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THE O.A.C. REVIEW

NOVEMBER, 1910

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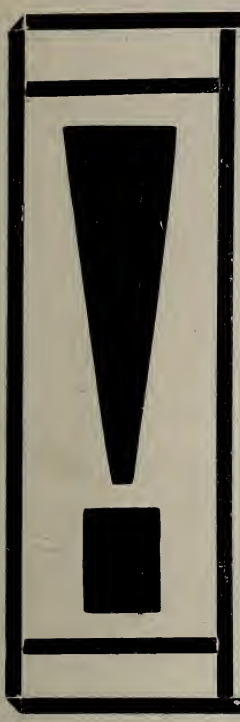

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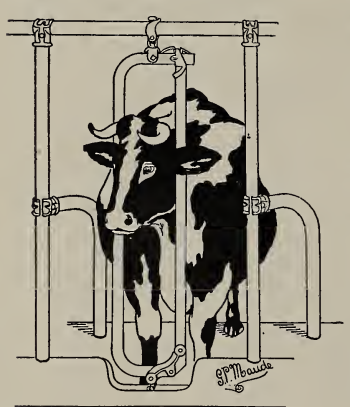

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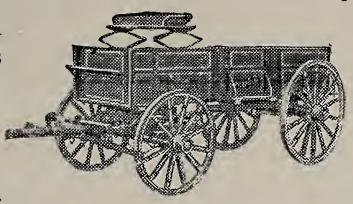

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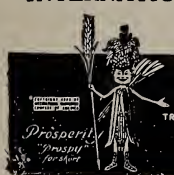

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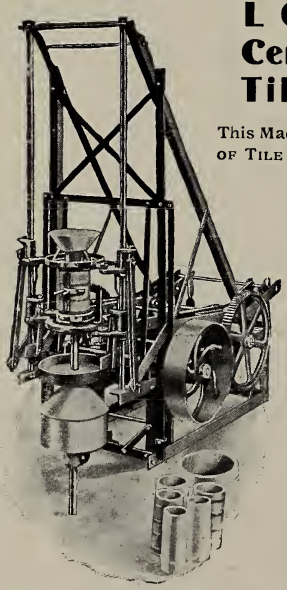

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TORONTO HAMILTON WINNIPEG

THE O. A. C. REVIEW

THE DIGNITY OF A CALLING IS ITS UTILITY

VOL. XXIII. NOVEMBER, 1910. No. 2.

Farmers' Clubs

A. P. MACVANNEL, B.S.A., M.S.

NOTWITHSTANDING the fact that the Farmers' Club move ment has take a strong hold upon the Province of Ontario, it is still a suitable subject for discussion at this season of the year, and is one whose importance is increasing rather than diminishing. Too often those things which are most familiar, receive little attention in the continual rush for something new and original, and often too, men, probably farmers more especially, are diffident or at least slow to take advantage of a movement that is destined to place Agriculture upon a much higher plane.

The subject under discussion is an exceedingly broad one, and we cannot expect to deal with each phase in de tail. However, we may be permitted to deal with one or two important phases of the subject which seem most important at this time. The im portance of the Farmers' Club move ment has been frequently noted through the agricultural press, through various other general publications and at agricultural meetings of all kinds. Farmers' Clubs have been in existence for upwards of half a century, and it has been conceded that wherever they have existed for any length of time agriculture is further advanced than elsewhere. The objects to be attained through the workings of the Farmers' Club are familiar to all who have been in any way connected with the move ment and may readily be compre hended by any one who has not ex perienced their benefits. Farmers' Clubs stand for everything that is meant for the education and advance ment of the farmer. The Farmers' Institutes and other agricultural organ izations had practically the same prin ciples as their main objects, but the Farmers' Clubs are destined to carry the work of those organizations much further. Possibly the Farmers' Insti tutes have gone closer to the farming population in this respect than anv other educational influence.

In every county in the province where several meetings have been held, the practical addresses and discussions at Farmers' Clubs have brought about immediate and permanent results. The improvement in the live stock and farm crops which has been brought about as a direct result of Farmers' Institutes and other organizations, in teresting farmers in one phase or an other of agriculture, can never be esti mated. Breeders of live stock testify to the greater demand for improved live stock where agricultural meetings and Farmers' Clubs are held. Not only is it the farmer who is benefited

as a result of such meetings but the consumers of farm products admit that there has been a marked improvement in the products which they have to buy. The Farmers' Institutes and the Farmers' Clubs have been a medium of making the Ontario farmers intimately acquainted with the best methods of the most successful farmers.

The question is still being asked, are Farmers' Clubs a necessity? There is one thing certain, they have never been credited with having done any great deal of harm. The successful operation of a club is a problem which must be worked out in each locality. Conditions vary so in different localities that it is extremely difficult to lay down any definite outline or plan that would assure the success of the organization.

Localities differ materially in character and in needs. The main objects of the Farmers' Club should be to devote itself to the special needs of each particular district and throw all its energy towards the solution of local problems. The main object of the club, which is educational, should be made most prominent. There are few if any sections in the province that would not be benefited by having an active Farmers' Club. Not only would the officers and members of the club derive benefit, but the whole district would be influenced more or less. Furthermore, Farmers' Clubs have been the medium for discouraging local jealousies and have created a new interest in agriculture. This new interest in agriculture is manifested in the demand for special instruction and information along different lines of farming. They have given farmers in localities where special crops are grown, and special types of farming are followed, an opportunity for experimentation. A group of organized farmers are in a position to carry on an experiment which is mutually beneficial at no great risk of loss. Farmers' Clubs are the most effective means for the dissemination of the results of local experimentation, scientific investigation and information on all branches of farming.

The practical results obtained as a result of the Farmers' Clubs are noticeable in every locality where a club has been successfully organized and are too many to ennumerate in a short article of this nature. New post offices, rural mail delivery, and rural telephones have been obtained through the efforts of various clubs. In some localities the club has inspired the members to give better attention to their herds and flocks. In one locality previous to a Farmers' Club being organized not a single patron in the cheese factory in the same district weighed, tested, or kept any account of the milk produced by each individual cow. The summer following the formation of a club nearly all were reported as having tested their herds to determine for certain which cows were paying their way. Discussions on feeds and feeding, at different clubs have done a great deal to encourage farmers to improve their herds. The object lessons cited during the discussions have convinced many that feeding and breeding must win in the long run. New male animals have been purchased to improve the herds and cheaper and better feeds are grown and purchased. Another important result of the work done by the club movement is the greater interest that is being taken in the care and attention of orchards where fruit is an important line of farming. In Prince Edward County, for example, the canning industry de

veloped to such an extent that the farmers had not been giving their or chards a fair amount of attention. In terest has been aroused in better prun ing, cultivation and spraying; an occas sional member of a club has experi mented along these lines and given the results of his success and failure at a meeting of the club. As a result others became aware of the profit he derived from giving attention to his orchards and plan to follow his ex ample. Large numbers of farmers have obtained information through the clubs which has been of untold benefit to them. They have obtained a knowl edge of the diseases and pests affect ing their orchard and have learned how to control them. As a result of a Farmers' Club in another locality, in terest had been aroused regarding Alfafalfa growing There had been prac tically no Alfalfa grown in this locality three years ago. Last year almost every member of the club had sown more or less. The Alfalfa has proven to be a successful crop and the pros pects are that a great deal more will be sown from year to year. They have learned that the soil and other condi tions are suitable for growing this im portant legume and are anxious to have as large an acreage as possible under Alfalfa.

Probably the Farmers' Clubs offer the greatest possibilities for the devel opment of co-operation in different lines of farming. In Prince Edward County one of the strongest clubs which had organized developed into a Fruit Growers' Association. The mem bers of this association are required to prune, cultivate and spray their or chards according to instruction taken from the constitution of the associa tion. During the past year spraying apparatus and supplies have been pur chased for the members, while in fu ture the association intend putting up and selling their fruit through the as sociation. Although co-operation has its limitations there is no reason why it cannot be extended to practically every line of agricultural effort. There are co-operative creameries, and cheese factories, fruit growers' associations, cow testing associations, breeding as sociations, packing associations, egg circles, and numerous other organiza tions of a like nature. The work of the Farmers' Club should be to encourage and develop these organizations. The farmers, when thoroughly organized, are also in a better position to take the initiative in any matter which effects their interests.

In concluding this article it may be said that the Farmers' Clubs have been successful from the time they origin ated; they have accomplished in prac tically every instance, and are still ac complishing the purpose for which they were organized. They are a medi um for the introduction of better farm ing, they lead to greater and more care ful thought, give opportunity for social development, all of which means a material advancement of agriculture.

The real work of the Farmers' Club is just beginning, while vast opportuni ties for definite and effective service are yet to be grasped, and rich fields await development. The future of the Farmers' Club movement seems to be full of promise and, with the right men to guide each club, the immediate out look is bright.

Life and Education in the Hills of Massachusetts

GEO. J. CALLISTER, MONTAGUE, MASS.

WE all have ancestors; some of us know it, others do not. It is just according to whether they were good or bad, prominent or just ordinary. Sometimes we think of these ancestors and graciously permit the thought to kindle in our heart of hearts a secret and undying admiration for ourselves. As years are counted it may be ages since "the ancestor" was alive and as aunts and uncles are counted, the path between ourselves and "the ancestor" may not be exactly straight or obvious to the casual ob server. But what of that. A bright imagination to roll back the ages and a little adroit juggling with the aunt and uncle question and we are enabled to visualise before our mind's eye a men tal picture of the ancestor on whose laurels we forever rest; complacently, contented and proud. Or possibly we may be just ordinary fellows so busy figuring the prospects for paying the next batch of accounts within one month after date that our only thought of ancestors is one of resentment that they were so ungraciously short of present day currency.

But after all is not the question of the composite ancestory of a commun ity worthy of consideration in every movement that stands for progress? The ancestry, the subsequent history of those ancestors and the past econom ic conditions must inevitably produce a state of mind and general attitude to wards questions of the present day—a study of which would lead to a more sympathetic and intelligent understand ing of any movement that one may be endeavoring to make and the adoption of a course of action that would be more conducive to success. At any rate this is found to be the case here in Massachusetts when endeavoring to build up an Agricultural School. Hence the following brief survey of the past history of this State.

One of the important differences between this and a modern state is, of course, the actuating motive that led the forefathers of the present genera tion to emigrate here. Theirs was no monetary reason, no hope of riches or glory, nor yet did poverty oblige them to leave the old land. No, it was a burning whole-souled desire to express themselves as they thought fit, coupled with a strong-minded determination to put these thoughts into action at all costs. To do it meant fighting 3,000 miles of stormy ocean; it meant hard ship and death; it meant attacks by Indians, by Frenchmen; it meant los ing the children, made captive by the Northern Indians, little children never to be seen again; yet did these hard ships not deter their purpose. No, they came that they might erect an insigni ficent meeting house in which they could worship as they thought was right. One only has to remember the strenuous efforts of the present day made to magnify possible excuses and justifications to stay away from church

on Sunday mornings to appreciate the dauntless courage and persisent effort of these early people.

The land they came to was not an ideal agricultural country. It is a land of mountains and rivers, of scienic beauty, but lacking the desirable qual ities of a good agricultural country. In the western part of the State the chief mountain ranges run north and south, the rich land being situated in the valley, being large ly deposits from old river and lage bottoms. In some places the valleys are wide and in these are found good farms. In other places the moun tains roll upon each other like billows on the ocean, being covered at one time with immense growths of pine, now de voted to birch, mountain laurel, may flowers and native bushes of various descriptions. But when the Puritans came to erect their first "meeting house" the Indians roamed the hills. And it was their Indian neighbors who gave the colonists their first lesson in agriculture.

They taught them how to grow both corn and tobacco. The corn was planted in true Indian fashion, with four to six grains in the hill, and in the poor soil of New England they usually included two fish or horse shoe crabs in every hill. The corn was then hoed in the crudest fashion. Their chief agri cultural implement being a hoe, manu factured from the shoulder blade of a moose or bear. This was tied to a stick with rawhide thongs, and thus they were provided with the implement that was to enable them to cultivate and keep down troublesome weeds. The Indians regularly consumed part of their crop by roasting the ears. The part that was allowed to ripen was har vested, dried in the sun or over fires, and then stored in holes dug in the ground, which were first lined with bark and covered over to keep out the water. The Indian men were lazy, con

MAIN STREET OF A TYPICAL NEW ENGLAND VILLAGE.

sequently the Indian women felt obliged to hide all these store houses from their husbands. The women also grew the crops, except tobacco, for which crop the men seemed to muster up both sufficient skill and inclination to cultivate, the women attending to all other crops. This probably was due to the fact that their hunting grounds were some miles distant. The natural formation of the hills and valleys making it much more convenient to have one's fields in the comparatively flat valley in the vicinity of such a city as Northampton, while to the north the mountain ranges, called by the Indians the "Hunting Hills," provided him with food. Thus the men would be away for days at a time, and leave the women at home in the valleys. It is to day said of the valley land around Northampton that in the Puritan times if you were fortunate enough to possess five acres of land in the valley and a pew in the church, that you were fixed for this world and the next. Be this as it may, the Indians about the year 1600 taught the present age its elementary lessons in agriculture. Everything was done by hand. When the first white man used a plough in the presence of Indians they politely informed him, with an air of great assurance, that if he was not the devil he must be very much like him.

Massachusetts has never been so predominately agricultural as some other states. In fact there has probably never been a time when she has not been in some degree dependent upon some part of the outside world for supplies of agricultural produce. Agriculture has, however, figured largely among her economic interests, especially in those early days.

When the country was in the process of settlement the usual custom was to grant land to groups of individuals who wished to found "towns." From the towns the individual member in turn received his grant. "It was the admirable economic land tenture," says Weedon, "which shaped the early towns; without this even their religious and political systems might not have established their distinctive system of living." When the town was settled all members who were admitted to citizenship received grants of land, the average town being about 40 square miles in extent. The centre of all life was the meeting house. Certain men and families were elected to church membership and upon these fell the responsibilities of citizenship. The citizenship carried with it a goodly share in the land. There were commons reserved for the town pasture. And it was regarded as the sacred privilege of the original citizens to have a share of the grazing of the common. As years went on, however, other families would come to town and thus a distinction sprung up between "commoners" and "non commoners" which eventually gave rise to trouble in the various towns.

Slaves were kept to some extent, they were used however for work in the house, the farm usually being managed by the man and his children. It was customary to arrange a co-operative plan for herding live stock. "The Cambridge arrangement is typical of the customs prevailing in 1635, as well as at later periods. Richard Rice was to keep one hundred cows for three months, receiving ten pounds in pay. The town gives him two men to help him the first fourteen days and one man for the next seven. He was to pay three pence fine for every night that he failed to bring in all his charge. He could not keep any other cattle without the consent of the townsmen."

Dorchester mentions its keeping of "cowes and goates" as early as 1633, and in the next year arranges for four bulls to go constantly with the drift of milch cowes." The Town Bull was also an important institution.

The implements in those days were of the crudest patterns. In 1637 there were but 37 ploughs reported in Massachusetts Bay. It was the custom for any one owning a plough to go out and work for his neighbors. But when one remembers that it required three men and from two to four yoke of oxen to manage one of these ploughs one begins to appreciate the reason why there were only thirty-seven in existence. Indeed it is said that many a town has paid a bounty to anyone who would buy and maintain a plough and undertake to do his neighbors' ploughing, much as threshing is done now

There was very little rotation of crops. The usual custom was to clear the land and plant between the stumps. This was done until the land was run out and would not produce a profitable crop. It was then laid down to grass and given a chance to recuperate. The native grasses were used in this connection as it was not until some years later that the clovers, about that time introduced into England, found their way across the ocean to New England. Timothy was one of the native grasses and has remained the principal hay crop, deriving its name from Timothy Hansen, who took it first to New York, and thence to England.

THE CONNECTICUT RIVER WITH THE HUNTING HILLS IN THE BACK-GROUNDS

The rural life of that time has become part of the New England tradition. And though the most apparent and significant phases of the life of 300 years ago have disappeared forever, it has nevertheless left its mark in the various characteristics and customs of the present day. There was little travel prior to 1700; there were no newspapers; roads were few and badly kept; practically every operation on the farm was done by hand, with the exception of ploughing and harrowing. The men

were clad in homespun and tasted little else than salted pork from autumn until spring. Apples there were in abundance, being in many cases the most profitable part of the farm. Property was divided equally among heirs, consequently the farms of the present day are usually small.

The years following this period were characterized by the rapid expansion westward into the great "interior valley." During this and the later years when the Homestead's Act upon the disbandment of the armies at the end of the Civil war, in 1862 and 1864, was granted, many families left the towns and villages of New England. In fact it is reasonable to suppose that everyone who had the energy and ambition to go "West," went "West."

The original soil was not good, not nearly so good as that further south or west; this had been cropped thoroughly and practically exhausted; consequently when the great opportunity of the West was offered to the people, it is no wonder that all ambitious men went to the land of promise. Just what effect that has had on the present generation is hard to tell. That its influence has extended to the present generation, however, is undoubtedly true, inasmuch as the past history of any country affects the present. In a few words it seems that the combination of strong mindedness of the original settlers, the the subsequent isolation among the hills of many, and the departure of the most progressive for the West, has been conducive to a generation of marked character and individuality, in some cases people of an exceptionally striking and enviable nature.

