accord. In fact, at the present time feed is retailed at so much per ton, whether it is rich in protein and well suited to supplement our ordinary farm foods, or whether it is a starchy food, and, therefore, of much less value in compounding suitable rations for cattle. Such being the case, special care in the purchase of feeds and some knowledge of their chemical composition, will be found of great value in selecting the feeds that will produce the the greatest profit. Economical purchase, however, does not imply the purchase of the lowest priced foods. Many of the waste products of our mills are not altogether worthless, but it is important that the purchasers should know what they are and what relation they bear to standard foods (bran, shorts, etc.)

In view of these facts, and in view of the further fact that the committee appointed to deal with this, did not deem it practicable to establish limits of variation, the following resolution was submitted to and adopted by the Experimental Union:

"Whereas, on three previous oc-

casions the subject of commercial feeding stuffs has been before this association, and two separate petitions have been presented to the Government asking that some means be devised whereby the purchasers of mill by-products might be able to judge of their nutritive value; and, whereas, the Government has complied with these requests in so far as to order a collection and analysis of most of the by-products of the mill; and, whereas, the analyses show that the composition of wheat, bran, shorts, the whole grains, or meal obtained by grinding any single grain, is fairly constant, but the composition of other commercial feeds varies widely; and, whereas, bran and shorts constitute the sole output in the way of by-products of many small mill owners throughout the country, and there being no purpose to be served in requiring these men either to employ a chemist or to have analyses made of these by-products of constant composition; and, whereas, the adulteration of these by-products is fully covered by the Adulteration Foods Act, R. S. V., Chapters 24 and 26; and, whereas, the committee do not deem it practicable to establish standards or limits of variation for by-products, therefore, be it resolved: (1) that the terms 'bran,' 'shorts' or 'middlings,' when used without further description, shall be construed to mean by-products derived solely from wheat in the ordinary processes of milling, and the products so described shall be free from oat hulls, barley hulls, buckwheat hulls, ground weed seeds, or other substances not derived directly from wheat in the process of milling, and that feeding stuffs containing products not derived from wheat in the process

of milling and sold under the name of 'bran,' 'shorts,' or 'middlings,' without further qualification or description, shall be regarded as adulterated foods; (2) that other milling by-products which are not derived from wheat, but which may be properly described as 'bran,' 'shorts' or 'middlings,' shall not be offered for sale without prefixing the name of the grain from which they were derived to the terms 'bran,' 'shorts' or 'middlings,' such as, for example, corn bran, pea bran, buckwheat bran, buckwheat shorts, buckwheat middlings, etc.; (3) that it is not advisable to require any formula for the composition of wheat bran, shorts, the whole grains, or meal obtained by grinding any single grain; (4) that in the case of other feeding stuffs, each manufacturer or vendor should be required to label each bag or package with the percentage of protein and fat, or, if sold in bulk, that the manufacturer or vendor shall be compelled, on demand, to give a written guarantee of the percentage of protein and fat; and further, if the product offered for sale as a concentrated feeding stuff is a mixture, containing weed seeds, milling by-products, or any by-products derived from the manufacture of starch, cereal foods, split peas, or other manufactured products, the manufacturer or vendor shall be required to furnish a statement showing the kinds of by-products contained in the mixture, and the percentage, by weight, of each by-product in the mixture; (5) that the Government be urged in the interests of feeders of live stock to take such action as indicated in (4); (6) that a copy of this resolution be submitted at Farmers' Institute meetings for the signatures of members, and when these signatures

are secured this resolution be construed as a petition to the Government for the action outlined in No. (4); (7) that a copy of this resolution be for-

warded to the Minister of Inland Revenue forthwith, and that the signatures be forwarded as soon as obtained."

## Steer Feeding Experiments, 1906-7.

**D**URING the present season experiments have been conducted by the Animal Husbandry Department in the feeding of steers, both tied and loose. From the figures given below it will be seen that the steers kept in a loose box made considerably better gains, no less than an increase of .4 lbs. per day over those which were tied in the usual manner. Not only were the gains of the former greater, but they were made at less cost than were the gains of the tied steers.

Group I.—Eight tied steers. They were medium heavy, short keep:  
 Total weight at beginning, 10,235 lbs.  
 Total weight at close ....11,455 lbs.  
 Total gain .....1,220 lbs.

### Food Consumed.

Hay, 5,000 lbs., at \$8 per ton, \$20 00  
 Roots, 10,000 lbs., at \$2 per ton, \$10 00  
 Silage, 10,070 lbs., at \$2 per ton, \$10 07  
 Barley, 2,300 lbs., at \$20 per ton, \$23 00  
 Bran, 1,170 lbs., at \$20 per ton, \$11 70  
 Oats, 1,260 lbs., at \$20 per ton, \$12 60

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Total value of food.....\$87 37  
 Total gain .....1,220 lbs.

Average cost per lb. ....7.16 cents  
 Total number days fed .....69 days  
 Average gain per head per day, 2.22 lbs.

Group II.—Four loose steers. They were average weight, short keep:  
 Total weight at beginning, 5,030 lbs.  
 Total weight at close.....5,755 lbs.  
 Total gain .....725 lbs.

### Food Consumed.

Hay, 2,825 lbs. ....\$11 30  
 Roots, 5,650 lbs. .... 5 65  
 Silage, 5,650 lbs. .... 5 65  
 Barley, 1,150 lbs. .... 11 50  
 Bran, 650 lbs. .... 6 50  
 Oats, 720 lbs. .... 7 20

Total value of food .....\$47 80  
 Total gain .....725 lbs.  
 Average cost per lb. ....6.59 cents  
 Total number days fed .....69 days  
 Average gain per head per day, 2.62 lbs.

A similar series of experiments was carried out last year, and similar results were reached. In the previous experiment, however, the advantage possessed by the steers untied was even greater than that shown by this season's work.

# Horticulture.

## Grape Culture in Chautauqua County.

**S**NUGLY tucked away between Lake Erie on the north, and the Chautauqua Hills on the south, lies the territory known as the "Chautauqua Grape Belt." This district extends from Silver Creek, N. Y., to Harbor Creek, Pa., being a belt of about two miles wide and fifty-five miles long. About 32,000 acres are set to grapes in this district.

