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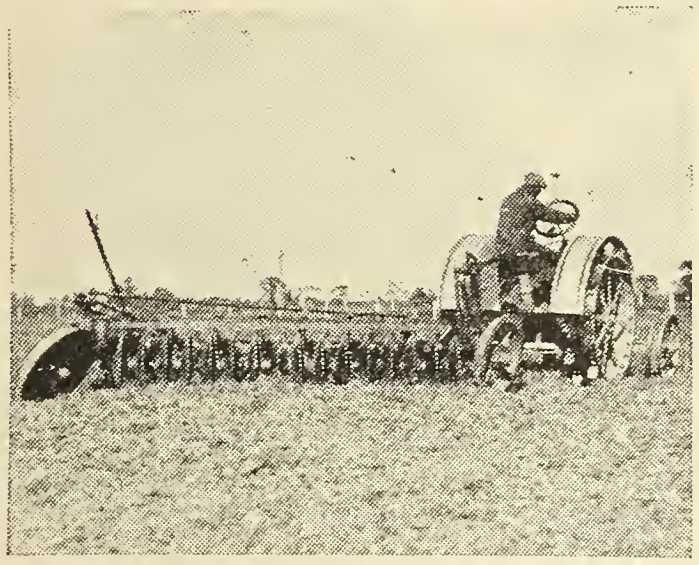

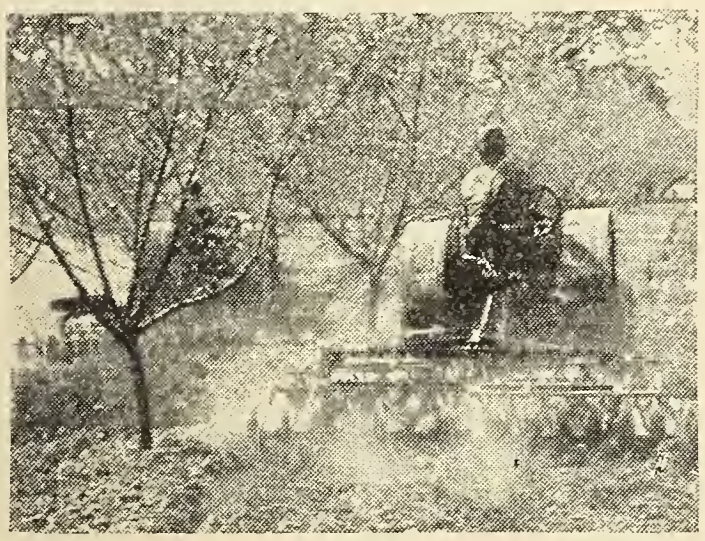

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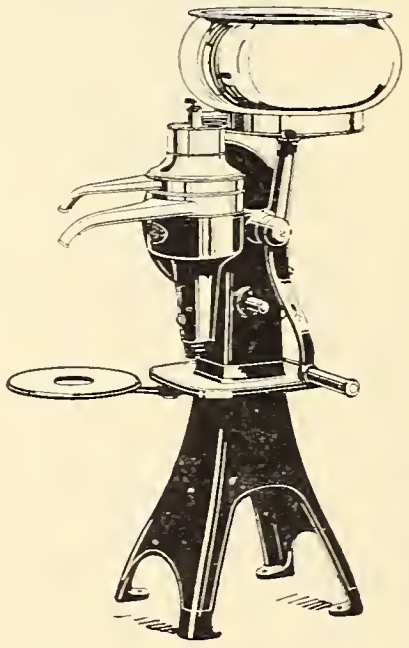

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The O. A. C. Review

The Profession I have embraced
requires a knowledge of
everything.

Vol. XLIV. Guelph, April, 1932. No. 8.

Looking Backward

WHEN this reaches its readers another lap of the long journey toward a degree will have been completed.

A backward glance over the events of the term proves that while students may be accused of many things they certainly cannot be charged with the crime of being idle. From the day when we returned refreshed and rested after the Christmas vacation there has not been a spare moment.

The accustomed social and athletic events were run off with the usual vim and vigour. The Conversazione, of course, was the climax of the social programme. The black and sliver decorations, and the pipe-organ background to the orchestra stand wrought a startling transformation in Creelman Hall.

The College Royal was another high spot among the events of the term. Every year we notice improvement in this institution, new features added, and more interest shown. So great was the enthusiasm of the student body that even the attitude of non-co-opera-

tion, or more correctly, open hostility of on the part of Madame La Grippe was not sufficient to mar the success of the Show.

One of the unfortunate events of the season was the suspension of the Oacis. The Oacis had come to fill an important place in life on the campus and its discontinuance has left a noticeable gap.