Many are the stories of these old New England characters. One I have in mind that has reference to the old parson who officiated in this village in years gone by. He was a Puritan staunch and solid to the back bone. One Saturday evening a member of his flock informed him that certain other members were falling away from the established Church and holding meetings in a neighbor's house that were of a most doubtful nature. The stern old patriarchal parson looked down at the informant, but remained silent, while a look of dreadful determination stole over his firm features. He thought just one moment, then with a huge stick in one hand and a lantern in the other, he strode over to the door of the fallen neighbor's house and administered one lusty knock. He was admitted; and yet did he not speak a word. He simply proceeded to turn them out into the street; he then locked up the house and returned to his home. The next day being the Sabbath he preached at the meeting house and it is said that he so arranged both the length and terms of his sermon that neither those who had fallen nor yet those who might have been tempted ever suffered so much as the thought to cross their minds again. As time wore on, however, the old parson died. A new preacher came to town, and by and by a rival minister managed to establish a Church in the same village. He was a Unitarian. The other man was a Congregationalist. The Churches faced each other on opposite sides of the road. But between the two was a great gulf fixed. The very bells every Sabbath morning seemed to echo the defiance of Unitarianism to Congregationalism and vice versa. To the elderly deacon of one of the Churches this state of affairs did not seem right. "Why should not two preachers agree to become acquainted." Hence the worried deacon made up his mind that just as soon as a new preacher came to either

Church he would put the matter on a friendly footing. The eventful day came; a new Unitarian minister was called to the Church. Now was the deacon's opportunity. Straightway he went to the Congregational minister and made it known to him that he wanted him to come and call on the "new preacher." "But he will not have unpacked his furniture yet my dear Deacon." "That don't matter, that don't matter, I want you to come and call on him." Eventually after much argument the Congregationalist minister was persuaded to go and greet his rival. They arrived at the house and found the new preacher amidst his numerous boxes, some unpacked, some not. The Con. deacon gravely introduced them. The Congregational representa tive perched himself on a substantial box and passed one precise and conven tional remark. The Unitarian, from across the floor, cleared his throat and replied with an equally precise and con ventional remark. There was a long pause. The good deacon had waited long enough. His patience was gone. Down came his stick on the substantial box while he roared at the preacher sitting on top, "What are you two spar ring about like two old hens at a fight. It ain't fit and decent. I want you two to become acquainted."

No official record can be found of what was subsequently said or enacted. We must pass on. This leads to a brief study of the attitude of the people of such a State to educational questions and movements that might appear to them somewhat of a novel nature. It is essentially different, as we would ex pect from the past history, to that dis played by the people of Ontario. In this State you may continue with your work for some time and hear no com ment, either of commendation or disap proval. Yet one must not be led into believing that all is well. The attitude is perhaps a mixture of well-wishing, toleration and apathy in varying propor tions. It is negative rather than posi tive. When, however, this new move ment has progressed sufficiently to make an obvious impression, the veil of apathy and allowing things to "go for a spell" is broken through, then the old strong-mindedness is touched, the inert character asserts itself, there is no half-way course of action. It is decided in either direction; for the pro motor of the movement it is either a gravestone or a monument.

And thus I have found that a study of the ancestors and past economic con ditions of the people of this State has helped me to a fuller understanding of the situation that will assist in many ways.

As regards the Agricultural educa tion question in the State, we will con sider it briefly under two headings:

1st. The General Administration by the State Authorities.

2nd. An Experiment in Establish ing a Specific Agricultural School.

For more than a century there have been attempts to introduce Agricultural education into the State. The interest began with demands in 1824 to have agriculture taught as part of the course in certain academies. It has manifested itself in various and peculiar ways in subsequent periods and culminated in the appointment of a Commission on In dustrial Education which enacted laws that gave the State Board of Education the power to reimburse any school to the extent of one-half the maintenance cost provided they taught Agriculture in a manner approved by the State Board. This law was passed in 1908. Since that time, however, the old Com mission of Industrial Education has

been dissolved and the management vested in the State Board of Education. At the head of the Board is the Commissioner, Dr. David Snedden. Under him are two Deputy Commissioners, one for the Industrial work and the other for the Academic work in schools. During the last session of the Legislature resolutions were passed commanding the present Board of Education to make an investigation regarding the needs and possibilities of Agricultural Education in Massachusetts to culminate in a system of Agricultural Schools throughout the Commonwealth. This report is to be handed in by the Board of Education by January 1st next, when the Legislature will consider its recommendation.

Acting in conjunction with the officers of the Board of Education are a local Board of Trustees, four in number. All their work, however, is subject to the approval of the State Board of Education.

With reference to the place of Agriculture in the school at Montague, which was the first one established under these laws, it is on a level with other studies. Students have to take it as they would any other work and credit is allowed on College entrance requirements. It is not hung on the outside of the school for boys to take if they choose. The system here commends itself to me as the best.

In 1908 when the old Commission on Industrial Education was in sitting the town of Montague was building a new High School. This left a substantial building empty. Further this building was in the country, surrounded by farms of various descriptions, thus an ideal opportunity was created to try an experiment to transform it into an Agricultural school. The town was asked if it would accept the offer and provide half the maintenance. At a special town meeting it was decided to accept. This was in 1908. Until the fall last year a man from the Amherst Agricultural College had charge of the Agricultural work. The time devoted to Agriculture was not much, only three periods a week of forty minutes each, the remainder of the teacher's time being occupied with Manual Training, Chemistry, Physics, Botany and Book keeping. During the past year, however, alterations have been effected. A large substantial carpenter shop for the Manual Training has been added to the equipment, a large farm house in which are now living three boys from other towns, and about 40 acres of land. Twelve hundred and fifty tile drains will have been put in. The time devoted to the work has been very much extended and a permanent assistantship has been established.

As regards the specifically school work, our first aim is to correlate all the science work to the Agriculture. In each grade our ideal is to give, say four or five periods of science that will illustrate the work that is being done at the same time in either Horticulture, Dairying, Fertilizers, Soils, Poultry, etc. For instance we have a class making a study of Commercial Fertilizers and soils, another of Horticulture. In the first case the science is Chemistry, and in the case of the class taking Horticulture the Sciences will be chiefly Botony and Entomology. Of course, a certain amount of pure science will be necessary. That, we maintain, should be given in the first year of the school work. During that time a study should be made of Chemistry, Physics, Entomology, Botany and some Bacteriology. During the subsequent years the science for the term should correlate with the work. Agriculture is a combination of a science and an art,

one as essential as the other, and each should have its distinct place in the school, and all science departments in any school endeavoring to teach Agriculture should, by some means, endeavor to give an intelligent Agricultural bias to its science work. For instance, in Horticulture, how many fields of science are wrapped up in this one agricultural division? First we talk of the tree and the plant food being manufactured in the leaves. Thus we are in the field of Botany and Chemistry. We talk of certain fertilizers, hence we must know the chemistry of this. Then, perhaps, we talk of methods of cultivation, and we are in the field of Physics. Of course, one could teach the Horticulture and peck at the sciences as they wanted them. This method, however, does not commend itself to me as being satisfactory. A distinct, systematic drilling on the science, and follow this, not by reading about the specific practice arising from this science, but by doing it. Thus a boy will have a broad basis of science on which he can build a suitable practice or art to suit his own conditions. The old style was to think in terms of practice and experience and there is a tendency I sometimes think to make agricultural school work simply a glorified reading of practices and experiences without basing it on the reason why, which is the science. Such methods must resolve themselves into a recital of exact formula and dogmatic method, which is making but little advance on the old style of work. At the same time I do not advocate all science. Out of these sciences arise practices, or the art. The only way to learn this is by doing.

In my estimation, however, it is just as important to determine in exactly what light the boy regards the prospects of farm life. In many districts it has no attraction for him. He sees in it no field of achievement, the only definite thing about the job being the indefinite beginning and ending of each day's work. With these ideas in his mind is it any use endeavoring to teach him the abstract principles? Your work may be jolly interesting and all that, but it does not lead to anything, so many boys think in this State at any rate. Exactly how this can be overcome is a difficult question to answer. If we cannot prove to the boy that the field of Agriculture offers as good opportunities as any other then we obviously cannot expect him to take up the work. If we can prove it, then I maintain in a great many districts we should endeavor to formulate a scheme that will impress this truth upon the boy's mind. We are endeavoring to do this here by taking a farm and allowing boys to have charge of certain parts of the work. One has a flock of poultry, another fruit trees, another will make butter, etc., etc. The boy will keep the proceeds of his labor to pay for his board. It always seemed to me rather amusing carefully staking out an experiment plot, getting the boys to care for the crop and then harvest it. Then the instructor steps in and pockets the money for the crop. Why teach the boy everything but how to sell it?

One word in conclusion, Why cannot the science work of the High School situated among rural communities be given an Agricultural bias? Let me illustrate a quotation possibly familiar to some readers:

"For whatever occupation in life a student may be destined, the foundations of his chemical knowledge must be laid in the same way. There is a mode, and a perfectly legitimate one, of giving a special character even to

early scientific instruction. In a medi cal school the more elaborate illustra tions of chemical facts, both in lecture and lesson, may be selected mainly from substances with which the physi cian or surgeon is more immediately concerned, and thus a medical bias given to the whole course. The great facts concerning the elements and their combinations would be duly explained in all cases but while a subject should be illustrated by potassium iodide or magnesium sulphate when addressing medical students, potassium chloride or calcium phosphate should be specially dwelt upon in the case of agricultural students. The latter, too, would have the laws of diffusion illustrated to him by the processes which go on in the soil and in the plant; the medical stu dent, on the other hand would study the same laws as they work in liquids and gases concerned in the functions of the human body. The agricultural student would devote particular attention to the compounds of nitrogen, which are used in manure, while the medical stu dent would make the acquaintance of those which are of importance in the treatment of disease. Both students follow the fortunes of nitrogen till it appears as ammonia, then the former combines it with sulphuric acid, the latter with citric. Both will study analysis, one to detect and estimate phosphoric acid the other arsenic."

There are many High Schools teach ing chemistry. What illustrations are they using in their work? Do we en quire of ourselves often enough, could we not give the whole course more of an agricultural bias? Are we not tend ing to become vocational inasmuch as we are turning the boy's mind toward the city professions? Do we endeavor to relate the laws established in physics to the field of agriculture? Is there any sound and rational argument why all High Schools, especially those of the country, should not do this? I maintain that there is not. There can be just as much development, just as deep and accurate thinking applied by the pupil in such work as under the present system. Too much are the schools under the spell of the College. Precedent, prejudice and general con servatism stand like giants in the path of progress. The present age, however, is one of science, evolution and result ant progress. And is not a boy edu cated who studies the truths and laws revealed by the applied sciences and at the same time learns to put these laws into profitable practice to conserve for himself and the nation the mighty forces of plant and animal life? Is not this boy as well educated and prepared for life's battle as the boy who spends the greater part of his student days in a study of the dead languages, ancient history, etc., etc., and forgets them?

Nut Culture in Ontario

G. H. CORAN.

THE cultivation and improvement of out native nut trees is the one and only department of agriculture that is entirely neglected in this, my native province. Why is this, when nuts were the food of man thousands of years before man ever thought of eating grains? A food grown on a tree is much more highly organized than are the grass seeds. Grains and vegetables, with the excep tion of corn, are almost entirely defi cient in oil. The starch and sugar in grains and vegetables are in less highly developed state than are to be found in nuts and fruits. The man who has a weak stomach can digest the sugar of nuts and fruits with ease while the stomach of a weak person is unable to digest the sugar of the grass and beet family. We have to support an army of dentists simply because we have stopped eating raw nuts.

The roughest and coarsest shelled nut we have is the butternut, and yet the kernel of this nut is the most deli cate in structure of any nut in the world. On account of the hardness of the shell the butternut is looked down upon as squirrel food, and the farmer hardly considers the tree otherwise than a big weed. Hit the butternut on the sharp end a tap with a heavy hammer and you can get the kernel out whole. Give the butternut the least encourage ment in the way of cultivation and at tention and it responds at once by doubling in size. Down in the flats the butternuts love to grow alongside of its more aristocratic brother, the black walnut (Jugland's niger), but away north of where the black walnut will ripen the butternut will come to maturity and gladden the heart of the boys and girls who love to gather them and store them up for the winter.

When I see a farmer plant horse chestnuts, mountain ash, and poplars along the road sides where the beauti ful black walnut, sweet chestnut, hic kory and butternut could grow as well and better, I don't wonder at the drear iness of the landscape and the want of home attrations for our country bred youths who swarm to our cities. Let us learn to love our homes and make them attractive. Let us love the soil and the product of the soil. The earth is our mother, we spring from it, we return to it. Why should we rush to the dusty city? I think it is because we are tired of the mud fields, the pig pens, the cow buyers and the vegetable pits. The orchard and the vineyard, the fruit and nut groves and the stream that runs through the farm are not driving us away from country life.

Many years ago the City Council of Toronto were about to recom mend that our native nut trees be planted as shade trees on our boulevards instead of the uninter esting big weeds that are usually planted under the delusion that Canadian cities require shade. This splendid policy was about to be carried out when one big sour, dyspeptic mem ber got up and said, that if nut trees were planted children would be drawn to them and might, or would as a matter of fact, make themselves a nuisance. The good idea of those who

wanted to make the streets beautiful and productive was frustrated there and then, and instead, they planted that abominable, useless and poi sonous weed, the horse chestnut. Some men are trying to make the earth a Garden of Eden, while others follow a rut drawn out by conventionality.

We go to very great labor to feed our selves animal fats and we become tuber cular; whereas the vegetable fats as we get them in our native nuts are begging for recognition. Not long ago, I went out for a walk with a gentleman and every now and then I made a hole in the ground, in what looked to me like a favorable spot, and dropped a Japan ese walnut in. In a short time the winter will come, and it will rain, the shell will become wet, then the frost will follow, and the shell will split, and when the summer sun shines thereon the nut will grow into a small tree at first and after a while it will develop into a big tree, and children will dis cover a new kind of nut and joy will be theirs every fall when they climb up it and shake the nuts down and gather them up for the winter. The gentle man who accompanied me thought I was crazy and probably has not changed his mind yet. He argued that the ground was not mine and that I was a fool as I would never live to climb the tree and gather nuts from it. He was entirely wrong, as I have climbed up a twelve-year-old Jap anese walnut and the tree was quite able to hold three or four men my weight. But, it is the spirit of the thing I enjoy as I often plant the shag bark and shell bark hickories and other of our native nuts. What beauty would be added to our city streets and avenues, our country roads and our parks if more persons would recognize the merit of our native nut trees! Are they not worthy of greater considera tion and study by our Foresters and Agriculturists?

NOVEMBER.

How clear, how keen, how marvellously bright,
The effluence from yon distant mountain's head,
Which, strewn with snow as smooth as heaven can shed,
Shines like another sun—on mortal sight
Uprisen, as if to check the appraoching night,
And all her twinkling stars, who now would tread,
If so he might, yon mountain's glittering head—
Terrestrial—but a surface, by the flight
Of sad mortality's earth-sullying wing,
Unswept, unstained! Nor shall the aerial powers
Dissolve that beauty—destined to endure,
White, radiant, spotless, exquisitely pure,
Through all vecissitudes—till genial spring
Have filled the laughing vales with welcome flowers.

—*Wordsworth.*

Student Judging

BY the time the next Review is issued two great exhibitions will have been held. The smal ler of the two coming later loses some what in comparison with its gigantic rival. The O. A. C. boys are interested in both shows, for at the Fat Stock Show at Guelph the students measure up their ability as judges, while the great International at Chicago supplies a student judging contest at which the brightest students from the Agricultur al Colleges of America compete, and where honors won are so highly prized. As a great many of our students have a chance to compete at Guelph,while only a favored few can ever hope to make the Chicago team, it necessarily follows that as a training in live stock judging Guelph gives wider opportunities, and therefore our students should take the keenest interest in its contests. The training received during the junior years, if the students will only work earnestly each year to make a good showing at Guelph, will without doubt make them better live stock judges, better live stock men, and fitter to represent their college at Chicago should they ever be called upon to make the team.

From the fact that at Guelph the cat tle are stabled in classes, it gives every one a chance to look them over after the awards have been placed, to note points of excellence or defects, which could not be seen from the ringside, and to fix in their minds the type most favored. The students also have op portunities in the lecture room of the Winter Fair, to hear lectures by ex perts on various live stock questions, and if they would work as hard during the week of the Show as they would if about to be chosen to engage in an international judging contest, there is no doubt that great advances could be made. Judging contests bring out all that is best and weakest in the student. If he is irresolute, weak, slow, or lack

ing in confidence he will quite probably make very indifferent placings, and when he comes to give reasons these same defects will make the reasons practically valueless. While, on the other hand, if he is a bold, resolute, thoughtful student he will, after carefully looking over the class to be placed, come to a quick decision, note the outstanding points in the animals under observation and give his reasons quickly and forcibly. Even if his rating of the animals is not absolutely correct, yet his well thought out reasons will favorably impress the judges who may waver in their own decision. A few contests entered in will develop a strong man and of necessity make a weaker man surer, and since the latter class is always more numerous they are of as great, if not greater, importance to the live stock industry. For the knowing of animals creates interest in them, and if we are to have a live stock country our boys cannot too soon become familiar with and learn to love good stock. A student on entering college may have very little knowledge and very little love for animals. If the college training is successful, while he may never become a good all round judge of stock, yet he may learn enough about his own favorite breed to make him successful with it, and if he has during his college course developed a love and interest in live stock his time has not been spent in vain. Since an incentive to excel is given by the student judging contests, much benefit results thereby. The student may look only to the immediate gain, the winning of first place at Geulph or the making of the Chicago team; but in order to do this he must work hard along his chosen line. He must meet and talk with stockmen. He must be trained to see only what is to be seen, to think quickly, to form correct judgments; in fact, he will conclude his training with keener faculties, maturer judgment and kindlier feelings, for no one can devote much time to the study of animals without developing a love for them.