There are three different kinds of soil, showing distinctly three prehistoric shores of Lake Erie. The soil along Lake Erie, for a width of about half a mile, being clay, then a gravel belt, about a mile wide, while the extreme southern portion is of a chestnut loam and extends about a half mile in width. This chestnut belt reaches well up into the highlands and beyond this belt the climate is so cold grapes are not raised profitably for the reason the late spring frosts are liable to kill the buds or else the early frosts in September ruin the fruit.

In the Chautauqua grape belt there are about 3,000 vineyardists, the average size of the vineyards being ten acres, as they vary from one or two acres to fifteen or twenty, and in several cases reach up into the hundreds.

An average crop in this belt is about 7,000 carloads, which are equivalent to 21,000,000 eight-pound baskets. About one-third of the crop is sold for wine and unfermented grape juice. The amount received for the crop the past year was \$2,200,000.

The Welch Grape Juice Company, of Westfield, N. Y., which is the largest unfermented grape juice establishment in the world, have just completed their season's pressing, and have used 3,600 tons of grapes, or an equivalent of 360 carloads.

The manufacture of this juice is very interesting. It is pressed and put into glass carboys while warm, and is hermetically sealed. The juice is allowed to stand in these carboys till after the first of January, when it is syphoned off and is put up in bottles of various sizes. The residum in the carboys is used in the manufacture of baking powder, while the pomace has somewhat of a fertilizing value, and there is a possibility of it being used to manufacture denatured alcohol.

The cuttings, which are grape canes cut three buds long, are planted in the spring in rows eighteen inches apart and four inches in the row, two buds being underneath the ground. These cuttings are thoroughly cultivated during the entire season. In November the roots are plowed out, tied in bunches and put in the root-cellars. They are there graded and made ready for market.

The following spring they are set out in rows usually nine feet apart, the roots being eight feet apart in the row, thus requiring 540 roots per acre.

The ground is kept well cultivated during the succeeding summer. In the following spring all the growth made

the previous year is trimmed off with the exception of three buds and again cultivation is the order of the day during the season. The following spring the vineyard is ready to put up on wire. All of the growth of the past season, with the exception of two canes, is cut off, and these two canes are tied up.

During the first year intercropping is generally practiced, but the second year the roots need the entire strength of the ground.

It requires about 200 posts per acre.

first year's crop will usually pay the expense of wire, posts and labor required to put the vineyard on the trellis. Each year the crop should be considerably larger. Every year the old wood is cut back to the lower wire, and from three to five canes are tied up. A vineyard classed as No. 1 produces an average of 1,000 eight-pound baskets per year.

A vineyard should be thoroughly cultivated to get the best results. The cultivation begins as soon as the ground permits, and is kept up till the



A VINEYARD IN CHAUTAUQUA COUNTY.

These posts are set between every third vine. The posts are generally seven feet long, and are driven into the ground about two feet.

There are two wires, the first being about eighteen inches from the ground and the other being near the top of the post. The canes are fastened to the trellis with No. 21 wire. It takes about 600 pounds of wire to trellis the vines, which costs \$40 per ton.

The entire cost of getting an acre of grapes thoroughly started is approximately \$70. The net proceeds of the

latter part of August. The most thorough vineyardists cultivate their vineyards once a week; the cultivating is done with a two-horse cultivator, disc harrow or a spring tooth drag, the cultivator being the most popular.

The vineyards are sprayed twice with bordeaux, the first time some arsenical poison being used.

The harvest usually begins September 20th and ends about November 1st. Usually from 8,000 to 10,000 people are required to harvest this crop. The grapes are carefully picked in trays

and are packed from these trays into baskets in the packing house, all cracked or poor grapes being removed from the cluster. They are then taken to the cars and either sold outright or shipped in associations.

It is estimated that \$18,000,000 are invested in the Chautauqua grape industry and its allied interests. This industry gives an annual employment to 3,000 teams and about 5,000 men. It would require 5,000 people a week to trim these grapes, and it would take this same army two weeks to tie the grapes on the trellis wires.

This industry is not only prospering, but extremely profitable, and in many cases during the past season the grower realized a net profit of \$70 per acre.

The Chautauqua County grapes are consumed in almost every city in the United States and Canada, and its juices are found in every civilized nation of the globe. The grape is the main factor in placing Chautauqua County twentieth in wealth of agricultural products, among the counties of the states of the Union.

Thomas M. Knight.

## A Short Course in Horticulture.

**A**N increasing demand for education is always a good sign. No industry can progress unless its practitioners are continually adding to their store of knowledge. The fruit and vegetable growers and florists of Ontario are just beginning to realize that great possibilities of development lie before them, and a significant demand for better education is the result of the awakening. Recently the members of the short course in Stock and Grain Judging passed a resolution asking for the establishment of a short course by the Department of Horticulture, and the question is now under consideration. It is expected that such a course will be inaugurated next winter.

Under careful management, the success of the innovation is assured. There is a large class dependent to a greater or less extent upon horticulture for a livelihood, and with a comparatively small number is it more than a side line. Of this large class very few are able or willing to spend a long time in acquiring the special information which they desire, but there are many to whom a short course would be of great practical value. It is a significant fact that the request for the proposed course comes from men who have tested the value of other short courses. Their action may be taken to indicate that the course will not fail from lack of students.

J. W. C.



# The O. A. C. Review

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## Editorial.

It is a surprising and a regrettable fact that so little is known by the great

**What  
is  
Needed** majority of people of the real value of the science of agriculture and of the aims of our college. Even farmers living in the immediate vicinity of the college seldom spend time to obtain a clear insight into the aims of our work. The Short Course Students, a representative body of Ontario farmers and farmers' sons, testify that previous to taking the course they had but little conception of what the O. A. C. really is. After having been here a fortnight and having availed themselves of the opportunities of becoming acquainted with the work of each department, they say they go away just beginning to realize the importance of

the college to the agriculture of the Province.

True, Ontario has made wonderful strides in agricultural education in the past twenty-five years. This college, with its many departments of experimental and reasearch work; the Farmers' Institutes for both men and women; the Agricultural Fairs; the Live Stock, Horticultural and other associations, are all united together under one official head, and are working together harmoniously for the improvement of agriculture. But, before the truths which have been and are yet to be unfolded become the common property of the tillers of the soil and become assimilated by them, so that they can be put into practice, much new machinery for research and for

transmitting new learning will be necessary.