More than the usual amount of interest was shown in public speaking and debating. All the regular Inter-Year debates were held. We had two teams taking part in the Inter-University debates, besides one representative on a team which toured Quebec and the Maritime Provinces. The new regulations adopted for the public speaking contest made it possible for ten instead of six students to take part in this event. Three of the four years, desiring to get in some extra speaking, organized public speaking and debating clubs of their own and accomplished some good work. The girls, we understand, are holding their debate during their Spring Term.

But all good things come to an end. The posting of the examinations reminds us that there is a time for work and a time for play and that the time for work has come.

The Lactorium and the Rotolactor

Prof. J. Buchanan, Director of Extension

SOME wise fellow has said that wonders will never cease, and we were ready to agree with him when we visited the great Walker-Gordon Dairy Farm in New Jersey last summer and were taken into the lactorium to see the rotolactor in action. But what is a lactorium, and what is a rotolactor?

Well, the lactorium is the building which contains the rotolactor ---that's easy enough—and the rotolactor is a novel milking device capable of milking two hundred and forty cows per hour, or of filling a three hundred gallon tank with fresh, warm milk in an hour. It is the only one of its kind yet in existence and it looked to us like one of the wonders of the world.

It surely was an interesting sight to see fifty cows in as many stalls on a slowly revolving circular platform, all being milked at the same time and apparently with the absolute approval of the contented looking cows. For over an hour we watched the cows passing on and off this moving platform in a steady stream, each cow being on the platform 12½ minutes—or for one revolution—during which time she received a shower bath and rub down and was milked. The milk was drawn up through the suction tubes to an overhead pyrex glass jar from which it was afterwards automatically delivered into a small weighing tank, and the weight recorded.

But to make the whole matter plain let us imagine the fifty stalls on the revolving platform all occupied by cows. At a given point, after a cow has made the round, an attendant steps on to the platform, removes the teat cups, and hangs them on a hook overhead. A moment later the cow's stanchion automatically opens wide and she passes forward through it and through a door into a central room from which she goes down a ramp and thence back to her own stall in the stable. The platform continues to revolve and in a few seconds the vacant stall has come opposite the end of an alley from which another cow steps into the stall. We will follow this cow around the circle.

As the platform carries the cow to the left she first passes through a shower bath of luke-warm water which comes from below and behind her. An attendant now steps on with a towel in each hand, and with a few deft strokes dries off the surplus water, after which he steps off, deposits the wet towel in a laundry basket, takes two clean ones from a truckload at hand, and is ready for the next cow. Another attendant steps on to the platform with a small can which has a fine copper screen strainer in its top. Into this he draws a squirt of milk from each of the cow's teats in order to determine whether the condition of the milk or its flow is in any way abnormal. If anything is apparently wrong the cow is not milked, but is allowed to go around the circle and is then taken to the hospital for attention. However, if the milk flow is normal, as it usually is, a third attendant immediately steps on to the platform and attaches the rubber-lined suction cups of the milking machine. During the remainder of the cow's journey around the rotolactor the milk is drawn from her udder and up into the pyrex glass jar already mentioned.

When the cow has completed the circuit the cups are removed and hung overhead. They move to the left with the platform and in a moment are dropped into a trough of cold water through which they pass for a distance of about ten feet, when they are automatically stepped over into a trough of hot water. After being thoroughly scalded in passing through this trough they have reached the point where they are taken down by the attendant who places them on the next cow.

The cows are all numbered and they go in regular order from their stalls, through a long alley, to the lactorium and thence back to their stalls again.

Thus the milking operations go on through the day and the night; for the fifteen hundred cows kept on this farm are milked three times daily. This keeps the rotolactor in operation for about eighteen hours out of the twenty-four—a very efficient use of the outfit.

It will at once be apparent that this method of milking—not in the stalls but in a separate building—completely avoids contaminating the milk with dirt and dust in the stables. It should be definitely pointed out here that the business of this great dairy farm is to produce SAFE milk of high food value. To do this it is considered necessary not only to take every precaution to have the milk clean and pure, but also to resort to special feeding methods in order to guarantee high quality, and this brings us to the second part of our story.

The Feeding Method The proprietors of this farm feel that to produce strictly high quality milk with the proper vitamin content, only high quality feed can be used. For this reason no chances are taken on making hay in the fields, as weather permits. In order to insure high Vitamin D content the hay crops are cut earlier than is the common practice with farmers. The green crop is then immediately hauled—regardless of weather—to great artificial driers through which it is quickly passed and then ground into a fine "hay meal" and sacked for future use. This practice may seem expensive and may only be practicable on very large farms, but it insures uniform high quality hay, requires less storage space, and eliminates all the cost and annoyance of extra labour which may be involved in out-door haymaking.