Thus after several years of training and preparation, the student reaches his senior year, and it is one of the ambitions of the students in the Agricultural Option to make the judging team. Once the team is selected, let us see what is before them. The stock judging contest is held in Chicago on the last Saturday of November. There are usually about forty students competing, making up eight teams of five men each. The boys are drawn from all over America—from the Maritime Privinces, from the far west, from Ontario, Texas, Ohio, Missouri, Washington, Nebraska, Iowa, Minnesota, Dakota, etc. On the day of the contest they meet in the great arena and are divided into four sections. Four different classes of live stock are brought in the ring and a section goes to each class and has eighteen minutes to place the animals and write notes. After the eighteen minutes they are moved to another class of stock, and twice again, until the four rings are judged. Then the boys are marshalled in four sections and take turns in going before the judges. There are four sets of judges, one set for each class of live stock. Each boy has from one to two minutes to state his reasons for his placing of the class. After giving his reasons he retires to his section and remains until all have given reasons, then the section moves along to a second set of judges, and so twice more until reasons are given on the four classes of stock. This completes one-third of the work. Again four classes

of stock are brought in and the same course pursued, and yet once more. Owing to tedious delays, the contest is not usually over until ten p.m. The boys come out from giving their last reasons a wearied, jaded crowd, despondent if they discover many mistakes in placings, awfully weary, but knowing that another contest would find them better prepared in every way. They would not have that nervousness that usually bothers them at least for the first class. They would likely work out a better system of note-taking. They would above all keep cool and not be led astray by unimportant points, knowing that a good common sense view is better than faddish notions as regards fancy points.

At this year's contest, owing to the fact that the arena is needed by the horsemen on Saturday afternoon, the judging will take place in the forenoon and the reasons will not be given until the judging is over. It will be necessary for the boys to remember the twelve classes of stock and to help their memory by writing careful notes on the different classes, as while they are allowed to take notes and consult them while waiting for their turn, they are not allowed to refer to them when before the judges. It will at once be apparent what a hard task is before the boys this year, and it will likely be found that the winners are those boys who have the best memory for stock and who, along with that faculty, have the benefit of the most careful training

R. W. W.

INDIAN SUMMER.

Along the line of smoky hills
The crimson forest stands,
And all the day the bluejay calls
Throughout the autumn lands.

Now by the brook the maple leans
With all his glory spread,
And all the sumachs on the hills
Have turned their green to red.

Now by the great marshes wrapt in mist,
Or past some river's mouth,
Throughout the long still autumn day,
Wild birds are flying south.

—*Wilfrid Campbell.*

Equipment and Methods in Agricultural Extension

G. I. CHRISTIE, B.S.A.

NOTE—In view of the recent movement for the spread of Agricultural Education in Ontario the methods experimented with in other countries are worthy of careful study.

IN discussing the subject of Equip ment and Methods in Agricultural Extension, it may be well to con sider the purpose and object of this new movement. For many years the Farmers' Institute, the agricultural press and other agencies have been most important factors in arousing interest and carrying information to the farmers. Through these mediums a great work has been accomplished. In fact they have prepared the way in many instances for the new movement now being started. The new lines in augurated are simply supplemental to the work already under way or are steps in advance.

The work of the Agricultural Exten sion Department consists of promoting schemes and developing lines that will not only interest the people and ac quaint them with the facts pertaining to their occupation, but that will cause farmers to accept these truths and ap ply them in their daily operations. The problems in Agricultural Extension is not so much that of carrying new facts to the people, as it is how to get them to do those things which should be done.

Trained Men are Needed.

The most necessary and important equipment of an Extension Depart ment is that of men. An extension man must have agricultural knowledge, practical experience, ability to organ ize and lead and the power to inspire others to take up with improved methods and apply them in their work. This man who represents the Agricul

tural College and acts as a leader and adviser for the agricultural classes assumes a great responsibility, and to be able to meet it fairly and adequately he must have had a broad and thorough training. At this time there are few men such as described available.

The Agricultural Colleges have up to this time been educating teachers for the class room and investigators for the Experiment Station, but little or no attention has been given to the training of men for extension work. This extension field is new, but very large. The present need for men is so great that institutions are forced to engage young men with little experience or training. These men must have training before they are qualified to do high class work.

Just how to give young men the training and equipment necessary for extension work while they are in the service is a problem before many departments. At present there is no general solution, as local conditions must be considered. In Indiana we are attempting to solve the difficulty through our organization. Our plan is to place all extension projects in charge of the superintendent of extension. The men who are assigned to carry out the individual pieces of work are provided by the respective departments, and are known in those departments as extension men. A recent ruling of the faculty of the institution will give a clear idea as to our form of organization.

"That it is the sense of those present that the Extension Department of the Experiment Station and School of Agriculture should be organized so as to provide the machinery necessary for projecting and promoting the work of the several departments of the station and the school, and placing valuable information before the farmers of the state; that all extension projects should be considered in a conference of the heads of the departments, who shall determine their desirability and feasibility and approve the general plan of work; that the several departments shall, through their respective heads, co-operate as far as possible with the

JUNE EXCURSIONISTS INSPECTING THE PLOTS AT O. A. COLLEGE.

Extension Department, through its head, in carrying out the work agreed upon; that each of the several departments shall provide a man who shall be available to do extension work agreed upon, under the general direction of the Superintendent of Extension, and that the department concerned shall be responsible for the kind of information and the method of presenting same to the public."

I believe that this form of organization has some advantages at this stage in the development of extension work. By this plan a man is kept in close touch with the work of the department which he represents and is in a position to secure that direction and education which as a young man he must have. In the second place, the department is made responsible for the character of information given out. Another advantage of this organization is that all departments have a direct interest in and feel responsible for the extension work being done in the state. This universal consideration of and backing for the extension movement gives it a standing in the state which cannot be secured otherwise.

Special Educational Trains.

One of the first and important movements in agricultural extension has been the operation of special educational trains. Through these the interest of the people has been aroused and their attention directed to specific lines of work. Educational trains have not carried any particular new facts to the people, but have been instrumental in carrying old and important truths out in an effective way. When these facts have been backed by a railway corporation and given the momentum of a train rushing through a state, they have been impressed upon the people in a way accomplished by no other means.

In this work I believe that experience has proven that the teaching of one subject at a time from the train is better than the attempting of several. By this plan the interest of all the people is centered and directed toward one problem. Where several subjects are taken up at the same time on a train, more or less confusion is bound to result and the actual good accomplished is not nearly so great as when a single idea is advanced.

The early trains were believed by some to be more or less of a fad and it was predicted that they would not last. In Indiana we have been operating trains for six years and find that when the second, third, and fourth train goes over a road it is met by larger and more interested crowds, and so far as we can judge accomplishes a greater work than our first trains. The special train has come to be one of our most important educational agencies and I feel will be used for some time to come in our extension work.

Short Courses.

During recent years the majority of our agricultural colleges have held at some time during the year a school, from one to two weeks in duration, for the farmers of the state, known as farmers' short course, farmers' week, etc. These in every case have been a great success and have done much to give to farmers a high type of practical instruction.

At the Purdue Farmers' Short Course for the past four years we have had an average attendance of more than 1,200 people. This body has been as large as can be handled conveniently and satisfactorily at our University. However, while we count

this a large and successful course, when we think that in our state there are more than 225,000 farmers, we must recognize that this course is hardly large enough to inoculate the several communities. We also recog nize that in these courses the majority of the men who attend are from the best farms in the state. The man who grows a low yield of corn, feeds his stock at a loss and gives little atten tion to improved methods, is seldom found in these schools.

Again when it was recognized that this course was a good thing for 1,200 farmers, the question was raised as to why it would not be a good thing for all of the farmers of the state? This brought up the next problem of how these people were to be reached. The district short course was suggested as a means of taking the work out to the people.

These district short courses are lo cated at some central point with large accommodations in the way of halls and rooms and good railway facilities. in the congressional districts of the state. A local organization is effected and the course in this way promoted. The courses are one week in length and held during the winter months. The program consists of practical in struction in Agronomy, Animal Hus bandy, Horticulture, Domestic Sci ence and Rural School Agriculture. The requirements of the local organi zations for these courses are:

A guarantee fund of $1,000.00 signed by not less than 200 farmers and busi ness men; a hall that will accommo date tables for 500 men at one time for corn judging; a hall that will ac commodate raised seats for 500 men at one time for live stock judging; a hall that will accommodate 500 wo men at one time for domestic science; a hall that will accommodate 200 school teachers for the study of rural school agriculture; a hall or theatre for mass meetings that will accommo date the entire class for general lec tures.

To direct the work in these schools the Extension Department furnishes from the Station and School, twelve to sixteen instructors. From the state, several practical farmers and institute workers are secured to assist in the instruction in corn judging, weed seed identification and live stock judging. The corn and grains for the judging work are furnished by the farmers of the community; the live stock is furn ished by the University.

One object of these courses is to present data relative to farm practices and to demonstrate clearly the applica tion of same. Interest in agriculture has been aroused in this state, and we feel that it is now time that some good solid work was given to the people.

In connection with these short courses, a corn show, fruit show, poul try show and bread show is usually held, liberal premiums being offered by the people of the community. That these schools are popular and are reach ing a large number of people, is shown by the attendance at two of the schools last year, Evansville, 2,137, and Greens burg, 876.

County Farm Experiments.

One effective method practiced in reaching the farmers of the several communities has been that of carrying on demonstration work on the county farms of the state. On these farms work can be conducted under the same conditions as those which exist in the county, and the results are directly applicable. The work is so situated that it can be viewed by large num bers of farmers of the county, and in

this way its value is much increased. Tests of corn, oats, wheat, potatoes and other crops grown in the county are made. The work is conducted by a local organization in co-operation with the Extension Department. The farmers of the counties are expected to assist in planting, threshing and harvesting of the crops, while the superintendent of the farm cares for the cultivation. This work has proved very satisfactory, and has produced marked results.

Horticultural Demonstrations.

Horticultural demonstrations have been organized and carried on with the idea of interesting the people of the state in growing more fruit and in giving more care and attention to home orchards. These demonstrations are held in the open air in an orchard provided by the community. The programme usually consists of two sessions, one in the forenoon and one in the afternoon.

At one session questions are discussed which relate to general orchard management. Pruning is explained, the orchards of the community criticised and discussed, right and wrong pruning methods and their results are illustrated by the object lessons furnished by the orchard in which the meeting is held, and one or more trees pruned correctly to demonstrate the points brought out in the discussion.

At the other session, the questions of insect and disease control are discussed with especial reference to spraying. In the discussion the principles which govern spraying practice are explained and such insect and disease specimens identified as have been brought in. The methods of making sprays for the San José scale, the apple scab, and the codling moth are explained and the materials prepared before the audience so that they may observe the different steps in the process. Spray pumps and accessories receive attention also. Those provided from the neighborhood are discussed, and their merits or disadvantages brought out. Some of the spray material is put on the trees in order to demonstrate the points to be observed in thorough spraying, and in order to emphasize the qualities necessary in an efficient spraying outfit. These demonstrations have proved to be very popular, and through them encouraging results have been obtained.

Judging Contests.

In order to increase interest in live stock in Indiana much attention has been given to judging contests. The State Board of Agriculture, several County Fair Associations, Farmers' Institutes and District Short Courses have conducted these successfully and are now giving them a regular place in their premium lists and programmes. Stockmen believe that contests do much to direct the attention of young people, as well as older people, to the value of good live stock, and the importance of the same in Indiana Agriculture. It is found that the judging contest not only causes the people to study the history and characteristics of the animals they are to judge, but it brings them in direct touch with the stock and the breeders, and interests them in the most profitable and permanent form of agriculture, i. e., "live stock farming." The contest also serves as a medium through which to interest young people in all phases of agriculture.

In these county fair contests the students are required to place, and give reasons for such placing, classes of beef, cattle, dairy cattle, draft horses, fat hogs and sheep. Premiums are offered for those making the highest

score. These premiums are educational in character, usually being a trip to the State Fair, a trip to Purdue University for one week to attend the Farmers' Short Course, or good agricultural books.

The county fair contests are fol lowed by the State Fair contest, where classes of cattle, hogs, sheep, horses and grain are judged. In the state con test $500.00 in premiums are offered. The premiums are scholarships in the Purdue School of Agriculture.

These contests have done much to arouse interest and to turn large num bers of young men toward the agricul tural college.

Industrial Contests for Boys and Girls.

A movement started in our state which has done much to further the cause of agriculture has been that of industrial contests for boys and girls. More than 45 counties have conducted corn-growing, bread-making and but ter-making contests. Thousands of boys and girls have been interested and actively engaged in these contests which are working directly for the bet terment of agriculture and the home.

The contests have been popular, and have been strongly supported, because they offer a medium through which the cause of agriculture can be furthered. These bring the boys and girls into close and active relationship with the things that are immediately about them. They encourage study, open new avenues of thought, bring about a realization of the importance and mag nitude of the interests of country life. They have created a respect for in dustry and labor, and have done much to elevate work from the plane of drudgery to one of pleasure.

In these contests the Extension De partment has co-operated with the Farmers' Institutes of the state, and through these organizations has been able to secure much aid. Usually the institutes have furnished premiums for the contests, while the Extension De partment took care of the organization and supplied all the printed literature. During the year bulletins on the vari ous subjects have been supplied to all members of the clubs and through these they have been able to inform themselves on the different phases of the work in which they are directly interested.

Rural School Agriculture.

The rural schools of the state present a large and most important field for work along agricultural lines. They offer an opportunity not only to reach the boys and girls, but the people of the entire community as well.

To assist teachers in the teaching of agriculture the department has pre pared collections of weed seeds and wheat products, insect mounts and special publications.

In connection with the district short courses, the department is also holding a three-days' teachers' course for the teachers of the district. This course consists of practical demonstrations in methods of teaching agriculture. These courses have been successful and have reached a large number of teachers of the state. The department is also organizing a corps of instructors at the university who will be supplied with outfits for demonstration work and who will be sent to give instruction at the teachers' institutes of the state.

In this campaign for the teaching of agriculture in the rural schools, the department is taking an active part and we believe much good will result from it.

Fair Exhibits.

One of the means through which the

work of the Experiment Station and School of Agriculture can be placed before the people is the fair exhibit. The county fair which is held for and patronized by the rural people affords an excellent opportunity for extension departments to present the agricultural work in an effective way. It is also found that in past years the county fair has run to a large extent to horse rac ing and other light attractions. People are now beginning to plan for these county fairs something more directly educational. The fair managements are, therefore, very anxious to ob tain, and are willing to pay their share for an agricultural exhibit such as can be made by an Extension De partment.

In planning an exhibit for a county fair, one must always keep in mind the very poor accommodations that may be had for such an exhibit. The county fair buildings are poorly ar ranged and have a very limited amount of light. They are usually too small for the many exhibits placed in them. After some experimenting, we have decided that the exhibit box is the best thing to use where the exhibit is made up in a small way. Our exhibit this year consists of 13 boxes, 5 ft. long, 3 ft. wide and 6 in. deep. In these the materials from the several departments are placed and arranged just as we wish the people to see them, properly labelled, and securely fastened. The exhibit consists of photographs, grains, fertilizers, feeds, Babcock testers, pruning apparatus, spray pumps, speci mens of diseased tissue, weed seed col lections, germinators, etc. Every part of the exhibit is supposed to represent some part of the work of the institution and to carry information which will be of direct value to fair visitors. This year the department has two such ex hibits as described on the road and during the fall they will visit twenty county fairs.

On the State Fair grounds Purdue University has a building for its sole use. In this building a working dairy is conducted and exhibits made from the several departments of the Ex periment Station and School of Agricul ture during the week of the State Fair. These exhibits have proved of great value. They have done much to give the people in a direct way some prac tical information, and they have placed the people of the state in close touch with the men who are conducting the agricultural work.

Ontario and the Apple

J. W. CROW, B.S.A., PROFESSOR OF POMOLOGY.

THE tone of the preceding article might lead an unthinking person to conclude that apple-growing in the Province of Ontario is an unsafe and undesirable commercial proposition. As a matter of fact, no conclusion could be farther from the truth. The apple industry offers to day a better opportunity for money making than ever before. While it is true that conditions previously referred to have resulted in a general depression of the industry, it is also true that there has been gradually brought about a condition of affairs unprecedented in our history. The vast increase in our consuming population and the remarkable extension of our shipping facilities, both boat and rail, have placed an almost unlimited market within our easy reach, and at the present time demand is vastly greater than supply.

It is quite true that in recent years there have been seasons of low prices, and it is also doubtless true that within the next few years similar periods will recur. It is a significant fact, however, and one which cannot be too forcibly brought to the attention of present and prospective fruit growers, that at no time within the last ten years have strictly first-class apples been over plentiful; nor is it at all probable—in fact, one might say it is almost impossible—that such a condition will arise for many years to come. As has already been stated, the proportion of strictly first-class apples, and likewise the actual quantity of apples of first grade have decreased within the last fifteen years. The decrease has been so marked one would seem to be entirely safe in predicting that a number of years must elapse before the production of high-grade fruit begins to equal the demand for it. Low prices, when they come, as they are certain to do, will be caused not by a surplus of high grade fruit, but by the placing on the market of large quantities of second grade and inferior stock. Low grade fruit when marketed in considerable quantity does affect more or less seriously the selling price for best grades. As a general rule, however, there is practically no difficulty experienced in disposing of fruit of high grade. Growers who will give the necessary attention and care

to their orchards are sure of a market, provided they grow sufficient quantity to attract buyers, or to enable them to place their own product on the market independently.

I deem it distinctly a misfortune that so many of our best growers decline to permit the publication of the returns they are receiving and the profits they are making in apple growing. I have been fortunate enough, however, to have been admitted into the confidence of a number of growers, and I have no hesitation in saying that apple growing in the Province of Ontario, when conducted by intelligent, thorough, business men, pays to-day equally as well as peach growing. We have been accustomed for many years to regard peach growing as the most profitable branch of the fruit industry. There may have been reason for this opinion in the past, but at the present time I feel that the above statement will stand the closest scrutiny. I am quite convinced that an orchard of apples is fully as good financially as a peach orchard, and I can name more than one apple grower who would not exchange his apples, acre for acre, for the best peach orchard in the famous Niagara fruit belt.