Let us but suggest a few changes quite within the region of possibility which will do much to develop agriculture, and which would raise the college to the place which it should occupy. Agriculture should have a more conspicuous place in our public schools. It has been on the curriculum for some time, but the results have been practically a negative quantity, and will remain so until we have teachers properly qualified to handle the science. Agricultural public schools in each township, small colleges and experiment stations in each county or group of counties, and agricultural high schools would find ample scope for useful work.

Against such innovations do we at once hear a great outcry, even by the very people whom they are to benefit. Such a spirit of opposition can only be overcome by showing the people the possibilities of the science. There are many ways of going about this. The best evidence should be the accomplishments of this college. To our graduates then we must look. May they exhibit in their attainments fruits of the lessons instilled by their Alma Mater. The Institute lecturers should be qualified and prepared to give lectures dealing with the results of investigation unknown to the general public. One lecture in a locality could be devoted to an outline of the inner workings of the various departments of the college.

The Review is the organ through which current college life and work is reflected more accurately than even by lecturers. The monthly issues of the Review, together with a copy of the College Calendar, placed in every rural

school would effectively spread information regarding the college over the widest area in the shortest time.

During the Christmas holidays rumors were current that the details of the marks made upon the examinations would not be published. These rumors have proved to be true. Instead of the percentage of marks in the various subjects being stated upon the reports, as well as the honor grade, the latter alone appears.

It seems that the object in thus withholding the detailed marks is to discredit "plugging" for exams, to place more value upon work done during the term, and to prevent the difference merely of a few marks on a year's work (and a consequent difference of a few places in the examination results), making a distinction between students which is often invidious.

It is a fact patent to all that examinations are by no means an accurate test of a student's knowledge. Often it occurs that a man really inferior in knowledge, one who is perhaps narrow in his life and limited in his abilities, comes above another who has a thorough grasp of his subject, but who, because of some accidental circumstance, has not been so "lucky" during the period of examinations. In addition to such accidents, it is manifestly impossible for a body of from five to fifteen examiners to mark so carefully that when they are finished, an advantage of ten marks (or seventy-five, for that matter), gained by one man over another, really represents any real difference in the values of their respective papers. Because of these facts it is perhaps just as well that the marks should be withheld.

### The New Reports

Whether or no this will discourage "plugging" remains to be seen. We think it will not. So long as student nature remains what it is most of us will leave all our work undone until the end of the term, and then, marks or no marks, we shall "plug," even if for nothing more than a pass.

The new system has certain advantages. Yet to secure these advantages a consistent practice is necessary. Not

only is it necessary to withhold the detailed marks, but it is equally necessary that the aggregates be withheld also. The aggregates of the Christmas examinations were posted on the Bulletin board, and the result is the same as before.

The invidious distinction of a few points is still there, and that which the new system was devised to destroy, still flourishes.

### AN ABANDONED FARM.

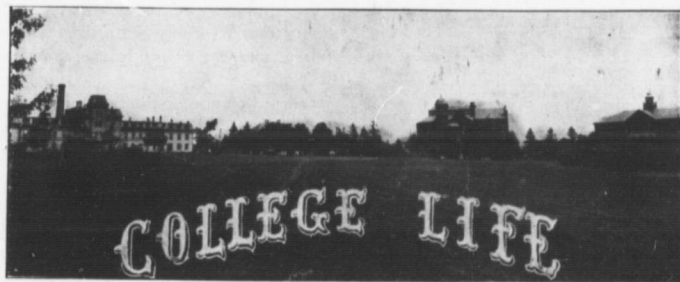
Man has wearied of his task  
 And withdrawn;  
 Weeds grow rank and wild things bask  
 On the lawn;  
 By the orchard, gnarled and gray;  
 House and barns sink to decay;  
 No blithe sounds of work or play  
 Greet the dawn.

Nature takes what man has spurned,  
 To her heart;  
 Like a conqueror returned,  
 Routs man's art;  
 Through his fields deploys her lines,  
 Regiments of shrubs and vines;  
 Takes by storm or undermines  
 Every part.

How she flaunts her victory  
 This bright day!  
 Sets where every eye may see  
 Banners gay!  
 Purple joespye, asters blue,  
 Meadow-sweet of creamy hue,  
 Golden-rod and primrose, too,  
 Line my way.

So my soul by Care and Toil  
 Long oppressed,  
 Like this farm's exhausted soil,  
 Cries for rest.  
 Nature, take again thy child!  
 Lying fallow, free and wild;  
 Let me feel thy rigor mild,  
 Soothed and blessed.

—Edward Tallmadge Root, in *Independent*.



THE various motive forces and activities, mental, moral, spiritual and physical, which usually pervade our halls and dormitories are again in full swing. Life, abundant, joyous, earnest life, development and progress, are in evidence on every hand. A large percentage of the sum total of the training a man receives at college is undoubtedly obtained outside the lecture rooms and apart from the work prescribed in the curriculum. No college curriculum, planned for a one, two, three, four or even seven year course, pretends to make a man a complete genius—artist, literary man, scientist, mechanic, farmer, scholar or Christian gentleman. Apart from the storing away of facts, and the acquiring of a knowledge of the principles underlying the various phenomena of the material universe, life at college should open up to the student facts and principles more subtle and of more far-reaching importance than those ordinarily brought to light in the lecture-room or laboratory. It is one thing to know things. It is another thing to be able to do things. It is one

thing to have, life; it is another thing to be able to turn it to the best advantage. Pure science is one thing, applied science another. It is one thing to follow and another thing to lead. It is one thing to know the principles of oratory, another to be able to instruct, inspire, command attention, persuade and lead men. The beauty of a thoroughly organized student body in a college residence is mainly that along with the acquisition of "book-learning" goes hand in hand the development of an alert, rugged physique, a "quick-acting, rapid-fire" mentality, a respect for the manly, the strong and true in life, the ability to mingle with ease and composure with one's fellows, to command their goodwill by getting into right relations with them and proving by unselfish efforts and freedom from foppish pride that one has the good of all at heart. So well organized and so comprehensive is the work of our Y. M. C. A., Literary Society, and Athletic Association, so numerous and valuable are the advantages and opportunities for development afforded by these societies

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that no student who wishes to become an influential, strong "all-round" man can afford to fail to take an interest and a part in each of these organizations. Their work is largely supplementary to the work of the lecture-room, and at least as essential as the latter.