The situation in Ontario to-day, as I view it, is one which will amply justify the planting of extensive orchards by men who have sufficient capital behind them. I am continually in receipt of letters from merchants and professional men concerning the opportunities for investment in apple growing. No man with a keen eye for profits can fail to be attracted by a study of the opportunities offered in apple production to-day.

"IMPROVED." Photo by Dorrance.

In general, the most difficult phase of the subject presenting itself at present is the problem of marketing. A man of means going into the business on a fairly extensive scale would have little difficulty on this score. All

that is necessary is to grow and pack first-class fruit in quantities not less than carloads.

The problem for the small grower, on the other hand, is much more com plicated. For him the only solution seems to be co-operative selling. At present a small producer, if he is isolated, cannot attract a buyer to his district. If he is situated in a large producing section he will not, of course, find it so difficult to dispose of his crop, but even in such sections co-operative marketing has very consider able advantages for the small grower.

I am quite aware many persons will be inclined to bring up the fact that co-op erative selling has not in the past been so uniformly suc cessful as could be desired. It is true that some of our as sociations have become noted for the quality of their packs and the busi ness - like ad ministration of their organizations. On the other hand, it is also un fortunately true that a large num ber of our associations have failed en tirely, and several others seem at present to be going backward instead of forward. None of these facts can, however, be taken as reflecting on the correctness of the principle involved. True co-operation is undoubtedly the remedy for the present depressed con dition of affairs. It is rather a remark able fact that up to the present time we in Ontario have made very little use of the results secured by other countries in co-operative marketing. Associations have come into existence here and there, and after a short period of greater or less activity have disap peared and quit the business. Various reasons can be assigned for the many failures. The ordinary joint-stock plan of organization, in which the stock is all held by a few individuals, is not co-operative in principle and has been the direct cause of more than one failure among our associations. Limit ed liability has been another stumbling block. Older countries adopted un limited liability many years ago, find ing it truly co-operative in principle and perfectly satisfactory in operation.

"IDEAL."

Another fruit ful cause of dis appointment in co - op erative work has been the practice of taking in a large number of members at the start. Ex perience shows that it is much safer to begin with a small number of first-class men. If five or six careful, thorough fruit growers will make up their minds to stick together in spite of any opposi tion that may be offered by buy ers or others, and if they will at the beginning establish definite, positive rules concerning spraying, cultivating, grading and packing, they will have no difficulty in disposing of their crop, or in securing additions to their num ber as the results of their work become known throughout their district. A few good growers banding together in this way will get higher prices than if

they were handling the crop from a larger number of more or less neglected orchards. The object lesson by which their neighbors will profit and which will serve to attract them into the business is the high price secured. If they can once be brought to realize that good apples properly grown, graded and packed are actually salable at high figures, they will be much more likely to give the requisite care to their orchards than if they had been admitted into the association at the beginning. In the latter case, the association would have on its hands a large quantity of second grade stock and prices throughout the association would rule low in consequence. This would tend to dissatisfy the men in the association and would, of course, have the additional effect of keeping others from joining.

Hairy Vetch in the Orchard

Hairy Vetch is gardually winning the place it deserves among orchard cover-crops. Ten years ago it was scarcely known to the Ontario orchardist, but to-day it is grown extensively in several sections. Of the legumin ous cover-crops Red Clover is best knows, but it is not always possible to get a strong stand of it in midsummer. Cow Peas are also well known and highly esteemed, but do not form a mat sufficiently heavy. Vetch is strong in both these qualities. When sown early and in sufficient quantity per acre, it grows vigorously and covers the ground with a heavy tangled mass of stems. It is also an excellent nitrogen gatherer.

But there is one very serious objection to its use. Unless handled, in the spring, when ready it is very difficult to plow under. Growth starts early and the large amount of plant growth draws heavily on the supply of water in the soil. This is just what is needed but if left one day too long at its work, the continued sapping of the moisture leaves the soil too dry to plow without injury to the rootlets of the growing trees.

Many orchardists will not use Vetch because of this supposed difficulty. Others will use it only when combined with some other crop, generally rye, about one bushel of the latter to twenty pounds of the former. The rye acts as a support to the Vetch, preventing tangling to some extent, at the same time adding a large amount of humus to the soil and making available some potash, when plowed under. But where clover cannot be grown, Vetch alone will give the best results. Plow it under as soon as it has done its work, not a day later, and the only objection to its use is removed.

—F. M. C.

Poultry Raising in Alberta

A. W. FOLEY, POULTRY SUPERINTENDENT, ALBERTA.

IN 1906 when a Provincial Govern ment was formed and the agricul tural interests of the Province came directly under the supervision of the Minister of Agriculture the poul try industry was among the first to receive special attention. Upon look ing into the demands of the market it was found that hundreds of thousands of dollars were being sent out for poul try and eggs. Realizing that this was a large and unnecessary drain upon the finances of the Province, the Hon. W. T. Finley, late Minister of Agricul ture, secured the services of A. W. Foley as Poultry Superintendent for the Province.

A vigorous educational campaign was at once undertaken and poultry institute meetings were held during the winter, and demonstrations at the agricultural exhibitions throughout the Province during the summer. The institute meetings covered in a general way the practical side of poultry keep ing and the demonstration brooders, colony coops, trap nests, rearing, crate feeding, and killing and preparing for market.

At this time the system of range farming was at the beginning of the end and the farmers were considering the system of mixed farming for which the Province is so well adapted, and people generally took to the raising of poultry, being encouraged by the un limited markets and the exceptionally good prices offered for poultry and eggs.

Previous to the organization of the Provincial Government and while the creameries were under the supervision of the Department of Agriculture at Ottawa, and in charge of C. Marker, now Dairy Commissioner for the Prov ince, a trial was given the co-operative marketing of eggs in connection with the creameries. The eggs from the patrons' flocks were brought into the creamery by the cream haulers, and were sent from there to the central cold storage at Calgary, where they were examined and cased and sold to the dealers, principally in British Col umbia. By a system of numbering the eggs the supply sent in by any patron of any creamery could readily be identified and any eggs that for any

reason were unmarketable, were charged against the patron supplying them. This system of co-operation proved most successful, the patrons realizing an average of over 5c per dozen more than they would otherwise have secured.

The marketing of dressed poultry was next taken up by the Provincial Government and demonstration fattening stations were established in connection with a number of creameries centrally located. At these places fattening houses and crates were supplied. The birds were fasted for twelve hours before being weighed and

The first year the killing was conducted at each fattening station, but later when the stations were operated at a greater number of creameries it was found to be more economical to ship the birds into a central killing station, where a staff of killers were kept constantly at work under the supervision of Geo. A. Stouffer, an ex student of the O. A. College, who handled this department of the work in a most creditable manner.

Before being forwarded to cold storage the poultry was graded and the boxes stamped accordingly Grade No. 1 or 2 and whether fowl or chicken.

CHICKENS ON FREE RANGE.

a record kept of the number and weight. Birds were received at stated intervals and when each lot was completed a list of names and addresses with the number of pounds of poultry supplied by each was forwarded to the Department of Agriculture and an advance cheque was mailed to each patron amounting to 8c per pound for fowl and 10c per pound for chicken.

The poultry was then crate fed, using the buttermilk from the creamery and a suitable grain ration. At the end of the fattening period the birds were killed, packed in boxes and sent into the cold storage at Calgary.

The output was sold from cold storage at prices ranging from 16c to 22c per pound, and after deducting the actual cost of fattening, killing and marketing the Government was able to make a further payment, making a total payment of 10.27c per pound for fowl and 12.27c for chicken, the first year, and 9c for fowl and 12.09c for chicken the second year, live weight, delivered at the creameries.

As a result of the educational work the farmers now saw the advantage of keeping a better class of poultry than the common barn yard hen commonly found on the homesteads, and peti

tions were received asking the department to establish a poultry breeding station where birds and eggs of pure bred utility fowl could be secured at a nominal price. Encouraged by the interest shown by the farmers it was decided to comply with this request and a Breeding Station was built.

At this time an Agricultural College had not been considered and nine acres of land in an ideal location was leased from the Hudson's Bay Company in the City of Edmonton. Suitable houses, incubator room and office have been erected and trap nests introduced into nearly all the pens. The plant is now in its second year of operation and has for the past six months been managed by H. W. Scott, a graduate of the O. A. College.

While Mr. Scott has been in charge but a short time he has made good and there has been a decided improvement in the general conditions at the Station under his management. There are now several hundred chicken at the Station and this number will likely be doubled by the end of April.

The demand for eggs and stock has been much beyond the capacity of the Breeding Station; it has been necessary to refuse orders for some ten or fifteen thousand eggs this season. Last year the eggs were sold at $1 per setting, $2.50 for three settings and $5 per hundred. This year the prices were the same, excepting that it was thought advisable to limit the orders to 50 eggs in order to be in a better position to supply the increasing demand.

From enquiries I have made of the various breeders in the Province I find that they too are able to supply but a small portion of the orders received.

Owing to this great demand consideration is being given to the enlargement of the present Breeding Station with perhaps another one established in a different part of the Province.

During the winter further educational work was given by three short courses of two weeks each at central points, where practical lectures and demonstrations were given in the various departments of poultry keeping.

NATURE.

The wounded world is fair to see,
Nine times folded in mystery;
Though baffled seers cannot impart
The secerts of its labouring heart,
Throb thine with Nature's throbbing breast,
And all is clear from east to west,
Spirit that lurks each form within
Beckons to spirit of its kin;
Self-kindled every atom glows,
And hints the future which it owes.

—*Emerson.*

THE O. A. C. REVIEW

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Editorial

A Christmas Number

Christmas! The Review staff realizes the approach of this holiday season weeks before the college student begins to dream of the old home and the happy family reunion in December. Already a Christmas atmosphere pervades our office, for the members of the staff are directing their efforts towards a special Christmas Number. We are aiming to make this a very attractive issue, and no pains are being spared in its preparation. It is our earnest desire that all the readers of The Review will be pleased with our Holiday Number.

Our Advertisers

We wish to impress upon the students that it is necessary to patronize those firms and shops which advertise in our magazine. The Review is your property, therefore you should be highly interested in its financial success; its financial success depends essentially upon its advertising business. Our advertisers are therefore our patrons, and it is only fair that they receive our patronage in return. If all the students make it a point to discriminate between advertisers and non-advertisers, in their business transactions, the financial standing of The Review, though at present in good condition, will be placed upon a still firmer basis.

Inviting Discussion

In our editorial of October upon the work of the District Representatives, we invited discussion by the representatives themselves, of problems and ideas which might be of interest in connection with their work. We repeat the invitation, and will willingly publish matter of mutual interest to the agricultural teachers of the Province. We trust that Mr. MacVannel's article

upon "Farmers' Clubs," contained in this issue, will prove of benefit to those engaged in work of that description. In the December issue, F. Hart, B.S.A., of Galt, will give us some of his ideas and experience upon "The Relation of the Experiment Plot to the Work of the District Representatives."

The American Invasion

It is doubtful whether Canadians, as a people, thoroughly appreciate the growing greatness of their country. Not until we begin to read the newspapers, magazines and periodicals of other countries, which to-day are publishing Canadian news, and articles upon her wonderful resources, is it strongly impressed upon us that our country is very much "in the lime-light" of the industrial and mercantile world. A few years ago the average American experienced an involuntary shiver if Kipling's "Lady of the Snows" were mentioned. To-day his attitude toward Canada is changed. He finds her a most winsome, warm-hearted, generous lady. The farmers of the Northern American West are not in love with Uncle Sam; they are not assailed with patriotic scruples. Irrigation schemes have not proved popular with them; a second rate soil does not produce the wealth they want. That's why they come a-wooing to Saskatchewan and Alberta. Miss Canada, young and rosy, is infinitely more attractive than our long and lank, starred and striped relative to the south. Two feet of good black-brown mucky loam stirs the agricultural instinct of our American cousin. Twenty to forty bushels of wheat to the acre is a charm it is impossible to resist. That's why ninety thousand American farmers crossed the border last year from Iowa, the Dakotas and neighboring boundary States. When American newspapers such as 'The New York Herald," begin to seriously discuss this fact it is high time that Canadians should "sit up and take notice." When standard American magazines, such as "Pearsons," begin to publish twelve page illustrated articles upon the astonishing wealth of our Canadian West, we Canadians should wake up to the fact that our rapid strides are not unnoticed by the outside world, that we are a people and a country of some concern, a strong and growing factor of the industrial world. Those of us who have seen the June number of Pearsons read with natural pride Arthur Stringer's article, "The First Emigration from the United States." Mr. Stringer visited and travelled through our Western Provinces. He studied the situation out for himself. He deals with facts, not with hearsay. Let us quote a few of the more striking passages which should be of interest to Review readers.

> ["What brought you up into Canada?" I repeated.
>
> The man from Iowa waved his whip to where an oil-burning tractor, crawling across the endless Roman-gold wheat stubble, dragged an eight-point gang-plow at its heels. It buried the gold away in great broad swaths, leaving in its wake a many-furrowed pathway of naked soil, brownish-black and maroon in the opal morning light.
>
> "That soil did!" was the Iowan's laconic reply.]

> [I squinted out over an Atlantic of gray-black and maroon colored loam that had been casually tickled with a hurrying drill-point and had "laughed back" with twenty two bushels to the acre.
>
> "But it can't last!" I expostu-

lated. "You'll come and turn the trick once or twice, then you'll either pass on like the Spanish gold-seekers, or you'll sit and call for commercial fertilizer and irriga tion laterals.

My wail of warning only brought a smile of pity to the Iowan's bronzed cheek.

"Son," he said, quite solemnly and quite paternally, "I know land when I see it, and neither you nor me will live to see this loam peter out. It's been a savings bank for twenty thousand years, and with out any withdrawals. Why, it actually needs twelve or fifteen years of cropping to get the 'rank' out of it, to tame it down and teach it table manners.]

[No, I could not contradict him. I had seen Peace River Flour, made at the mill in Vermillion, just four hundred miles south of the Arctic circle, and I knew that both the scientist and the market buyer had agreed that this flour had never been equalled.]

[It is remarkable because it is America's first emigration of any pretence or any proportions. It is the first continuous and consider able movement out of the United States.]

[He found himself under a system of government that was proving itself as democratic as any in the world.]

[He found a scrupulous enforce ment of law and the greatest re spect for the rights of person and property.]

These passages from Mr. Stringer's article are suggestive of what the world and especially the United States is beginning to say and to think about Canada. Those who are interested in this movement to our Canadian West will find the above-mentioned article very instructive.

THE REMAINS OF AN ONTARIO PIONEER'S DWELLING.

The Fight.

The sun had fulfilled its daily task, and disappeared in one last burst of golden brilliancy to awaken another people to their daily labors.

The soft breezes of eventide came lazily from the shadows beyond the pines, and hesitated as they prepared to mingle with the stillness of eventide they were wont to meet on the shelt ered expanse which lies beneath the care of the old greystone building. They tiembled and stopped. The air became pregnant with a sense of the unusual. The birds resting beneath the shelter of the trees, moved uneasily, and a solitary owl looked down with disap proval upon the limbless tree which had magically appeared since last he sat sentinel of the evening shadows.

He waited in expectancy. Dimly to his memory came the recollection of another evening such as this. Then came a deluge of fast returning mem ories, and he understood those things which troubled the evening breezes and the resting feathered creature—it was the eve of battle.

The wise old bird saw strange sights across the green sward. There came a horde of whispering men, whom he had never seen before. The shadow of eventide rested upon the left cheek of each, and the scantiness of their costume shocked his feathered majesty.

Hardly had these gathered around the limbless tree when the old and venerable bird became conscious of the presence of familiar faces—the sur vivors of last year's battle.

His reveries were rudely broken. The Sophomors were attacking the circle of raw material surrounding the flag staff which bore the white rag of the honor of class '14. Preliminary tactics were fruitless, and the wise old bird thought proudly of the manoeuvres of the aged seniors of '11. His eyes blinked and blinked again. A flying wedge swept from the shadow of the bushes and split the defenders' ranks. All was confusion. Men struggled with men. Men tore with men, for there was much to tear. Shirts which had a family history were ripped from their long loved resting places. Expressions never articulated before, broke from the lips of one hundred and forty Freshmen, and much pasture was con-sumed by thoughtless and excited Sophomores. The owl blinked again and then sat with fixed expression. Yes, there was Reggie. He knew Reggie,

great fighter, Reggie! He needed no armour on his manly bosom. Nature had provided him a stout and manly breast, which needed no protection. The owl moved his head sixty degrees and almost upset his equilibrium. There was another old friend! But what a change! Instead of lying pro strate upon the green with tomato skins and ancient eggs entwined in his locks, this man wore a leathern helmet and leaped upon the heads of the de fenders of the flag. He struggled toward the prize of his high calling. There was a rip, rip, rip, and the owl turned his head away in modesty. Curi osity overcame him, and he looked down again, and then he saw a quick series of rushes toward the pole, a short leather capped object pro pelled through the air, an arm upflung, a tearing of linen and Kyono had robbed the Freshmen of their treasure.

The At Home.

Among the many social events which take place during the college year, pro bably none are looked forward to more eagerly than the At Homes at Macdon ald Hall. The first of these for this year took place on Wednesday even ing, Sept. 28th, under the auspices of the Union Literary Society.

To the Freshmen it meant for the first time a glimpse into the sacred precints of Macdonald Hall, and mak ing the acquaintance of some of its fair occupants. To the Sophomores, juniors and seniors, the residence across the way was quite familiar, and they were there in full numbers to re new old acquaintances, and make new ones.

Soon after 7:30 the central hall was crowded with an eager throng, anxious to have their programmes filled for the evening. To this end the introduction committee were kept exceedingly busy, and not until the bugle sounded for the first promenade did they cease their untiring efforts to make everyone feel at home.

At the various rendezvous through out the building the scene for a time was one of confusion, and here again the services of the committee were in great demand, as it is almost impossi ble to remember faces in meeting so many for the first time. Soon, however, the partners were found and ten min utes spent either in wandering around the spacious halls or in some cozy corner, in the majority of cases, passed all too soon.

The programme consisted of solos, ably rendered by Miss Herrington, Miss Crews and Mr. J. B. Ellis, and piano solos by Miss Huestis and Mr J. D. Lawson. These numbers were given in the gymnasium and were highly appreciated by all present.

Lunch was served in the usual dainty style at the south end of the lower hall, which was a favorite rendezvous during the latter part of the evening.

Ten o'clock found the halls still ringing with the conversation and laughter of the merry couples. But, alas! the rules of Macdonald Hall must not be broken, and reluctantly good nights were said and the halls emptied before 10:30.

"Pickwick."

To spend an evening with Mr. Pickwick as introduced by Mr. Will iams, of Toronto, is time well account ed for. It is every man's privilege to read the works of Charles Dickens, but it is not within the power of all to grasp through that same reading the remarkable power of characterization possessed by that versatile writer of the past century. That Mr. Williams proved himself an able analyst of the

characters to be found in Pickwick will be readily acknowledged by those who attended his recent lecture in Massey Hall.

Mr. Pickwick himself was there. On the lantern slide in person and in the mouth of Mr. Williams in character, he made himself known for the first time, to many who had only read of him before. His ability to find trouble and place himself in the most ridiculous of situations, brought continuous laughter from the well-filled hall.

The inimitable Sam Weller, with his droll humor, proved a source of continual merriment to the appreciative audience. Samuel is probably Dickens' greatest character, and the genuineness of characterization lost none of its greatness as portrayed by Mr. Williams. The fat boy made himself felt, seen and heard. This extraordinary freak of humanity elicited the sympathy and at the same time the laughter of all present, and without him the evening would not have proved the success achieved.

The lesser characters were also well portrayed by the capable lecturer, and the breach of promise scene in which Mr. Pickwick was the defendant, gave conclusive evidence of Mr. Williams' ability as a competent and sympathetic interpreter of the works of Charles Dickens.

It was with reluctance that the audience said farewell to the evening's entertainment, and the hope was expressed that Mr. Williams would be present with us in the near future. It may furthermore be stated that this was the best attended lecture for some time, and the attention given throughout left nothing to be desired.

THE POLITICIAN.

Craven in leathern mask or brazen face,
Were I time's sculptor, I would set this man;
Retreating from the truth, his hawk-eyes scan
The platforms of all public thought for place,
There wriggling with insinuating grace;
He takes poor hope and effort by the hand,
And flatters with half truths and accents bland,
Till even zeal and earnest love grow base.

Knowing no right, save power's grim right-of-way;
No nobleness, save life's ignoble praise;
No future, save this sordid day to day;
He is the curse of these material days;
Juggling with mighty wrongs and mightier lies,
This worshipper of Dragon and his flies!

—*Wilfred Campbell.*

Alumni

Mr. G. E. Sanders, B.S.A., of Nova Scotia, and Mr. R. C. Treherne, B.S.A., both graduates of the O. A. College, have been engaged for field work by the Dominion Division of Entomology, to carry out measures against the Brown-tail moth. They have also to inspect the nursery stock imported in to Nova Scotia. Mr. Treherne has been acting temporarily as inspector for the Division, while Mr. Sanders has been engaged during the past three years on field work with Dr. Forbes, State Entomologist for Illinois. With two such capable men as "Tre" and "Sanders" looking after the preventa tive measures, we feel sure that the ravages of the Brown-tail moth will be greatly lessened in that locality.

Messrs. Bradt, Schuyler, Clark and Smith, formerly of class '11, have re turned to the old O. A. College after a year's absence to resume their stu dies with class '12.

The death of Mr. John A. Craig, which occured on August 15th, marks the close of an eventful career in Ani mal Husbandry. Mr. Craig was born in Russell County, Ont., in the year 1865. He entered the Ontario Agricul tural College in the year 1888 and was a member of the first O. A. College graduation class, graduating along with Dr. G. C. Creelman, and Prof. C. A. Zavitz. Two years after graduating he secured the position in Wisconsin University as head of the Animal Hus bandry Department. In 1890 he went to Iowa as head of the Animal Hus bandry Department for that institu tion, there he successfully conducted the first short course in Stock Judging for farmers. Later on he became editor of the "Iowa Homestead," but was forced to give up this work on account of ill health. He then went to Texas where he established Oakmore farm. During the last few years of his life he rendered valuable assistance to the Texas and Oklahoma Agricultural Col leges, and at the time of his death he held a commission from the Govern ment Tariff Board for special investi gation of the wool industry of the Western States. Mr. Craig wrote a text-book on judging live stock which is used at present at the O. A. College, and in a great many of the Agricultural Colleges in the United States. His death is greatly regretted and leaves a place that will be hard to fill.

Mr. Earn Farlinger is another of our Old Boys who is making a success of farming. He lives near Morrisburg, Ont. His orchard was used this year by Mr. Campbell, the District Repre sentative for Dundas County, for de monstration purposes.

Two of the boys from class '12 have decided to drop out of College for a year to secure further experience along agricultural lines. One is Mr. Stanley Knapp, who has gone to Galt as assist ant to Mr. Hart, B.S.A., District Repre sentative for Waterloo County; and the other is Mr. Floyd Shaver, who has gone to Petrolia to occupy a similar

position with Mr. S. Todd, B.S.A., Representative for Lambton County.

The marriage of Mr. Chas. A. Row, an old O. A. College student, to Miss Jessie Walton, took place at Newton, Pa., on August 16th, at the residence of the bride's father. After the reception the young couple left for a trip to New York, Boston and the White Mountains. Mr. Row was a member of the '08 class, and is putting into practical use what he learned at the O. A. College. He and his father run a two-hundred acre dairy farm. The Review wishes Mr. and Mrs. Row every success in their future life.

It is reported that Mr. Wm. Bailey, B.S.A., a graduate of class '10 of the O. A. College, has grown tired of single life and is thinking of taking unto himself a wife. "Bill" is showing his good sense by choosing a former "Mac" girl. "Well done, brave Will."

Mr. McLennan, B.S.A., who has been assisting Prof. Graham, at the Poultry Department, has transferred his services to the Horticultural Department. He is taking the place of Mr. McMeans, who has left the College for other fields of action.

Another of the old O. A. College boys who has been called to rest this summer is Mr. H. S. Peart, B.S.A., who was at the time of his death Superintendent of the Jordan Harbor Fruit Station. Mr. Peart died suddenly on July 19th. Previous to going to Jordan Harbor Mr. Peart was assistant to Professor Hutt in the Horticultural Department of the Ontario Agricultural College. Although Mr. Peart had not long been in charge of the Jordan Harbor Station, he had already shown that he was capable of doing much for the fruit growers. His untimely death will be greatly regretted by all who knew him.

R. B. Cooley, B.S.A., one of the 1910 graduates of the Ontario Agricultural College, who has lately been at Ottawa aquainting himself with the duties of registrar of the Dominion Swine and Sheep Breeders' Association, has accepted the position of assistant in Animal Husbandry to Professor Barton at Macdonald College, Quebec. "Cooley" was always a practical man and thought that the work at Macdonald College would be more congenial than the somewhat clerical work at the department at Ottawa.

Horace Barton, B.S.A., after graduating from the Ontario Agricultural College, left for Macdonald College, St Annes, to assume the position of assistant to Professor Arkell, who was head of the Animal Husbandry Department for that college. When Professor Arkell was given an appointment at Ottawa this summer, Mr. Barton succeeded to his position. "Horace" was one of our very best "all round" stock judges. He was the first man mentioned in his year to represent the O. A. College at Chicago on that year's stock-judging team. He is a conscientious worker and under his supervision the people of Quebec need have no fear for the future of the Animal Husbandry Department at St. Annes.

Mr. R. J. Deachman, of class '05, after quite a few years of singleness, has at last joined the ranks of the benedicts. He was married this summer to a Miss Grant, of Guelph. "Bob's" course at the O. A. College has evidently stood him in good stead from a matrimonial as well as from an educational standpoint. The Review wishes him and his bride success and happiness in their future life.

St. Andrews 20, O. A. C. 0.

On Saturday afternoon, Oct. 1, the first practice game of the season was played on the campus between St. Andrew's College, of Toronto, and O. A. College. Although it was not of that spectacular kind which makes foot ball so interesting to watch, mainly on account of lack of condition and practice, yet it gave the spectators a chance to get a line on the teams' chances in its league matches.

The first quarter was mainly a series of scrimmages, St. Andrews holding the ball most of the time. Both teams showed some rawness and there was more or less fumbling especially by the back division, but in most cases the ball was recovered. In this quarter St. Andrews made a touchdown, but failed to convert. In the second quarter the play was fairly even until a St. Andrews man fumbled and College made a good dribble, but lost the ball. St. Andrews then made a touchdown and another was averted by an offside interference just at the end of the quarter.

In the third quarter the play was much faster, the College line holding much better than in the first half. In this quarter neither team scored, but in the last quarter St. Andrews scored two more touchdowns making the final score, St. Andrews 20, O.A.C. 0.

O. A. College although defeated are still undaunted and promise ample revenge in the regular league games. Every man played a good game, their poor work being due to many changes on the line-up. Madden was the main stay of the back division.

Line-up — Full, Madden; halves, Light, Palmer, Moore; r. middle, Steckley; r. inside, McAleer; l. outside, Jackson; l. middle, Barrett; l. inside, Baldwin; c. scrimmage, Smith; r. scrimmage, Johnston; l. scrimmage, Toole; quarter, Gandier; spares, Bosman, Murray, Weld.

H. S. Ringland.

Mr. Ringland, our new Athletic Instructor, was born in the town of Billerica, Mass., but later moved to Keene where he attended the Public and High Schools. After graduating from the latter he attended Harvard University for two years, but finding that his energies were centered in a different direc

tion he left Harvard to attend the Lowell Textile School and intends re turning there later to specialize in the woollen industry.

He took instruction in physical cul ture from Dr. Plumb, of Tacoma, Wash., and since then has instructed classes in Cambridge Y. M. C. A. for

H. S. RINGLAND.
Physical Instructor.

one year, and the next year at the River side Alliance.

Mr. Ringland comes to us well re commended and The Review extends to him a hearty welcome and success in his work as Athletic Instructor.

Field Day.

The long expected and to some the most enjoyable event of the College year has come and gone. In some re spects this the nineteenth annual Field Day has eclipsed all others. The wea ther was all that could be desired, the crowd large, the competition keen and there was no accident to mar the day's enjoyment.

The entry lists were very large and fairly evenly distributed amongst the four years. The competition was very keen, especially in the short runs, Law son lowering the record in the 220 yard dash by a fifth of a second, and Millar in the mile run was able to lower Petch's record by two seconds. The rest of the events were about the same as last year, excepting the weights, which were away below the standard.

However, all who attended the sports had an enjoyable time watching the different events and listening to the Sophomores' Brass Band, which, although not quite up to the standard of excellence maintained by Susas, added wonderfully to the enjoyment.

The second year, with Pope and Cul ham, tied for the championship shield, gained the highest number of points, and through the kindness of Mr. Prin gle, who donated two College shields instead of one as formerly, each of the above named men received a shield.

Promptly at one-thirty o'clock the starter, Dr. Reed, lined up the contest ants in the 100-yard dash, and by noon the first six events on the programme were run off. The afternoon events began at 1:30 o'clock, and continued until about 5:30 o'clock.

Summary of Events.

220 yard dash—1 Lawson, 2 Dou gall, 3 Clement.

100 yard dash—1 Lawson, 2 Dou-gall, 3 Clement.

Standing broad jump—1 Lund, 2 Culham, 3 Coglan.

16-lb. hammer—1 Coglan, 2 Caroll, 3, G. P. McRostie.

Running broad jump—1 Culham, 2 Pope, 3 Fay.

Standing high jump—1 Hester, 2 Mollison, 3 Dougall.

Running hop-step and jump—1 Culham, 2 Coglan, 3 Pope.

16-lb. shot (under 140 lbs.)—1 Robertson, 2 Jarvis, 3 Smith.

Half-mile run—1 White, 2 Dougall, 3 Miller.

Foot ball team race—1 Campbell, 2 Creelman, 3 King,

Pole vault—1 Pope, 2 Coglan, 3 Clement.

One-mile run—1 Miller, 2 Petch, 3 White.

16-lb. shot (over 140 lbs.)—1 G. McRostie, 2 Pope, 3 J. McRostie.

Throwing discus—1 Rebsch, 2 G. McRostie, 3 Coglan.

One-mile walk—1 Cook, 2 Solomon, 3 Tisdale.

120 yards hurdle—1 Culham, 2 Lund 3 Clement.

440 yards dash—1 Miller, 2 Dougall, 3 Pope.

Two mile run—1 Petch, 2 Clement, 3 Heggie.

Inter-year relay—1 First Year, 2 Third Year, 3 Second Year.

Obstacle race—1 Kyono, 2 Solomon, 3 Hestall.

Running high jump—1 Hestes, 2 Mollison, 3 Dougall.

Banquet.

At about seven o'clock the students assembled in the Gymnasium and sat down to a sumptuous repast. After all had done justice to the different kinds of delicacies provided, Mr. McAleer, President of the Athletic Association, took the chair and a programme consisting of musical numbers and speeches appropriate for the occasion were rendered after which the National Anthem was sung and thus ended a very enjoyable day.

The Athletic Association are to be congratulated on the very successful way in which everything was carried out, for not a hitch occurred in the proceedings during the entire day.

IN THE HAUNTS OF THE PARTRIDGE.

The Seniors of 1910

THE fall term is gradually slipping away, the golden, glowing autumn is chilling and hardening into a bleaker season, and more than half of our precious weeks and days are already behind us. The novelty which invested the fresh environment and occupations for all that bevy of girls who came, full of curiosity, on September 15th is gone. So engrossed has every one become in the work and interests of Macdonald that all have forgotten that the nine points which possession gives was not always theirs.

A LITTLE GROUP OF SENIORS.

The returning two-year girls have grown accustomed to seeing Sr. N. and Sr. H. E. on their programmes, and to being referred to as high court of appeal in all questions of doubt and dispute. With commendable adaptation they have settled into the occupancy of certain spacious front bedrooms of happy location and beauteous outlook, upon which a year ago they cast vainly covetous eyes—and yet that time of a year ago is not complete oblivion, to every one there comes occasionally a queer surge of retrospect, and things seem as they were. Those others, whose presence was so identified with these said front rooms, with the Hall, the Institute, the tennis courts, the campus, the roads about where tramping is good, surely they are not all

gone! We shall meet them at tea. But they are not in their fami liar place. We look in vain for their bright faces and their seriously import ant air, they have passed on and we are their successors. We remember them all so well, worrying over their "dems" managing the proms. organiz ing ball games, and concerning them selves over a hundred affairs "even as you and I." We remember them smil ing and assured at the conversat, while we felt still conscious and green; we remember them radiant at the graduat ing dinner; we remember them weary, drooping and fagged, yet sustained by the end in view, on those last, hot, stifl ing examination days in June; but most vividly of all do we remember them on May Day. They made a pic ture not to be forgotten, the seniors of 1910 dressed in summery white, sur rounded with the blossoms of spring and grouped about their queen. Now that they are scattered to their several ways the seniors of 1911 follow them with good wishes and trust that we also may have as happy and successful a year.

—P. M.

Among Ourselves

The Initiation.

On September 16th, the night before the initiation, a crowd of Freshies were gathered together in apprehensive won der as to what the morrow might bring forth. Some declared they would not be able to sleep, while others put on a brave appearance and avowed that so many Freshies could soon settle that handful of Seniors. Yet, inwardly, all were in a panic when one comforting soul brought forth the consoling assurance that "they can't do anything worse than kill us anyhow, no matter what happens, so never mind any Ladies' Home Journal edi torial."

When the bulletin appeared that all new girls must present themselves at the Gym. at 7:30 p.m., provided with gym. shoes and walking suits, the worst was expected, probably a walk over nails and spikes or some torment borrowed from the treatment of the martyrs of old.

All came wrapped in warmest garb and sat in fear and trembling while two sentinels guarded the doors, and another Senior called out the names of each victim; then, one by one, the trembling new-comers were escorted down tiers and tiers of stairs to the shadowy chamber of horrors below.

Only one ghost accosted them from the gloomy depths and each contrived to reach the gruesome journey's end and there she received her mark of distinction. On returning once more to the blessed light of the upper world she found that this had altered her appearance to the close resemblance of a much besmeared stove.

When all the smutty-faced ones were assembled a code of rules was read, and orders were issued some of which were: "Call on Monday morn

ing for the Seniors' laundry; See that all Seniors' boots are kept immaculately blacked." The gracious offer of chaperonage to Melba was made for the small consideration of expenses, including cab-fares and violets. A race to the Gym was the next event, the winner receiving a prize.

The evening was wound up by a jolly dance. Every one got acquainted with the very congenial Seniors and abundant refreshments contributed not a little in the general conviviality.

The First Prom.

"Hope deferred maketh the heart sick." That explains the gloom that descended on College Heights when the first prom. of the year was postponed for a whole week. Friday, September the thirtieth seemed such a long way off.

The prom. actually took place two days sooner in order to enable fourteen fruit growers to attend. It is rumored that this tribute to their charms caused enlargement of their fourteen craniums.