#### Popular Lecture.

On Friday evening, January 11th, Mr. Frank Yeigh delivered a lecture in Massey Hall, on "Twentieth Century Canada." Mr. Yeigh certainly sustained the high reputation as a lecturer, with which he came here. To some of his audience he was not a total stranger, having delivered a lecture in Guelph recently under the auspices of one of the church organizations. Mr. Yeigh is a lecturer of considerable eloquence and ability—has a good flow of language, the power of carrying his audience with him from start to finish, an excellent voice and stage appearance, and material which is exceedingly interesting and instructive. The limelight views of various Canadian scenes were of a superior character. Much valuable information was given as to the growth of Canada, especially Central and Western Canada, as to the vast wealth possessed by this region—wealth of mines, forests, arable lands, fisheries, scenery, etc. The large audience who listened to the lecture cannot but think much more of their great country and its possibilities, be more loyal to it, and strive in every possible way to know it better and to make it an even grander country than it now is.

#### Victoria College Glee Club Concert.

Students of the O. A. C. and their friends were afforded a treat on the evening of Jan. 17th, when the Victoria

College Glee Club gave a concert in the gymnasium here, under the auspices of the O. A. C. Athletic Association. The Toronto party numbered thirty-three, under the leadership of H. M. Fletcher, conductor of National Chorus, Toronto. They were greeted by a large audience. Many of the numbers on the programme were vigorously encored. The performance of the club reflected upon the members and upon their leader, Mr. Fletcher, the highest credit. Their choruses and much of their individual work was of a high order. Mr. R. M. Chase proved himself a master hand in manipulating the strings in his banjo solos, his work being one of the outstanding features of the evening. The choruses, (a) "Toronto," (b) "Allaistair MacAllaistair," "The Silent Night," "One Sweetly Solemn Thought," and "The Laughing Song," were particularly taking, as were also the solo and chorus, "The Recessional," and the solo and chorus, "The Lost Chord."

There is no doubt but that fraternal visits between colleges is productive of much good, and it is to be hoped that the visits of other college students to this college will be more frequent in the future than they have been in the past.

#### Entomological Meeting.

The first meeting of the Entomological Society for 1907 was held in the Biological classroom, Jan. 16th. On this occasion the Wellington Field Naturalists' Club met with the Entomological Society. An interesting, enthusiastic, profitable evening was the result. The chief feature of the evening was a talk on "Protective Coloration in Animals," led by Mr. L. Caesar, and participated in by a number of

the members of both organizations. It is indeed wonderful and interesting to note that animals are all in some way adapted to their environment and protected from their enemies more or less, so that species are perpetuated and preserved. A knowledge of just how this is, gives us a tenfold interest in the myriads of creatures, beautiful, useful, or repulsive and destructive, that surround us; our sympathies are enlarged and our outlook broadened; we come to be "more in tune with nature's God." Several of the junior members of the Field Naturalists' Club gave, in a very interesting manner, some useful information on The Horned Owl, Flying Squirrels and House Wrens, illustrating the first two with live specimens.

During the Christmas vacation our choir leader and assistant in the Experimental Department, Mr. Harry G. Bell, made his exit from the ranks of the care-free, unrestricted, ungoverned and ungovernable bachelors, and took to himself a wife—formerly Miss Laura Patterson, daughter of John Patterson, Orangeville, and lately a teacher on the Orangeville Public School staff. We extend to Mr. and Mrs. Bell our heartiest congratulations and best wishes during the coming years, which we trust will be many. Owing to the resignation of Mr. H. G. Bell from the position of director of the college chapel choir, Mr. R. W. Mills has been appointed to that important and responsible position. It is fortunate indeed that such a worthy and efficient successor of Mr. Bell was to be had on College Heights.

### Examination Results.

Following are the names of the students making the highest marks in each year in the order of standing. The first twenty only from each list are given:

#### Third Year.

First, T. R. Arkell; 2nd, R. M. Winslow; 3rd, A. M. W. Patch; 4th, A. E. Slater; 5th, G. M. Frier; 6th, J. D. Gilmour; 7th, F. B. Warren; 8th, H. A. Wolverton; 9th, W. A. Brown; 10th, H. Groh; 11th, J. F. Carpenter; 12th, C. Murray; 13th, R. R. Wheaton; 14th, F. H. Dennis; 15th, M. A. Jull; 16th, R. Graham; 17th, N. Foster; 18th, L. Caesar; 19th, R. W. Hodson; 20th, J. H. Hare.

#### Second Year.

First, A. McLaren; 2nd, H. B. Webster; 3rd, H. Sirett; 4th, W. Strong; 5th, W. E. Edwards; 6th, C. A. Lawrence; 7th, P. E. Angle; 8th, W. R. Thompson; 9th, H. C. Duff; 10th, W. D. Jackson; 11th, R. B. Cooley; 12th, R. J. Allen; 13th, W. M. Waddell; 14th, A. G. Turney; 15th, C. F. McEwen; 16th, R. H. Jenkinson; 17th, W. H. Irvine; 18th, G. H. Cutler; 19th, I. M. Law; 20th, B. G. Palmer.

#### First Year.

First, G. LeLacheur; 2nd, W. R. Reek; 3rd, F. C. Beaupre; 4th, O. C. White; 5th, H. R. Christie; 6th, H. W. Newhall; 7th, T. Faulds; 8th, C. L. Robertson; 9th, S. Kennedy; 10th, E. Aldwinkle; 11th, S. E. Todd; 12th, C. Ferguson; 13th, P. E. French; 14th, R. Packard; 15th, F. Canby; 16th, J. H. King; 17th, S. Wilson; 18th, W. Kerr; 19th, A. M. Shaw; 20th, R. L. Moorehouse.

# Athletics.

## Inter-Collegiate Hockey League.

THERE have been many and tumultuous doings in the hockey sphere this winter. Every month, aye, every week, seemed to bring with it news of the breaking up of an old league or the formation of a new. When the W. I.-C. A. U. was first formed all thought that a hockey schedule could be drawn up with the teams comprising that union, but after the football schedule was played out, things looked dubious for awhile. However, Fairbairn was very nearly successful in bolstering up the league by trying to induce Ridley College to come in, and all seemed smooth sailing for a while. But Ridley and Woodstock were wary about coming in, as they regard our men as too large and powerful for any prep. college team to cope with, although Western University, London, was willing to take a try at us.