Fears were expressed by some as to whether there would be enough boys to "go around." This made the Seniors smile reminiscently. The fears were checked with the arrival of three particularly early birds at seven-twenty two (by the Institute clock). Whether or not they got their wormy deserts, no one knows. Later the arrivals came in such numbers that members of the introduction committee, caught in the "seething mass of humanity" in the lower hall, looked rather overpowered at the dimensions of their job. Enough boys? Yes, indeed! and lots of left overs too, whose lonesome condition gave a pleasing touch of contrast to the gay scene.

Nothing particular happened to distinguish this prom from those that lie buried in the past. Radiant couples sat on rocky trunks and swung four little feet. Gloomy couples marched glumly up and down the halls. Naughty couples monopolized the cosy corners, and virtuous couples tried to chaperon them.

One young man was having a third cup of coffee secure in the thought that his greed was a secret. Suddenly a bolt from the heavens, so to speak, dashed the cup from his lips and left him a dazed and wobbly penitent. Macdonald Hall expects that at future proms he will govern himself accordingly.

A Freshman forgot his manners completely, and when the cakes were passed, took two big handfuls. We'll hope he repented.

Several musical numbers added greatly to the pleasure of the evening. Vocal solos by Miss Herrington, Miss Crews and Mr. Ellis were very much enjoyed, also piano solos by Miss Huestis and Mr. Lawson.

As at all previous proms. the sterner sex could not tear themselves away when the gong sounded. At last, however, the final man was shooed out and the girls collected to compare notes and discuss the "prospects" for the year.

Tennis Tournament.

Speaking of tennis, the tournament this fall was a decided success, in spite of a few days of rainy weather which seemed bound to interfere with the matches. On the whole Old Sol seemed to look with favor upon the event and produced some excellent bright days when the enthusiasm of sport was contagious, and some very good play was enjoyed. The number of entries was not large, but there were players enough to render the competition lively. Two events were the

items of interest, the ladies' singles and doubles. Miss Shaw won out in sin gle., and carried off the pennant award ed by the Athletic Society, although her championship was warmly con tested by Miss Hamilton. Some par ticularly good play was brought out in the doubles, splendid serves and clever returns. Miss Shaw and Miss McGie seemed to support each other's game remarkably well and another well balanced pair were Miss Lightbourn and Miss Martin. With these four on the court the ball was kept see-sawing back and forth indefinitely, and the score was kept at vantage in and vant age out and deuce again, till the pa tient umpire was on the verge of col lapse. But ultimately Miss Light bourn and Miss Martin won the neces sary additional stroke which gave them game and set, and thus they succeeded in establishing themselves as champ ions against all comers.

The Event of the Season.

"Owing to the arrival of the Prince of Wales, our beloved Sailor Prince; and his aides-de-camp, a ball will be held this evening in the Gymnasium."

The above notice was issued by the Senior Normals for the benefit of the Freshmen. Lord and Lady Minto, the former wearing a bored expression, the latter a passé gown, made charm ing host and hostess, and graciously re ceived their many distinguished guests.

Little Miss "Hobble" whose engage ment to the College Sport has been lately announced was escorted by her fiancé. Countess Gardens was stun ningly robed in a green "genoville." Numerous foot-ball heroes were pre sent, in rugby attire, making an excel lent back ground for the Parisian beauties. The room was tastefully decorated with wall flowers and gym nasium apparatus.

At eight-thirty a herald, wearing the King's livery, and playing artistically on the megaphone, ushered in the Prince and his Aides. They stepped into the ball room to the strains of "Rule Britannia" and a burst of ap plause rose from the throats of the seething mob. The Prince becoming ly attired in $1.98 Eaton Sailor Suit, approached the platform, where he is sued a few remarks which brought tears to all eyes. His handsome Aides attracted the attention of the many debutantes, and divided their time (and coat-buttons) throughout the evening impartially.

Supper was served on the end of a stick, a dainty, especially imported by Mr. Spa. Dancing was continued until a late hour, the last guest departing at nine-thirty, when the cocks from O. A. College began to crow.

Dramatis Personnai.

Prince—Miss Mactavish.
Aides—Miss Seaborn and Miss Burke.
Herald—Miss Wampkin.
Lord Minto—Miss M. Cook.
Lady Minto—Miss Ross.
Medals—Watch Fobs (chiefly).
Supper—All-day Suckers.

Much Ado About Nothing

What church do you go to, Miss B?

The Baptist.

O, we passed it this morning. It's called the Congregationalist, isn't it?

New Girl (third day after the opening of the term, appearing with a time stained expression and a water jug)—Please, where can I get some water to wash in?

"Fashions must have changed," mused the cobbler. "I haven't had so much work since machine made shoes came in. 'Taint consistent with female natur' that they're having their heels lowered on account of common sense. No, it must be the fashins."

To the Unexpected Guest at the Party.

There was a young lady benighted,
Who did not know when she was slighted;
She went to the party,
And ate just as hearty
As any who had been invited.

Owing to temporary insanity on the part of the clock, the bell rang long and loud, four times between four and five o'clock one Thursday morning. Whereupon several Freshettes, thinking it was the fire alarm, arose and neatly packed their best hats, new suits and toothbrushes in their umbrellas, preparatory to sliding down the fire escape into the arms of the noble O. A. College fire brigade.

Miss B—in dem (cautiously lowerin scalding prunes into a cut glass dish)—I'm afraid these prunes will be a shock to the dish.

——Bang!

Stewed Prunes—Can you blame the dish?

Professor Jarvis keeps up the habits of his youth in roll call, demanding "cookies."

Little Mary Freshman's come to our hall to stay,
Left her daddy on the farm, gettin' in the hay.
Bid adoo to all her folks and fellars back to hum,
Came to the city on a train—by gum.

"My Uncle Nehemiah always said
'If ye aint eddicated, might as well be dead.'
So I come down to College, and I expec'
You will think I'm mighty green, but I ain't, by heck!"

Little Mary Freshman better go slow;
Just one word to the wise you know,
Be a trifle ladylike and mind what you are about,
Or the Seniors will get you
If
You
Don't
Watch
Out!

—'Varsity.'

Schools' and Teachers' Department

Devoted to those interests of the Ontario Agricultural College which pertain particularly to the training of teachers for giving instruction in the schools of the Province along vocational lines—in Home Economics, Industral Arts, Elementary Agriculture and Horticulture.

ELEMENTARY AGRICULTURE AND NATURE STUDY.

Springwater School Garden, Elgin County, 1910—Miss F. Wegenast, Teacher.

The advancement of School Gardening in Ontario has been marked this year by the organization of Elgin County's first garden at Springwater School (S. S. No. 11, Malahide Township) under Miss Florence Wegenast, who took the course in Elementary Agriculture and Horticulture at the College with the Normal Class of 1909. Springwater School is situated in a beautiful and rich agricultural country, about five miles from the town of Aylmer, noted throughout Canada for its canning industries. The chief farming interest of the locality centres around the dairying business, but the growing of fruit and canning products shares with this interest.

The School Garden comprises one-half acre of ground adjoining the school grounds proper. It has been leased at a nominal rental from Mr. White, a good friend of the school, and enclosed by a neat wire fence that secures the garden from the dangers of straying cattle, sheep or pigs. The soil is a fine sandy loam, easy to work and quick to respond to cultivation. The whole of the half-acre has not been put into garden this year; only one-quarter of an acre has been broken up and apparently this area is ample for all garden purposes. The garden proper lies in the middle of the half-acre plot bordered by grass, presenting in consequence a pleasing effect of roominess, and appearing as a framed picture. It is located on a hill, from which is afforded a fine view of the surrounding country.

In all the work, Miss Wegenast has been generously encouraged and assisted by her Trustees. They have been enthusiastic in testing this practical form of applied nature study as a means of educating their children into wholesome and useful interests. There was no trouble nor delay in getting the land ploughed and manured in the spring ready for a good start, the manure being a free-will offering to the cause. Nor has the teacher been left to sink or swim after the send-off. The Trustees have consistently helped

in planning experiments, fighting the weeds, caring for the property and, best of all, encouraging the children and teacher in an interest in and use of the many lessons to be learned. One gentleman has set out two rows of strawberries and demonstrated in them a method of training and cultivation which he has proven in his own gardening to be deserving of being made known amongst the coming gardeners of Springwater School Section; there are good prospects in the experiment, too, of the children's enjoying many good "feeds" of strawberries with their noonday lunch next June.

With such hearty co-operation of the Trustees, School Gardening becomes a pleasant task for the teacher, and not a difficult, fearsome thing. There is no line of school work which offers such chances of bringing about a close bond of sympathy with the homes, because the interests are held in common; such a sympathy can never come directly through grammar, history, geography nor even in the fundamentals reading, writing and arithmetic, for these matters are not so much of common interest between children and working men and women.

On September 30th, the garden was the scene of a gathering of the teachers of East Elgin. They had been holding their annual institute meeting at Aylmer and arrangements were made for the closing Friday afternoon's session at the country school. Citizens of Aylmer, owning automobiles, generously placed their cars at the service of the Institute, and most of the one hundred teachers in attendance enjoyed the unusual experience of "going to school" at the rate of fifteen or twenty miles an hour. In the school, the teachers inspected the pupils' garden note books, collections, etc., and in the garden the children's individual flower and vegetable plots, the experimental plots of forest tree seedlings, rape, strawberries, etc. The Trustees and a number of the parents of the Section were present to welcome the visitors and discuss the work with them. Mr. Radcliffe, principal of the Normal School at London, was present and expressed himself as delighted with the garden and its educational uses and possibilities. Professor McCready, of Guelph, addressed the teachers, pointing out the intention of gardening in our scheme of education and the reasonableness of its introduction into the schools of Elgin, where the interests of the people as a whole are and always will be agricultural.

Under the enthusiastic promotion of Inspector Atkin, this pioneer garden will doubtless soon have many successors in Elgin County.

THE NATURE STUDY MOVEMENT IN NEW YORK STATE.

The following statement regarding the work of Cornell University in the Nature Study field is by Miss Catherine Straith, who has followed up the work taken at Macdonald Institute in 1905, by special courses at Cornell.

The Nature Study movement at Cornell has been primarily an agricultural movement. In his report for 1902, Dean Bailey wrote, "To create a larger public sentiment in favor of agriculture—to increase the farmers' respect for his own business, these are the controlling purposes in the general movement that we are carrying forward under the title of Nature Study."

About the year 1900, New York was confronted with the problem of preventing the rapid depopulation of rural districts. It was felt that only through the schools could be awakened a new interest in agriculture. Teachers were not fitted to teach agricultural subjects. Literature must be given them. With characteristic promptness the New York State College of Agriculture began to issue bulletins, and has sent none better than that first entitled, "How a Squash Plant Gets Out of its Seed," written by Dean Bailey.

Mr. John Spencer, recognizing that the child must be interested, organized Junior Naturalist Clubs, which he supplied with charter and buttons, the sign and seal of membership. Dues demanded were letters to "Uncle John," who found his nieces and nephews in a short time numbering over

32,000. But "Uncle John" never failed to meet the demand with the touch of heart and humor that keeps him still beloved by young and old. His charters have brought hundreds to the College of Agriculture. They grew up thinking "Cornell." It was Mr. Spencer who popularized the movement for Children's Gardens and Nature Study. His character as "Uncle John" did much to supply the personality that ordinarily is lacking in correspondence work.

This effort was followed up by definite instruction to teachers. A course in Home Nature Study was established and within the year 2,000 New York teachers were enrolled. Courses of lectures were given by Mrs. A. B. Comstock at Cornell and at Chautauqua.

At present the Nature Study Department sends out two publications. The "Home Nature Study Leaflet," a bi-monthly, twenty-five page leaflet of valuable material, is edited by Mrs. Comstock. Miss McCluskey has in charge an attractive "Rural School Leaflet" for teachers, with a supplement to it for pupils. These publications reach about 5,000 teachers and 75,000 children.

Lecturers are sent out to Teachers' Institutes and Training Classes, and every encouragement is given to appeals for help along Nature Study lines through correspondence with the College.

Thus does Cornell reach out to the schools and homes of New York State, building for the future interests of education and agriculture. To those who are fortunate enough to enter within her walls she offers several courses in Nature Study and School Gardening. In a highly specialized two-year course the fundamental information is obtained in Botany, Geology, Biology, Horticulture, etc. and this is supplemented by excellent lecture courses in Nature Study methods and by laboratory work.

To a young New Yorker who does not wish to come to Cornell we would say, "Never belong to a Junior Naturalist Club, never read any Cornell literature—for as surely as you take that first bait they'll get you as they've got hundreds before you," and the advice holds good for those outside the State.

This Nature Study movement could have been so perfected only by the energetic and inspiring personality of a Dean Bailey. It is said at Cornell, referring to any new departure, "Start it in the College of Agriculture and it has to go." Dean Bailey, with his capable and enthusiastic co-workers, made the Nature Study "go." It is indicative of his attitude that, in summing up "the most efficient means of elevating the ideals and practice of the rural communities in approximately the order of fundamental importance," he places first, "the establishment of Nature Study and incidental instruction in the principles of farm practice in the rural schools."

HOME ECONOMICS.

Macdonald Institute Reference Library on Home Economics—During the past year this circulating loan library has come into increased use by members of the Women's Institutes of Ontario; more than five hundred correspondents have had material sent to them. **The privileges of the library are open to teachers** as well as to Institute members.

The library is constantly receiving additions in books, pamphlets and magazine articles dealing with all phases of Home Economics. Correspondents are expected to return material promptly and in no case to retain it longer than a fortnight. The only expense to correspondents is that required for return postage.

The collection may be grouped broadly as follows:—

1. **The Home**—general articles: the family.
2. **The House**—evolution: plans: sanitation: furnishing and decoration.
3. **Food**—general information: preparation: storage: marketing.
4. **Dietetics**—dietetic standards: nutrition investigations: diets for different ages.

5. **Health topics.**
6. **Economics of the Home**—general: standards of living: finances.
7. **Education**—general: physical: moral: in home economics: industrial and vocational.
8. **Social ethics**—social service: domestic service: festival seasons: entertainments.
9. **Miscellaneous**—articles on a variety of subjects not included above.

Neither library nor collection can furnish readings, recitations, or music, and contains no material on subjects purely literary.

The Institute cannot write papers on specified subjects; nor can it answer questions relating to Women's Institute organization, rules and regulations, ways and means of making the Women's Institute meetings pleasant and profitable, Women's Institute finances, etc.; such questions should be sent direct to the Superintendent of Women's Institutes, Parliament Buildings, Toronto.

By reason of the special training of its staff, and the resources of the various departments of the College, Macdonald Institute should be in a position to help Canadian women to solve many housekeeping difficulties, and will gladly try to answer any questions which members of the Women's Institute may care to send in.

In order to prevent disappointment and delay, the following directions should be observed:—

1. Address your request to Macdonald Institute, O. A. C., Guelph, Ont.
2. State as clearly as possible the topic for which you want material.
3. State the date for which the material is wanted.
4. Send your questions at least a fortnight in advance of the time the answers are wanted.
5. Secretaries of Institutes should not undertake to send for material for several others. Advise each to send direct for her own material. It saves time.
6. When returning the borrowed material put the name of the borrower on the outside in order that it may be identified.

NEWS NOTES.

Ex-students of the Industrial Arts Course are busy this fall in disseminating the principles of the "New Education" at various points throughout the Province.

Mr. C R. Gummow, 1910, reads a paper on "Elementary Art" to the North Hastings Teachers' Institute at Bancroft on October 6th..

Miss Mary Smith, '09, addresses a meeting at Fernhill on "The Course at Guelph."

Mr. W. George Ward, Summer School, '09, '10, holds forth on the merits of Industrial Ars, before the Teachers' Association of Welland, on Oct. 13th.

Miss Lula Russell, 1909, of Mercer Street School, Windsor, will give a paper on Industrial Arts at the Teachers' Convention in November

The following teachers are taking the year's course in Manual Training leading to the Specialist's Certificate:—Mr. J. O. Close, Woodstock; Mr. H. H. Coutts, Waterloo; Mr. T. W. Davidson, Camborne; Mr. A. Kiernan, Wallbridge; Mr. J. T. Power, Queensville; Mr. Chas. Tebbutt, Holmesville.

The following are in attendance Saturday mornings:—Mr. F. J. Phelan, Macdonald Consolidated School, Guelph; Mr. E. Slaughter, Mr. Wm. Flumerfelt, Mr. J. E. Chambers and Miss E. T. Hawkins, of the Guelph Public Schools.

Mr. J. W. Whiddon, 1909-'10, has been appointed to the position of Manual Training Instructor in the Collegiate Institute, Port Arthur, Ont., at a salary of $1,400.

O. A. C. Departmental Ditties, No. 1.
Animal Husbandry.

Duet—G-D-Y & R-W-D.

Air—The Absent-Minded Beggar.

We are scientific stockmen, knowing all about each breed
And just a thing or two about the horse;
And we teach the wily farmer econo mically to feed
When he comes to College for the winter course.

Solo—R W-d-:

My name is Robert W-d sir, and the dairy cow's my line,
Tnough I think the Durham Short horn is all right;
My colleague Mr. D-y, sir, wrote a book about the swine,
And will lecture on lean bacon all the night.

Chorus—

Berkshire, Shropshire, Holstein and Jersey cows
Oxford lambs and bacon hams, Duroc and Yorkshire sows,
Doing it all for your country's good is all very well in a way,
For our job ain't what you would call a snap for pay, pay, pay.

—W. H. W.

First Freshman Meeting.

(By our own Reporter.)

The meeting was called to order with some difficulty, several Freshmen be ing under the impression that the piano was to be used as a grand-stand. After they had been hauled down and sat on, Mr. Miles was voted to the chair temporarily. He took it with be coming dignity and gave the assembly the benefit of some fatherly advice, which, he said, his close association with Mr. Gerow (cheers) the previous year enabled him to give. His words were evidently taken to heart by the majority of those present, one man being thrown out of the window for interrupting, and the conclusion of his speech being greeted with loud ap plause; even the water-pipe at the ceiling shed tears.