But we will not bother about that league any more, as we are now in a league with teams that will make us fairly hustle to keep up our good reputation. President R. Mills of the Athletic Association conceived the idea during the Christmas holidays that we should be able to enter the Inter-Collegiate Hockey League in the intermediate series, and investigated our prospects. Seeing they were fair, he sent our hockey manager, D. M. Johnson, down to Toronto to apply for admission and to make whatever arrange-

ments possible for our entry. Mr. Johnson very ably pointed out the benefits of allowing a team from the O. A. C. to compete, and with very little persuasion was able to gain our admission. This was all the more remarkable and pleasing, as, owing to the extreme lateness of the season, almost no hope of a successful application this year was entertained, although a favorable reply and admission to the series next year was expected.

The league now consists of seven clubs, and is divided into eastern and western divisions. The eastern part consists of McGill II., Queen's II., R. M. C., and Lennoxville College, while the western circuit is made up of 'Varsity II., McMaster University, and O. A. C. The district schedules must be played off by Feb. 8th, after which the winners of the two groups play home and home games.

Everyone is naturally pleased and jubilant at our success in gaining admission to this new league. The crying need for years at this college has been competition with other colleges, and our every effort has been to draw away from such leagues as the O. R. F. U. and O. H. A., where we could get all the games we wanted, but where we seemed to be out of our right sphere, and laboring under certain disadvantages. Now if we cannot win we will have only ourselves to blame as we will meet teams which are

composed of purely college men and which will probably lose by gradation each year two or three of their very best players. Thus the odds will be even, and with continuous hard practice we need never be afraid of not making a fair showing.

Still another feather is to be added to President Mills' cap. He has for the first time induced the Dairy students of this college to join the Athletic Association, and the prospects are that nearly every student will soon become a member. The Dairy students pay the same rate as the ordinary students, and for this they are entitled to the use of gymnasium, rink and all apparatus belonging to the Athletic Association and put out for the use of the student body. As their afternoons are much taken up with work, a special night each week, during study hour, has been put aside for their use. A baseball team will be entered in the Inter-Year Series from the Dairy School, and if the article of ball dished up by them at their first practice is any indication, it will not end in last place. The entering of this team will doubtless be much appreciated by the student body generally, as the schedule will be made much more interesting and keenly contested. The Dairy students will find that the exercise gained by the use of our gymnasium will be both beneficial and a relaxation, and that the intercourse gained with the regular course students will tend to do away with that unwished for spirit of rivalry, which, in the past, has tended to make the short course men keep aloof by themselves in their own little corner, and almost make them forget that they are as much students of the O. A. C. as we of the longer courses are. By all means every Dairy man

should identify himself with all phases of college work in order to get the fullest benefit possible out of his time here, and we heartily wish the fullest support from every one in our athletics.

For the last two years one of the heaviest drains on the Athletic Association has been the payment of their Athletic Instructor. It was seen how grievous was the pressure when the college basketball team were compelled to withdraw their team from a league after they were practically in it, through lack of funds for support. The Government has at last seen fit to set aside a sum each year for the payment of a physical instructor for this institution, especially as such an instructor is now an absolute necessity at this as at all colleges. The Physical Instructor is listed as one of the officials of the college, takes charge of the college drill, and in general belongs more to the college than to the students, so that of necessity the students were not entitled to bear the entire support; and it is probable that the outlay could not have been carried on many years more. Recognizing this fact, President Creelman urged upon the Government the advisability of securing a permanent instructor of athletics, and they have arranged for this.

Hardly had the word been sent out through the pages of The Review that our old cross-country cup was gone and that another one was desired before word came from two of the very best sports that ever graduated from this college that they were willing to provide another cup of the same value as the last, such to be won under similar conditions. The donors are W. C. McKillican, of the '05 class, and E. C. Hallman, of the '02 class. Both are at present actively engaged in higher



agriculture in the far west; Hallman is busy producing the famous Alberta pony on his large ranch at Airdrie. McKillican is actively engaged in the campaign for the more scientific education of the western farmer, and holds the important position of Superintendent of the Seed Division of Alberta. Both are men who have made good use of the wisdom gained at the O. A. C., and we are glad to know that since graduation each has taken as much interest in our athletics as if he were still a student. All who have known McKillican will remember him as a great big strapping good-natured giant of ruddy countenance, with a pleasant word and smile and a hearty grip of the hand for all. "Mac." was one of the foremost footballers of his day, and played on the best teams that the college ever sent out, and he also took a great interest in all other branches of sport, especially indoor baseball. During his last year here he was the President of the Athletic Association. Hallman held the same important position when he was here, but the outstanding feature of Hallman's college career was his running. He was probably the greatest runner that has ever entered the college halls. While here he won all the long runs, including the five-mile cross-country, and in hot competition took first place in the five-mile open in the Guelph road races. In those days the college won everything down town, and her men annexed all the medals and glory. The thanks of the student body are due Messrs. Hallman and McKillican, and when they again visit us we feel sure they will receive a reception that will do

much to show them that their generosity is greatly appreciated. The cup, under the new rules, must be won three times in succession as formerly, but does not become the property of the winner until he completes his full three years' course.

Although we have one of the finest gymnasiums to be found at any college, it seems that we are to have some additions made that will add to its scope and efficiency. The powers that rule, recognizing the fact that the gym. work is one of the most important features of the college course, and stimulated by the persuading voices of President Creelman and Mr. Hibberd, have set aside a large sum for improvements. A running track, so much needed by our runners, will be placed around the walls sufficiently high so as not to interfere with any of the indoor games and this will be available as gallery from which visitors may view our contests with comfort. New equipment will be added and an effort made to place our building at the top notch of efficiency.

The pennant won by our Rugby boys as champions of the W. I.-C. A. U. has just been received and now holds a prominent place in the gymnasium. The board of college records, with the names of the holders, has also been placed in position for some time, so that now no difficulty will be found in locating all facts and data in relation to any record event. Thus the gymnasium wall will become a history of the best athletes of this college, and such men will readily be remembered long after they have passed out into public life.

## Our Old Boys.

AT the Dairy Convention held in London, Jan. 16-18, were a few of the old boys of the dairy, seeking after more knowledge along their line of work. Messrs. J. E. Wilson, J. Doane, A. Hainer, R. Player and C. Beasley, of the Dairy Class of '03 were renewing old acquaintances and comparing notes as to their success. All had been thus favored, and "Chris." Beasley has used his well known charms with good effect, for he is now comfortably settled and training a young son in the way he should go. These young men are following their calling in up-to-date factories in Western Ontario, as are Townsend and Treleven, of the same class. Mr. Smith, of the '06 Dairy Class, was also present, and had with him his better half. "Dokie" Stewart, of the '06 Graduating Class, has a warm corner in his heart for the dairymen (or dairy women), although he has left the profession. He was reporting for the Stratford papers. Harry Somerset, '04, at present agricultural editor of the "Mail and Empire," was there in the interests of his paper, also W. D. Albright, '03, associate editor of the "Advocate," was an interested visitor, and incidentally doing his duty in the interests of his paper.

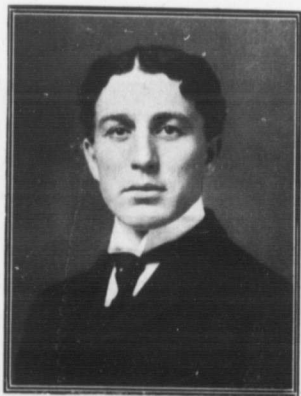
During the recent Experimental Union, Mr. E. Wyley Grier, R.C.A., the noted Canadian artist, who painted the portrait of Hon. John Dryden, the late Professor Pantou and others, was

present. In a short talk with Mr. Grier, it was learned that a brother of his attended the College as a student in 1876. Upon further inquiry it was found that he is now a very successful physician in Wales. The exact address is not obtainable, but by latest reports he has an excellent practice and is doing well in his chosen line of work.

Students of '96 and '97, will remember the somewhat bulky form and figure of W. J. Farly, who was an associate during that time. After the completion of his college course Farly did not consider it either wise or necessary to go far from his home county in search of success. Consequently, he has remained on the homestead since then. His address is Trenton, Ont., and there he may be found demonstrating by practical methods the value of a course at the O. A. C.

F. R. Marshall, whose photo appears in this issue, will go down in history as one of the College's brightest graduates. He was born and raised in Frontenac County, and entered College in '96 and received his degree in '99. Marshall did not remain long on Canadian soil after graduating, but departed almost immediately for the country to the south of us. For some years he has been in charge of the Animal Husbandry Department of the Texas Agriculture College, and general right-hand man of Professor John A. Craig, who is considered one of the

heavyweights in agricultural life in America at the present time. Each year a team trained by him, and representing his college, is sent to Chicago to compete for the trophy, and although they have failed so far to lift



F. R. MARSHALL

it, they have had the encouragement of seeing their team stand up near the top, this year standing second in horses.

#### "Ties That Bind."

To the uninitiated, marriage is always more or less of a gamble; a straight and narrow path, and few there be that find it, and fewer still that find happiness therein. Not many of our ex-students take the risk until they have attained to staid and maturer years and have cogitated for many moons upon the relative value of single happiness and wedded bliss. Some require several years in order to satisfy themselves that there is a something which would make life more like the sweet dream which poets love to write about. Others require but a few

months, yea, I might say a few weeks, in order to convince themselves that without the one person in all the world life is and never will be worth living.

Among these latter stands out prominently, one A. Timpany, of the noble class of '09. He it was whose many droll jokes proved the butt for many a pun. He of the midnight-bath-tub will long be impressed upon the minds of the doughty warriors of '08, who bear on themselves the scars which were inflicted by his strong right arm. His latest venture only goes to substantiate our previous estimate of him as a man of indomitable courage and pluck. During his term at College it was somewhat evident that Cupid had won his heart. The choice of his heart was Miss Edith M. Chute, one of South Malahide's most popular maidens. Mr. Timpany has purchased a farm near the homestead at Calton.

Another youth who has been matrimonially inclined for the past few years is W. J. Yeo, better known as "Gunner" Yeo, of the class of '05. As a student Yeo gained the reputation of being one of the best sports the College has ever produced. His popularity, and it was no negligible quantity, was not undeserved, and few fellows can lay claim to as many staunch friends as "Gunner." His popularity has apparently penetrated beyond the walls of his Alma Mater, and our latest news of him is that he has entered upon a life of connubial ecstasy. On Tuesday, January the first, he led to the marriage altar Miss Eleanora Choate, of North Glanford, "Fritz" Yeo, '09, brother of the groom acting as right-hand supporter. As in previous similar occasions, the Review

joins all friends in wishing Mr. and Mrs. Yeo all good things, long life and uninterrupted happiness.

A wedding of much interest to the many Guelph friends of the bride and groom took place at Ailsa Craig on Christmas Day, when Miss Anne Waters MacKay became the wife of Mr. Roland D. Craig, B.S.A., F.E., of Ottawa, Inspector of Dominion Forest Reserves. Mrs. Craig is the second daughter of Mrs. D. W. B. MacKay, of Ailsa Craig, and niece of Mr. Alex. W. Smith, ex-president of the Winter Fair Board. Mr. Craig graduated from the Ontario Agricultural College, with the degree of B.S.A., in 1898, and subsequently took his Course in Forestry at Cornell, graduating from that university in 1903. After a short time spent in the service of the United States Bureau of Forestry, in the spring of 1904 he took a position with the Forestry Branch of the Department of the Interior, and when a systematic timber survey of the Dominion forest reserves was inaugurated in 1905, he was given charge of the work on the reserves. Mr. and Mrs. Craig will reside in Ottawa. A host of Guelph friends will join the Review in wishing them the utmost joy and prosperity for many years in their new relation.

"Bob" Deachman! Who will ever forget him. He and the Review are inseparable. We think of one and almost instinctively our thoughts turn to the other. "Bob's" natural bent is journalism, and he just can't help it. It sticks out all over him, and when he opens his mouth he invariably says something. We lesser lights look upon him as "It" with a great, big I. During his regime as editor-in-chief

of the Review, the journal took such bounds as to almost hit the sky, and the question was where would it stop. After graduating, which he very creditably did in '05, he went west in order to gain a wider scope for his endeavors. As Calgary representative of the Farmer's Advocate, he was a decided success, insomuch that in less than two



R. J. DEACHMAN.

years he was advanced to the management of the whole western edition, with headquarters at Winnipeg. He is making his mark and doing his duty, and what is still more important, is endearing himself to the present student body by loyally supporting all the College societies.