The chairman then called for nomin ations for secretary-treasurer. A great uproar ensued, everyone present, as far as could be gathered, being desir ous of being nominated for treasurer but not for secretary. A free fight was happily prevented, however, by the chairman announcing that, as no funds were to be collected, the two offices could very well be held by one man. It was then found that no one could be induced to stand for office, so the business of electing a president was proceeded with.

Four nominations were made, the nominees being Messrs. Spaltcholz, Lund, Moorhouse and Mollison. These four men were requested to stand on the table to enable the assembled throng to get a good look at them. They did so willingly, but the effect was unexpected. The table collapsed under the strain. Mr. Spaltcholz, be ing underneath, was sorted out in a battered condition, using very empha tic language.

Mr. Moorhouse then asked permis sion to withdraw his name, as he thought his nerves were not very strong.

At this point an argument which had been proceeding with some heat in one corner of the room developed to a most interesting stage, and the debat ers left the room after calling for sec onds. The meeting was then adjourn ed by common consent.

Here is a letter which one of our most promising students in the Sopho more year wrote to a leading agricul tural journal recently:

Hints on Vegetable Growing.

Sparrow-grass should be sown broadcast in the spring, after the nurse crop is about three inches high, and then a light furrow run over it. In the curing of sparrow-grass it is best to use hay-caps, and it is very necessary to cure it green, to prevent loss of the leaves. The Salsify or Oyster Plant is not well known to the majority of farmers, but its cultivation is very simple. As its name indicates, it re quires water for its growth, and a gently flowing stream about one foot in depth is ideal for this purpose.

About April 1st the seeds are anchored to stones and sunk to the bottom, and in September the oysters are found at the roots in a ripe condition. Earlier maturity is got by feeding them bread-crumbs. The shells of this fruit must not be eaten by human beings, but may be fed to cows in small quantities as a tonic when the moulting season approaches.

As regards the harvesting of pump kins, I would point out that they will not keep well if pulled; it is much bet ter to climb the tree and shake them down.

I like your paper well, and I think it well worth the price of postage.

I am, truly yours,

An O. A. C. Student.

Philharmonic Practice.

Ryrie (singing soprano part)—With my arm I hold thee. (To sopranos) Now I would like to—(Laughter and applause.)

The Field Day sports were just simply great,
And the banquet was certainly a swell affair;
But the most notable thing about it was
Boogie Madden had succeeded in parting his hair.

Try this problem in proportion:

The grass in a certain pasture grow ing uniformly would be consumed by 70 cows in 24 days, and by 30 cows in 60 days. 1—How many cows would consume it in 96 days? 2—For how long would a day's growth last a cow?

It may be as well to state that the editor has solved the answer to the above. He is recovering slowly, and will be around again in a few days.

Little Elsie, noticing in chapel that a new member had appeared in the tenor part of the choir, remarked: "Oh, mother! Look, we have a new terror in the choir to-day."

In Chemical Lab.

Herridge, Calvert and Ellis, by their combined efforts, had succeeded in smashing a beaker and a condenser, and stood around surveying the wreck. After a pause Herridge remarked that he didn't quite see the advantage of the system of co-operation by which

he helped to pay for what the other fellows broke.

At that moment, however, a flask he was holding in the flame collapsed, and he shut up.

It is fine to be young and see life's vistas stretching out before you yet un trodden. Some people do not appre added to Mr. Harcourt's staff a still ciate youth as they ought. We hear that certain members of the Faculty of Chemistry were astounded on the first day of lectures by the following questions:

Noble (to Mr. Jackson)—Didn't I see you cutting corn yesterday?

We also hear that there has been more youthful member; so youthful in

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In Chemical Lab.

(Continued from Page 106.)

fact that she—he—it—well, really! here I am stuck; I don't know which pronoun to use. Soon after this young person's arrival, two members of the staff were overheard discussing him thus:

Did you know that there has been an increase in the staff?

Is that so? No, I hadn't heard.

Yes. But I hear that the person is very, very young and inexperienced.

Oh! I wonder what work Mr. Har court will put him at.

Well, I heard that his first job would be emptying bottles.

May he empty many of them, and may they all agree with him and pros per him exceedingly, is the hearty wish of all the readers of The Review.

"Lots of People" like to insure in mutual life companies because in such companies they get the best results, and because the largest, strongest and best life companies in the world are, like the

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MAILED ABSOLUTELY FREE.

We have just published a large colored lithograph showing Dan Patch and Cresceus in a fast finish down the stretch. It was made from life, and shows both of these magnificent animals in their natural colors. If gotten out in a small edition it would sell for $2.00. We will be glad to mail it to you free, postage prepaid by us, if you will write us at once, answering the following question:

1st—Name this paper. 2nd—How many head of live stock do you own?

Picture will not be mailed unless you answer these questions.

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Send for Catalogue

Official Calendar *of the* DEPARTMENT OF EDUCATION *for the year 1910* :: :: :: ::

November:

1. Inspectors' Report on Rural Library grants, due. (Not later than 1st November).
   Inspectors' application for Legislative aid for Free Text Books to Rural Schools. (Not later than 1st November).

December:

1. Last day for appointment of School Auditors by Public and Separate School Trustees. (On or before 1st December).
   Township Clerk to furnish to the School Inspector information of average assessment, etc., of each School Section. (On or before 1st December).
   Legislative grant payable to Trustees of Rural Public and Separate Schools in Districts, second instalment. (On or before 1st December).
13. Returning Officers named by resolution of Public School Board. (Before 2nd Wednesday in December).
    Last day for Public and Separate School Trustees to fix places for nomination of Trustees. (Before second Wednesday in December).
14. Local assessment to be paid Separate School Trustees. (Not later than 14th December).
15. County Council to pay $500 to High School and Continuation School where Agricultural Department is established. (On or before 15th December).
    Municipal Councils to pay Municipal grants to High School Boards. (On or before 15th December).
22. High Schools, first term, and Public and Separate Schools close. (End 22nd December).
25. Christmas Day (Sunday).
26. New Schools, alterations of School boundaries and consolidated Schools go into operation or take effect. (Not to take effect before 25th December).
28. Annual meetings of supporters of Public and Separate Schools. (Last Wednesday in December, or day following if a holiday)
31. High School Treasurers to receive all moneys collected for permanent improvements. (On or before 31st December).
    Protestant Separate School Trustees to transmit to County Inspectors names and attendance during the last preceding six months. (On or before 31st December).
    Auditors' Reports of cities, towns and incorporated villages to be published by Trustees. (At end of year).

Students Wants

Gymnasium Shoes, Football Boots, Slippers and Rubbers.

The most complete and largest stock of Fine Fall and Winter Footwear in the city.

Neill, the Shoe Man

THE GUELPH OIL CLOTHING COMPANY, Limited,

Manufacturers Oiled Clothing, Tarpaulins, Tents, Awnings, Stack and Binder Covers.

SPRING BROOK STOCK FARM.

High Class Holsteins of Exceptional Breeding and Quality. Tamworth Swine of best imp. British blood. Barred Plymouth Rock Cockerels from extra laying strain. Quality and production stands foremost at Spring Brook. A call solicited. Farm ten miles west of O. A. C. Main line G. T. R. Telephone connection.

A. C. HALLMAN,
Breslau, Ont.

JAMES H. SMITH

Opposite Traders Bank.
Molasses Taffy, Walnut Cream and Maple Cream. Best in the City.
Fresh Everyday.

LUNCHES SERVED

ERNST M. SHILDRICK,
Teacher of Singing.
Pupil of Van der Linde of New York.
Studio, Opera House Block.
Phone, Studio 625.
Phone, Residence 697.

The largest and best equipped Studio in Guelph. We are at your service for

FIRST-CLASS PHOTOGRAPHS

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119 Wyndham St., Guelph. Phone 565.

Harding (in swimming bath)—Are you scared? Why don't you dive in?

Gravely (shivering)—How w-would I know when I got to the t-t-top again?

R. H. McPHERSON,
BARBER,
Hair Cut, 20c.; Shave 15c. Close 8 p.m.
145 Upper Wyndham St., GUELPH

FREDERICK SMITH,
PLUMBER, STEAM AND GAS FITTER,
Sanitary Appliances. Estimates Furnished.
GUELPH.

THE BURGESS STUDIO

High-Class Portraits.

SPECIAL RATES TO STUDENTS

Regal Shoes For Men. Sorosis Shoes For Women.

W. J. THURSTON,
Sole Agent,
THE NEW SHOE STORE,
39 Wyndham Street.

COLLEGE STORE

CANDIES, CIGARETTES,
TOBACCO, Etc., Etc., Etc.

CORNER OF CAMPUS.

KING EDWARD BARBER SHOP

Headquarters for a first-class shave and hair cut or shoe shine.

CHAS. BOLLEN, - Proprietor.

SUEY WAH!

Hoop la! Come to the Big Laundry. Expert workmen. Hand work only. College calls made Monday, Wednesday, and Friday.

16 Wilson St., GUELPH.

LOOK! LOOK.

Suits Pressed	50c
Suits Cleaned and Pressed	75c
Pants Pressed	15c
Velvet Collars	75c to $1.25
Dry Cleaning	$1.25

Work done by practical tailors.

CHAS. A. KUTT, 49 QUEBEC ST.

HERE WE ARE AGAIN

Ready for season '10 and '11, with a full range of the best lines of Footwear. We have the Heavy Tan Shoes that are so popular with the College Boys. Try us, The New Shoe Man.

J. D. McARTHUR

The Store around the corner, Market Square

ERNEST A. HALES,
68 St. George's Square.
Sells the Best Meats and Poultry.
Phone 191 Open all Day.

NOTICE
The best and most convenient Barber Shop for O. A. C. Students.
WM. COON, ST. GEORGE'S SQ.
Street Cars every 15 minutes. No waiting. Three chairs.

Royal City Mineral Water Works
Manufacturer of
HIGH-CLAS CARBONATED BEVERAGES
247 BROCK ROAD.
Phones—Works 582A Residence 582B
A. REINHART Proprietor.

The College Boys Always Go to The
OPERA HOUSE BARBAR SHOP
First-Class Work Guaranteed.
James Smith, Proprietor.

D. M. FOSTER, L.D.S., D.D.S.
DENTIST,
Cor Wyndham and MacDonnell Streets,
Telephone 14. Over Dominion Bank.

MIDNIGHT SUPPERS.
Bacon, Oysters, Fancy Biscuits. Olives, Pickles, Chocolates, etc.
J. A. McCrea & Son.

Artistic Tailoring
at Moderate Prices

There's a Style and Elegance about our Tailoring that has won us an envied reputation.

Men, who know and who wear good Clothes, are free to say that there is no better combination of quality, price and workmanship, than a Suit, Overcoat, or pair of Trousers made to order in this establishment. It is to your decided advantage, Sir, if you appreciate good Tailoring, to

HAVE YOUR CLOTHES MADE HERE

There's always that "something" about our Tailoring that gives it an individuality, both in cut and fabric. We're not fancy priced Tailors—

NO ONE SAYS THAT

Come in for a consultation before you decide the Clothes proposition.

R. W. WATERHOUSE,
Tailors to men who know, - - - - - Ingersoll, Ontario.

Drop a card stating what you want and I will call and see you.

TRY

R. S. Cull & Co.

the New Clothiers and Haberdashers for Your Next Suit and Overcoat,

35 Lower Wyndham St.

McHugh Bros.

TOBACCONISTS

Dealers in High-Class Tobaccos, Cigars, Cigarettes, Pipes, Pouches and all Smokers' Articles.

Get a BARON PIPE FILLER—the latest novelty for Smokers. Handy and saves tobacco. 25c each. To be had only at

28 LOWER WYNDHAM ST.

Parties intending remodeling stables will do well and save money by writing for information on my new idea on

Stalls and Stanchions

Get my prices direct to you. Freight paid on Stanchions, Stalls and Water Bowls. My 1910 Stanchions are better than ever. Ask for my free offer; it will pay you. Write and see

A. M. RUSH

Review St., Preston, Ont.

OUR

GROCERIES

Are always Fresh, Wholesome and Strickly First Class.

JACKSON & SON

17 Lower Wyndham Telephone 112

BROADFOOT'S RED CROSS PHARMACY,

Phone 381 - St. George's Square

MRS E. MARRIOTT, FLORIST.

Violets, Valley, Roses, Carnations, always in stock.

Phone 378. 61 Wyndham St., opp. P.O.

FOR FIRST-CLASS WORK TRY

Lee Wing's Hand Laundry

57 Quebec St., Opp. Chalmers Church

Latest machinery — no frayed or cracked edges to your linen when we do your work.

We call for and Deliver Promptly.

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PEEP SIGHTS

For use on home-made draining levels, as designed by Professor W. H. Day.

H. Occomore & Co.

GUELPH, ONT.

Springhill Ayrshires

Are strengthened annually by importations direct from Scotland of the very best milking strains. Calves and animals, all ages, and both sexes always for sale.

Robt. Hunter & Sons

SNOWDRIFT, PEOPLES' MAPLE LEAF

Three Well-Known Brands of Flour,
Ask for them and be sure you get them.

THE JAMES GOLDIE CO.
LIMITED
GUELPH, ONTARIO.
Telephone 99.

PRINTING

We execute the finest grades of printing, plain or in colors, promptly.

Kelso Printing Co.
St. George's Square,
Phone 218. Opp. Post Office

"Eclipsed by None."
Walker's Electric Boiler Compound

It removes the scale or incrustation from boiler without injury to the irons, packings or connections, and prevents foaming.

The only reliable boiler compound on the market to-day. We also handle cylinder, engine and machine oils, Lie sodium phosphate engine supplies, etc. Specialty departments, Crystal Separator Oil, Waxine Floor Oil. Correspondence invited.

The Electric Boiler Compound Co., Limited
Guelph, - Ontario.

PRINGLE
THE JEWELER

Entomological Supplies,
Magnifying Glasses, all qualities
Fountain Pens Rubber Stamps
O. A. C. and Macdonald Institute
College Pins.

The Clothes

made by SCOTT, the Tailor, are not surpassed in Guelph, and Guelph is as good as any of them.

J. A. Scott
26 Wyndham Street

FOR PARTICULAR MEN

We like to make clothes for the particular man. Anyone can suit the fellow who is easily satisfied, but it takes good workmanship, honest materials and the best of tailoring experience and ability to suit the really careful dresser. Ask the particular man what he thinks of the last suit or overcoat we made for him. It is likely he will tell you they are the best he ever had, even for double the price. Suits and overcoats $18.00 to $30.00.

R. J. STEWART,
Opp. Knox Church, 19 and 21 Quebec Street,
Phone 456.

OUR BUSINESS IS MEN'S WEAR

Young Men, come here for up-to-date Clothing, Hats, Caps, and Furnishings.

Oak Hall Clothing is sold in 2,000 stores in Canada. Come on in!

Cummings' Oak Hall Store

HEADQUARTERS FOR
HARDWARE
AND SPORTING GOODS
AT LOWEST PRICES.

G. A. Richardson
Upper Wyndham St., GUELPH.

WANTED!

First-class Fertilizer salesman, one having good connections, in your district.

Address reply to

LESAGE PACKING & FERTILIZER COMPANY, LTD.

102 Nazareth Street, MONTREAL

AGRICULTURAL COLLEGES

REFERENCES

At Guelph, Truro, St. Anne de Bellevue, Winnipeg, and the trade generally.

Horse Owners! Use

GOMBAULT'S

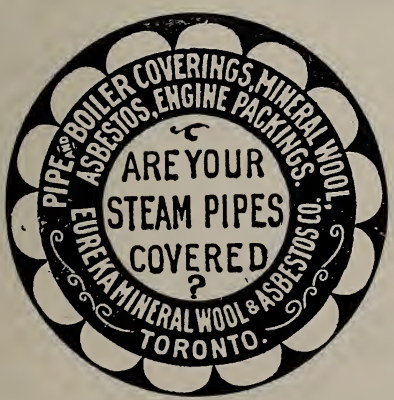
Caustic Balsam

A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from **Horses** and **Cattle. SUPERSEDES ALL CAUTERY OR FIRING.** *Impossible to produce scar or blemish.*

Every bottle sold is warranted to give satisfaction Price **$1.50** per bottle. Sold by druggists, or sent by express, **charges paid**, with full directions for its use. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Toronto, Ont.



ABSORBINE

will reduce inflamed, swollen Joints, Bruises, Soft Bunches. Cure Boils, Fistula or any unhealthy sore quickly; pleasant to use; does not blister under bandage or remove the hair, and you can work the horse. $2 per bottle at dealers or delivered. Horse Book 7 D free.

ABSORBINE, JR, for mankind, $1.00 per bottle. Reduces Varicose Veins, Varicocele, Hydrocele, Goitre, Wens, Strains, Bruises, stops Pain and inflammation.

W. F. YOUNG, P.D.F., 177 Temple St., Springfield, Mass.

LYMANS Ltd., Montreal, Canadian Agents.

Springvale, Ont., Feb. 17th, 1908.

. Dear Sir,—I have used ABSORBINE for lump on the leg, and it took it all away, and for what I took to be Poll Evil, and it also took that all away.

Yours truly,

Ed. Taylor.

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Finest Commercial and Society Printing

Prompt Service
Best Workmanship
Wide Range of Stock Carried.

The Wallace Printing Co

47 Cork Street, GUELPH, ONT.

LEE LEE & COMPANY

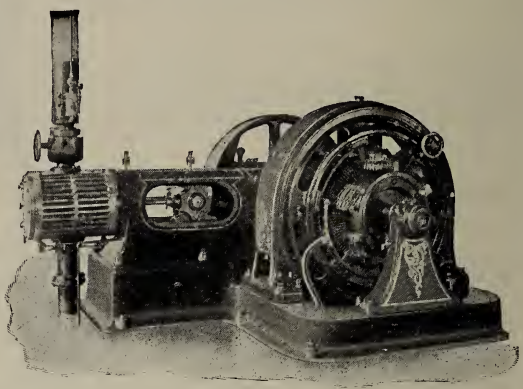
Opera House Block

HAND LAUNDRY

Goods called for on Monday, and returned on Wednesday. We guarantee best work in Guelph.