#### A Meeting.

It was in Brandon. We were waiting for the train to start. The liar in the despatcher's office had just told us for the fifteenth time that the long-delayed start would be made in a few minutes. It was then 16:48 as time is

reckoned in the West. Some of the passengers had waited in that train for nearly eight hours. Human nature breaks a trifle under such a strain and many and various were the means used to kill what some would give diamonds for—the moments of time.

There were those who swore softly in an under-tone, and others cursed in an over-tone. A few smoked. One or two shied bricks at the Roblin administration, and the remainder told how they would run the G. N. R. if *they were it*.

I was enjoying the essays of my friend Michel de Montaigne, the French savant of the sixteenth century, whose genius won the admiration of Shakespeare, Bacon and many of the high and mighty in the realm of literature, when a fresh outburst aroused my attention, and then I learned that the train would not be able to go out that day. "What do you think of it?" said a fellow-passenger. "I think," said I, "that if this railroad gets tired running trains, we shall have to call on the railway commission." "Good!" exclaimed my friend, "then Dr. Mills will bring down his strong arm as he used to do in the olden days at Guelph, and something will have to go." I

looked at him in surprise and said. "Who are you?" He was Wm. Rendall, a student of the O. A. C. in '87. He is now with the Manitoba Wind Engine and Pump Company. He knew President Creelman ere that gentleman had taken to a "padded office chair." He addressed the Hon. Nelson Monteth in familiar terms long before he ever dreamed of becoming the strong right arm and front foot of the Whitney Government, and he knew well Paterson, he of the rotund form and smiling countenance—knew him before the deepening years had thinned the thatch upon his noble "top."

It is interesting to meet these old boys, and we seem to have them with us always; interesting to hear them tell of the days that were and are not. Warm friendships are soon formed where such natural bonds of union exist, and it is worth a four years' course at Guelph to gain the fraternal friendship of some of the best of the sons of the earth. I think it was Horace who said: "While I have sense left to me, there will never be anything more acceptable to me than an agreeable friend." And I say that Horace was right. Three cheers for the O. A. C! R. J. D.



## Macdonald.

### Thoughts for the New Year.

TO know that the old year is past and gone and that another year is just beginning for us, is something which is sure to arouse in all of us thoughts of what we hope the coming months may hold for us, and eager desires that the best, and only the best, for us may result from them.

Many things now undreamed of will happen to us, for the experiences of the year to come are mercifully hidden from us, but nevertheless we shall in many ways influence our own destiny, make strong or weak our characters and work out our worth as children of God in the world. So, let us begin by feeling our own responsibility in the matter of what the coming year will be to us, realizing that by our own watchful endeavor we may do much to insure that golden opportunities do not slip by unheeded, and that little things are not slighted while we idly wait and long for greater things to come.

Our outlook into the new year, with all its promise of time and opportunity, makes us think "what can we do best and most of for others? What for ourselves?" And these two phases are very closely interwoven, for everything which leads to growth and uplift in our own characters or souls, indirectly influences other people, for is it not always true that a gain in strength and spiritual beauty in ourselves is sure to

be communicated in some way to others, or be lost again, even to us? And it is just as true that what we do for the good of others adds to our own strength and capacity for further unselfish action.

And so we see that true improvement of self and of others merges into one great thing—growth in strength and loveliness of character, and this growth like that of a plant or of a little child is not to be noticed happening at any given time, but it is slow and gradual. This we need to remember when we feel discouraged over seeming to grow no better, though great effort to do so is being put forth. Also, remember that every real effort to reach better things is a distinct gain in itself, although we sometimes forget the fact, especially if the object we are seeking does not seem to be reached.

The habit of making New Year resolutions is fairly general, and these are usually limited to attempting to correct various small faults or weaknesses, but when we look more closely into these little failings, we can see that they result from greater imperfection, which we would do ever so much better to seek to overcome, than to give all our attention to comparative trifles. For, if we loved others more, and respected their rights, we should not be so unkind in little ways, if we were absorbed in the great

things of life—in service, real progress and all that is true and lasting. We would not be fretful and worried over things of no real consequence, and would thus have more time and strength for the things that matter. So, let us this year try to get a firmer hold of the great things of life—courage, faithfulness, truth, service to others, belief in ourselves and in the talents God has given to us, and all such things as we know really count in what is lasting.

The best way to get these nobler qualities seems to be through ceaseless endeavor, never giving up, though we fail and disappoint ourselves so often. At least such seems to have been the method of progress of those who have led the noblest lives, and we can do no better than humbly follow them.

Let us love more this year. Drummond says: "The greatest thing a man can do for his Heavenly Father is to be kind to some of his other children." "Much of Christ's life," he says, "was spent in doing kind things, merely doing kind things." Kindness, then, is the active principle of love, just as patience is the passive.

Let us also cultivate self-control, that beautiful virtue which prevents so much unkindness and weakness, and which gives such force and strength to character. How we admire a girl who does not grumble, and is even cheery when difficulties crowd around her. Her self-control and loving consideration for others make her refrain from adding gloom to the lives about her, and lead her to be ever cheerful, outwardly at least. On the other hand, how much foolish grumbling is done! And how contagious is that spirit of carping criticism, which is so easily indulged in. Let us rather look for what

is good and noble, and have our minds dwell upon that.

And let us not forget the value of sympathy and the touch of tenderness as we go through the year. Sympathy, so easily communicated and so helpful, is often little shown to those who need it most, and to whom it would be a source of inspiration and new life.

Through all these things which endure—unselfishness, cheerful faith and trust, self-control, courage, and above all, love. Let us live out over thankfulness for last year's blessings, and add in no small measure to the joy of the world.

As 1907 opens with its gift of newness of spirit and a fresh start for everyone, when wisely, we shall not look backward, but hopefully forward into the great possibilities of the time that is before us; and, as the year is made up of its days, and what we are capable of doing and being on any one day, is governed by what we actually did and attained on the days before. We see how precious each day is as something leading to a greater and more useful future, and as an opportunity too good to be missed of adding something great or small to the joy and to the good of the world we live in.