ELECTRIC LIGHT & POWER

McEWEN ENGINES



For Direct Coupling or Belt Drive with Alternating or Direct Current Dynamo use They are designed especially for this work, and have the features that ensure economical electric power production.

High Speed—Automatic Control—Close Regulation—Simplicity of parts—proper proportions—and Accessibility, are the distinguishing features.

In Simple and Compound units up to 700 H. P.
Catalogue and information on request.

The Waterous Engine Works Co. Ltd., Brantford, Canada

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Owes it to himself to become a regular subscriber to

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You who are not subscribers just stop and think of the money that is required to buy agricultural text books and then figure out what you get in 52 copies of CANADIAN FARM for $1.00, or a weekly cost of less than 2c.

Ask anyone of 150 fellow student subscribers if the value is there, and then send us your dollar or hand your subscription to our nearest agent.

FARM PRESS, Limited

12-14 Wellington St. E. TORONTO, ONTARIO

Royal Purple

Stock and Poultry Specifics

At a cost of only two-thirds of a cent a day per animal, Royal Purple Stock Specific makes each Animal worth 25 per cent. more.

You never heard of any other Specific, or "Stock Food," doing likewise.

Royal Purple will permanently cure the Bots, Colic, Worms, Skin Diseases and Debility, and restore run-down Animals to plumpness and vigor.

It will increase the milk-yield three to five pounds per cow a day inside of from two to three weeks. It makes the milk richer than ever before.

MR. ANDREW WEGRICH, of Wainflett, Ont., says: "This is to certify that I have tried your Royal Purple Stock Specific for two weeks, on one cow. On the 16th I weighed her milk as 17 pounds. I noticed a change after 5 or 6 days, as there was an extra weight of milk. On the 29th, I carefully weighed the milk, and she gave 22 pounds. I am giving an order for 5 boxes, as I consider it the best I have ever used."

"Stock Food" will not do this. Because "Stock Food" is nothing more or less than a mixture of the very things which you, yourself, grow on your own farm

It is not more food your Animals need. They must have something to help their bodies get all the nourishment from the food they are getting. So that they will fatten, and stay fat, all the year 'round.

They need something to prevent disease, to cure disease, and to keep them in the best of health, all the time.

NOT A STOCK FOOD

Royal Purple is not a "Stock Food," nor a "medicine." It is a Conditioner.

It does not contain Grain, nor farm products. Nor does it contain "Dope," or any other injurious ingredient. Royal Purple does not merely temporarily bloat or inspire the Animal. It fattens and strengthens it, permanently.

No other Specific known adds flesh so quickly as Royal Purple. It makes 6-weeks-old Calves as large as ordinary-fed Calves are at 10 weeks.

Royal Purple makes naturally-thin Animals fat and heavy. And it builds up the health and restores the former plumpness and vigor of run-down stock, in little or no time.

The very best time to use this Conditioner is NOW. It digests the hard food properly and prevents the animals getting indigestion or losing flesh.

50 PER CENT CHEAPER.

One 50-cent Package of Royal Purple will last one Animal 70 days. This figures a little over two-thirds of a cent per day.

Most "Stock Foods" in 50-cent Packages last but 50 days, and are given three times a day.

But Royal Purple Specific is given only once a day, and lasts 50 per cent. longer.

(A $1.50 Pail, containing four times the amount of the 50-cent Package, lasts 280 days.)

So, you see, it is only necessary to give Royal Purple Specific once each day.

Just think of making such Animal worth 25 per cent. over its cost! What will that mean to you, Mr. Stock Owner?

Royal Purple creates an appetite for food, and helps nature to digest and turn it into flesh and muscle.

As a Hog fattener, Royal Purple has no equal.

NEVER OFF FEED.

Dan McEwen, the horseman, says:

"I have used Royal Purple Stock Specific persistently in feeding 'The Eel,' 2:02¼, largest winner of any pacer on Grand Circuit in 1908 and 1909, and 'Henry Winters,' trial 2:09¼, brother of 'Allen Winters,' winner of $36,000 in trotting stakes in 1908.

"These horses have never been off their feed since I started using Royal Purple Specific. I will always have it in my stables."

FOR POULTRY.

Royal Purple Poultry Specific is our other Specific. It is for Poultry—not for stock.

It makes the Hens lay Eggs in Winter as well as in the Summer.

MRS. WM. BURNHAM, Sanford, Ont., says: "Dear Sirs,—This is to certify that I have used two boxes of your Poultry Specific for my hens. They laid so well while feeding it to them, I wondered if you would mind sending me word how or where I could get some this winter. I bought it from your agent last winter. I had 32 hens, and some days I got two dozen eggs a day in February and March, while feeding them the Specific."

Royal Purple Poultry Specific prevents Fowls losing flesh at moulting time, and permanently cures every poultry disease. It makes their plumage bright and keeps them always in prime condition.

It makes your Poultry worth more than they could ever be without it.

Yet one 50-cent Package will last 25 Hens 70 days. Or a $1.50 Pail will do 25 Hens 280 days. This is four times more material at only three times the cost.

MAKE THIS TEST.

Every ounce of Royal Purple Stock and Poultry Specific is guarnteed.

To prove that Royal Purple has no equal, we want you to make this test:

Feed Royal Purple to any one of your Animals for four weeks. And at the same time feed any other preparation to any other Animal in the same condition.

If Royal Purple does not prove to you, by actual results, that it is the best you ever used, we'll return your money.

And we'll ask no questions—make no excuses. You will be the judge—not us.

This is an honest test, isn't it? We ask you to make it because we know that Royal Purple is the best Conditioner on the market.

If you are not satisfied, after testing it, you don't lose anything, do you?

FREE BOOK ON DISEASES.

Ask your dealer or write us for our 32-page Free Book on Cattle and Poultry Diseases.

The W. A. Jenkins Mfg. Company

LONDON, ONTARIO

Guelph Radial Ry. Co.

TIME TABLE.

Cars leave the college landing for the city at about 20 minutes intervals, as follows:

a.m.		
6:25	8:35	10:45
6:45	8:55	11:05
7:05	9:20	11:30
7:30	9:40	11:50
7:50	10:00	12:15
8:10	10:25	
p.m.		
12:35	4:15	8:05
12:55	4:35	8:25
1:15	5:00	8:45
1:40	5:25	9:10
2:00	5:50	9:30
2:20	6:15	9:50
2:45	6:40	
3:05	7:00	10:15
3:30	7:20	10:35
3:50	7:45	

Returning, cars leave St. George's Square 10 minutes later.

"THE SPA"

GUELPH'S NEWEST and BEST CONFECTIONARY and LUNCH ROOM

Special Lunches put up for Students to take to their rooms.

Ice Cream and Fruit sold all the year round.

Our special Saturday sales of candies of our own make appeal to everyone. We want every student to try our specials.

Students invited to use our store while waiting for the street cars.

SPA CANDY STORE

WYNDHAM AND MACDONALD STS.

W. A. HAIGHT, Manager.

Lamps, Razors Pocket Knives

and

Sporting Goods

McMILLAN BROS.

PHONE 31 20 WYNDHAM ST.

Diamond and Shield

O. A. C. Pins

Leather Fobs

25 Cents Each

SAVAGE & CO.

Jewellers

WATERS BROTHERS

Students' Supplies

Phone 350

41 Wyndham St.,
GUELPH.

BOTANICAL, ENTOMOLOGICAL, NATURE STUDY, EXPERIMENTAL and MANUAL TRAINING, DRAWING MATERIALS and OUTFITS, NOTE BOOKS, FILLERS, INKS, PENCILS, FOUNTAIN PENS.

Special Prices for Quantities.

The Pages of This Journal Are Printed On

Reliance Coated Book

Manufactured Under a Special Formula Exclusively For

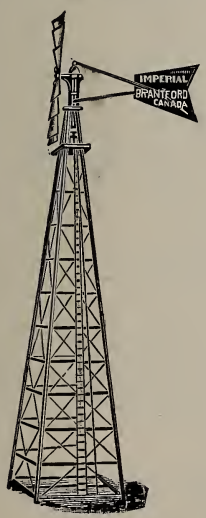
THE BUNTIN, REID CO., of Toronto, Ont.

BY

THE CANADA COATING MILLS CO.

OF GEORGETOWN, ONT.

Windmills!



Towers girded every five feet apart and double braced.

Grain Grinders.

Pumps.

Tanks.

Gas and Gasoline Engines.

Concrete Mixers.

Write for Catalogues.

Goold, Shapely & Muir Co.
BRANTFORD, CANADA. Limited

OURS IS A

SANITARY LAUNDRY

Disease germs find no resting place here.

Cleanliness in every detail is a rule rigidly enforced.

Every precaution is taken to insure our patrons the very best service in our power.

Our drivers are at the O. A. C. Monday, Wednesday and Friday mornings.

Guelph Steam Laundry

Phone 95 D. M. HUNTER, Mngr.

Just Like a Girl.

Mac Girl (to Coglan)—Yes, we intend holding the "At Home" for the Freshmen on the 28th, but I don't think the Freshmen are to be allowed to come.

Marcellus (at Poultry Club meeting)—I beg to move that a prize be offered for the best dressed pair of fowls—I mean the pair of best dressed fowls—beg pardon—you know I mean the pair of fowls dressed best. No. Hang it, I'm not sure what I do mean. (Sits down to collect his thoughts.)

Fair Maiden—I haven't met any Freshmen to-night with moustaches, but I notice some of the other men have them. How is that?

Wilson—Well, you see, the attendance is so large this year that most of the Freshmen only got in by a close shave.

There are always a few Freshmen who do not turn up at the initiation for various reasons, but the most extraordinary excuse we ever heard was offered this year by one of them when he stated seriously that his wife would not allow him to attend as he wasn't insured.

If you want a pen point that flows freely, and lasts two to four times longer than any other. Try

RIVER SERIES

Practically non-corrosive—Ask your Stationer, or write to

The BENSON-JOHNSTON CO., Ltd
CANADIAN AGENTS,
HAMILTON, - - - - ONTARIO.

Everything in Jewelry.
Repairing a Specialty.

E. F. Nicholson
OPTICIAN
Upper Wyndham St.

The Store of Quality

The Freshest Fruits

No matter what you may want in the Fruit line, or in anything else to Eat, if in season, we will have it for you.

Special College Delivery.

BENSON BROS.

WE HAVE A VERY COMPLETE STOCK OF

Entomological

and

Botanical Supplies

For Students At Students' Prices

Alex. Stewart

CHEMIST

NEXT TO POST OFFICE

Guelph & Ontario Investment & Savings Society

(Incorporated A. D. 1876)

Highest current rate of interest paid on Deposits. 4½ per cent. paid on five year Debentures, and 4 per cent. for shorter terms.. Our Debentures are issued in any sum from $100.00 up.

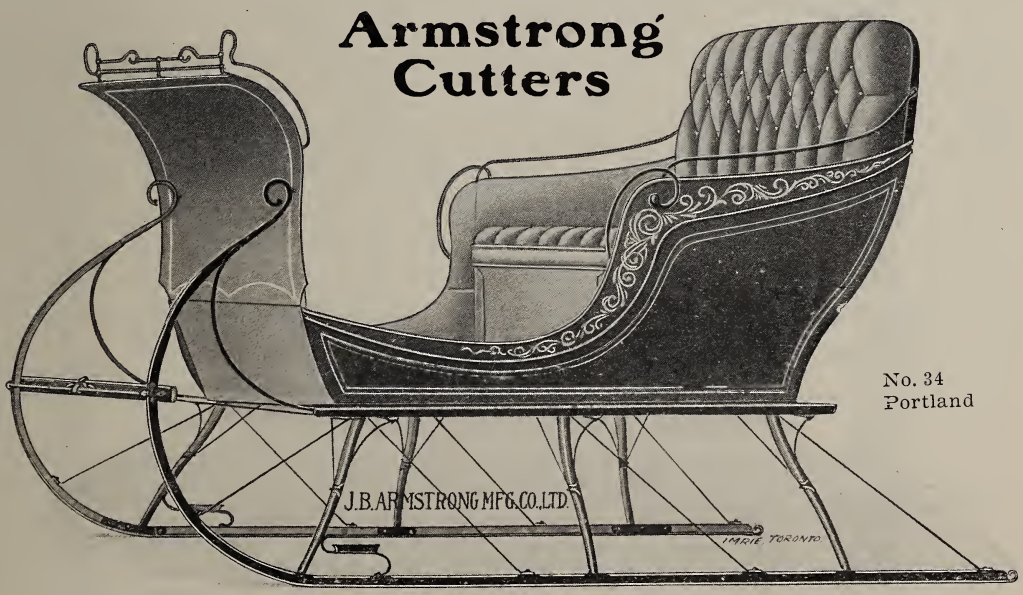
Both Deposits and Debentures are legal investments for Trust Funds.

Office hours, 10 a.m. to 4 p.m.

J. E. McELDERRY,
Managing Director.

Office—Cor. Wyndham and Cork Sts.,
GUELPH, ONTARIO.

Armstrong Cutters



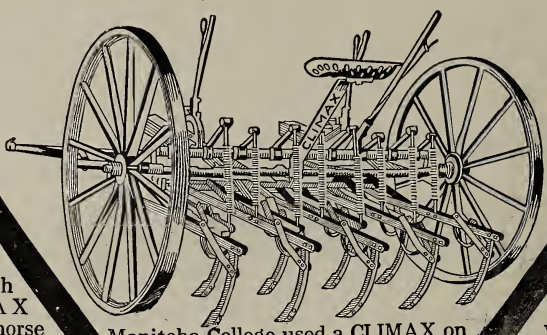
No. 34
Portland

Our Cutter line embraces the very latest and best features in Cutter construction, both for styles and strength in construction. These features assist the agent to effect quick sales, and for the user satisfactory service.

J. B. ARMSTRONG MFG. CO., Limited, GUELPH, ONT.

It soon
earns
its cost

In any soil, on any farm, the CLIMAX
earns money for you every minute you use it



Very Strong

You can rip sod land with the CLIMAX and a 3-horse team—so it MUST be built strong! Yet the teeth won't smash if they strike a stone—their joints unlock and fly back to pass over unharmed.

Manitoba College used a CLIMAX on land rank with wild mustard; got rid of that bad weed; and grew oats 71 inches in the straw *without a weed in the whole crop!* The CLIMAX certainly does destroy weeds!

Easy Handled

Each pole has a tilting lever; and these, with the pressure lever — all in easy reach of operator — exactly regulate depth of cut. Teeth go right for the roots of the weeds, and rip them out of the soil.

This is the stiff-tooth cultivator that gets the weeds OUT of the soil—not merely cuts off their tops or just tickles the roots a little. On dirty land you surely need the

Frost & Wood
Climax Cultivator

You can have your choice of points—2, 4, 7 or 10 inch. You ought to learn all the merits of this money-making weed-banisher. May we send you Catalogue ?

The Frost & Wood Co. Ltd. Smith's Falls Canada

65

Be Good

TO YOURSELF ONCE IN-A-WHILE AND TRY SOME OF OUR OYSTERS

Ours are always fresh from the the briny ocean and the choicest

The Kandy Kitchen

LOWER WYNDHAM - - GUELPH, ONTARIO

TASTE DELICIOUS

The sooner you give yourself the pleasure of tasting our HOT SODAS and HOT BOVRIL, the sooner you will realize how refreshing they are.

Have Your House Different

Milton Pressed Brick enables you to have every house in a row different from each other, and different from all other houses in the same neighborhood.

Milton Brick

Is made in red, flash-red, flash-buff and brown, with as many variations in shade and tint as desired.

You can thus relieve the monotony of color usually seen in rows of houses, thus making them more desirable and assuring better prices.

WRITE FOR SAMPLES AND PRICES.

Milton Pressed Brick Co., LIMITED, Milton, Ont.

TORONTO OFFICE—JANES BUILDING.

The Farmers' Advocate

1866 and Home Magazine 1910

LONDON, ONT.

THE BEST AGRICULTURAL JOURNAL IN AMERICA
WITH INVALUABLE HOUSEHOLD DEPARTMENT.

WEEKLY $1.50 per year

Agents Wanted

THE ONTARIO PROVINCIAL

WINTER FAIR

GUELPH, ONT.

DECEMBER 5TH TO 9TH, 1910

Large Prizes and Classes for

Beef Cattle, Dairy Cattle, Sheep, Swine, Poultry, Seeds, Judging Competition and a

HORSE SHOW

Entries Close November 19th.

Single Fare Rates on the Railways.

$16,000.00 in Prizes

For Prize List Apply to the Secretary

JOHN BRIGHT, President, Myrtle Sta. A. P. WESTERVELT, Secretary Toronto.

At the "At Home."

Miss B—Did I understand you to say that you didn't believe in anything, Mr. Hopkins?

Hopkins—Well, not exactly. I said I didn't believe in anything I didn't understand.

Prof. Wade (lecturing)—If the cow is not a good one it is the best policy to sell him.

Maid (knocking)—May I come in to sweep the room?

Studious Youth—Heavens, don't. I am wrapt in thought.

Maid (going away)—My, I am glad I knocked first.

McRostie (after lecture)—Say, Solomon, were those figures Mr. Zavitz gave us correct or only appropriate?

Start Right

In a stylish "T. & D." suit, or overcoat, or both. Ready-to-wear, $10.00 to $25.00; made-to-measure, $17.00 to $30.00.

You'll find "T. & D." a thoroughly dependable place to buy good clothes and men's furnishings.

THORNTON & DOUGLAS, Ltd.

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