H. G. Carlyle.

#### Stray Notes From Here and There.

Miss T. invited a few friends to her beautiful home in Scratch Alley, to meet her sister. The dark beauty of the hostess was accentuated by a Parisian gown and a handsome blue apron of unique design. She was assisted by the blushing debutante, who looked charming in white, and carried a beautiful sheaf of fern. The teatable was decorated with ferns (two) on a cloth of spotless yellow. After

supper the guests were entertained by two of their number, who are dramatically inclined.

Misses M. and C. entertained in their suite for their friend, Miss English, who was passing through. We refrain from mentioning the day or hour of the repast, but it was a splendid one, though brief. Everyone was glad to see Miss English again, and many guests were present from far and near.

We have much pleasure this month in announcing the engagement of Miss Drummond, a late member of the Senior Housekeeper Class. We needed her badly, but not so badly as did someone else—and he got her. She did not wait to complete her course and obtain her certificate, as one is enough for the calling which she has chosen, so she left at Christmas. Oh, we almost forgot to mention the name of the fortunate gentleman—Mr. Bullock, of Gananoque, Ontario. We congratulate the happy ones, and hope that all good things in life may be theirs.

Miss C. gave a very delightful little tea Saturday afternoon, to christen her new tea-pot. The article in question had been unfortunate enough to break its spout, but it discharged its duties heroically, and great hopes are being entertained for its recovery.

It is every girl's own fault if she has not had the regulation thirteen pieces of Christmas cake. Nearly everyone brought back a generous sample of "mother's."

A warning to others less innocent. When your room-mate is unable to go down to tea Sunday evening, and your kindness compels you to obtain permission to make her a cup in the evening, wash the extra cups in a private room, or leave them until Monday morning. Just in case of accident.

Misses S. and D. gave a swell function, or rather a series of such functions, on Saturday, in their beautiful new home on Scratch Alley. Everybody looked stunning in her very best gown, and enjoyed herself accordingly. In the evening, a very clever actress, Miss M—, well and popularly known in the Hall, entertained the company.

A red flag was seen flying from one of the doors of Sleepy Hollow the other night. We should like to know the significance of this, not that we are inquisitive, but that we would just like to know. It is said that a red flag is a sign of war. It certainly was not a flag of truce.

The Literary Society has planned a series of debates for this term. Each class has chosen two of its members to represent the class. The classes are pitted against one another, the winners to play off with the Two-in-Ones for the grand championship. The contest promises to be a good one—both interesting and instructive.

Miss Pauline Shaw, of the '06 Normal class, is teaching Household Science in Woodstock.

Miss Jean G. Allan, a housekeeper graduate of 1905, has been appointed housekeeper of the General Protestant Hospital, in Ottawa, Ontario.



## Locals.

**T**HIS is the column in which, as the new editor said, the so-called jokes appear. The local editor wishes to say that it is no joke to write jokes. He desires victims take the jokes as the debater takes his criticism, and try to benefit by them. If they do not, the editor will need to ask for a bodyguard.

Professor (in horticulture)—If an apple blossom was cross fertilized, the seeds would be hybrid, but the fruit would be unchanged.

White—If an apple blossom was fertilized by the pollen from a pine tree, what would be the result?

Newhall—Pineapple.

Slater (during poultry grind)—How would you treat a hen for enteritis?

King—Give her a teaspoonful of sulpho-carbonate of zinc in a gallon of water.

Does King propose to give it through the stuffing machine?

Haight (?)—How do you find the area of a "seven-sided triangle?"

Fair Freshette, just arriving (to conductor)—At which end of the car shall I get off?

Conductor—Oh! any end end, miss! They both stop.

Graham—I have recently decided to be absent next term. For that reason I will not be present.

When visiting the side room in the Library, students are requested to wear kid gloves, especially if ladies be present. For further information — ask Fraser.

"Nuncoomar" — Would you please show me how to find how much alcohol there is in a barrel of cider?

Mr. Peart—If your seat is vacant it is a sign that you are not there.

Ed.—Sometimes when it is filled you are not "all there."

Freshman—I wonder if I could get into the bull stable to see the bull the boys won in Chicago?

Lelachen—It is kept in the Library.

Freshman—In the Library? Where do they bed it?

Hodgins—What is a genius?

Oliver—A division of a family.

Hodgins—Well, you are a division of a family, but I'm sure you are not a genius.

Overheard in choir at Christmas chapel service; Strong—Invocation? We don't know that.

Jacobs—I propose that Hudson's name be substituted for mine.

Bowes (promptly)—I second that motion.

In drawing a plan of grounds around a country home during the horticultural examination, one of the students represented a fountain in the middle of the lawn. On second thoughts he

decided that a farmer would not have a fountain, so he rubbed it out. This left a blotch in the middle of the lawn, but he got over the difficulty by labeling it as "damage done by grubs."

Treherne — What are the three periods in the growth of the San Jose scale, Coke?

Coke—Lactation, first—

Who says the milking machine is a failure.

While milking machines are under discussion, the following cutting will be appropriate:

#### The Acme of Perfection.

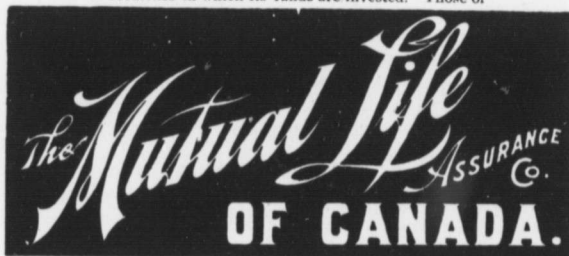
A new milking machine has just been invented and is in successful operation at Dayton, Ohio. It is an electric motor which fastens to the rump of the

cow, the electricity being generated by a small dynamo attached to her tail. She switches her tail, the dynamo starts, and by means of a bevel gear and block and tackle, the milk is extracted, strained, and the pail and strainer hung up to dry. A small phonograph accompanies the outfit and yells "so" every time the cow moves. If she lifts her foot to kick, a small dingus slides over a whatnot, and the phonograph says "d— it." If she continues to kick, a hinged arm grabs up the milk stool and "lams" her on the back until it loosens a patch of skin the size of a dust pan.

Macgill was heard to remark, a few days after the term opened, "they surely are not very busy at Mac's home, or he would have been back by this time."

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Loans on Policies .....	11.50
Cash on Hand and in Banks .....	2.96
Real Estate .....	.64
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