Besides this strict care in providing high quality feed and in practicing sanitary methods of feeding and milking, the company maintains a group of veterinarians who keep constant watch on the health of the cows, and a medical doctor who makes a weekly inspection of all the attendants. So they feel that they have gone a long way towards ideal practice in milk production.

Our guide explained to us, however, that they were dreaming of still further improvements, and thinking of a time when the "hay meal" and grain concentrates might be mixed with some sort of syrup and made into loaves, and these loaves fed to the cows while they were being milked on the rotolactor. This seemed to us an almost fantastic thought, so we ventured a suggestion that the lactorium should be fitted with a vita-glass roof and thus made into a solarium-lactorium which would give the cows the benefit and comfort of ultra-violet rays while they were being fed and milked in one operation.

Whether or not our sugestion is acted upon, we know that anyone who has the opportunity would find it more than interesting to go and see for himself the operation of the milch cow merry-go-round to which the Walker-Gordon people have given the intriguing name—"ROTOLACTOR".

Sugar Cane Production in Cuba

By John J. Brickley, '20

Assistant Superintendent of Agrictulture,
United Fruit Company, Banes, Cuba.

SUGAR cane is indigenous to the eastern hemisphere. Like many other plants for the production of human food, it was brought westward by the adventurous Latins who opened up the new tropical world. The soil and climate of the new environment proved to be so well suited to the production of sugar cane that the West Indies became, and still is, one of the main sources of supply of this article, which has added so much to the appetizing qualities of man's food.

The production of sugar cane in Cuba dates from the sixteenth century. The Island has not been erroneously labelled "The Sugar Bowl of the World," because the production, in spite of retarding effects of numerous temporary setbacks, has increased from some 4,400 tons of sugar in 1760 to 5,159,000 tons in 1929. The expansion and commercialization of the industry has resulted in big-scale farming, transportation and manufacturing organizations in local,, self-contained units seldom if ever duplicated in the world. We believe that the Banes and Preston Divisions of the United Fruit Company represent probably the finest examples of this type of unit. These two Divisions border each other and their railway systems connect. Banes, which is the smaller of the two, has 38,924 acres of cane, 157

miles of railway and a factory capable of grinding 8,000 tons of cane per day.

Sugar cane is primarily a perennial grass. It developes a thick solid root-stock from which fibrous roots grow out laterally and down ward, without any great penetration, making the plant comparatively shallow feeder. The roots produce numerous erect, non-branching stalks, divided into sections by nodes, the length of the internodes depending on growing conditions at the time of formation. The plants usually grow to a height of from 6 to 14 feet. The leaves, which are linear in outline, are produced on the top, or growing section of the plant. They gradually dry up and drop off as the sections mature, and new sections and leaves are formed above. Each node produces a small bud, not unlike the eye of a potato, from which the plant is produced asexually or vegetatively. Reproduction by means of seeds is possible and is used for production of new varieties, but it is not practical from a field production standpoint.

Sugar cane may be grown successfully on a wide range of soil types, as is well demonstrated by the fact that Cuba produces cane on the deep, rich silt loam of the valleys and the sparse red soils of the uplands. In addition to the presence of sufficient plant food and organic matter in the soil, three factors have an important bearing on the ability of any area or locality to produce. These are: (1) Amount and distribution of rainfall; (2) drainage; (3) type and tilth of soil.

The distribution of rainfall is actually more important than the total rainfall because, during the growing season, and particularly at the time cane is being formed, the requirements of the plant are much greater than later, when the ripening process is reached. Planters using irrigation on deep, red soils use a maximum of 100 to 115 inches of water per year, including both precipitation and applied water. Forty-five inches of rain with proper distribution will usually give a good crop on Company property, although an increase in rainfall practically always results in better production the following year. One hundred inches of rain on the heavy and retentive soils that produce a large proportion of United Fruit Company cane would probably be too much.

Cane will not thrive under conditions where it is subject to "wet feet," and therefore it is imperative that adequate drainage be be provided on flat areas of heavy soils. Two policies that greatly aid in reducing drainage costs are: the utilization of engineering

principles in laying out ditches, and the construction of ditches in dry weather, when the work may be done by mechanical means rather than by hand labour. The increase in the use of cultivation machinery has made it necessary to construct shallow ditches whenever possible so that implements can pass over; also to construct outside well away from the head row in order to allow cultivation units sufficient space to turn without damaging the cane.

Comparison of production and cost on different classes of soil in Banes Division indicates that the soil type has a direct bearing on the ability of an area to remain in production over a period of years without replanting, and therefore, to produce economically. This knowledge is being utilized in the selection of land for planting and replanting, and should be a great aid in keeping to a minimum the amount of marginal land in production. The tilth, or physical condition of the soil as affected by the amount of organic matter present, the presence and movement of soil water, the amount and quality of cultivation that is applied and the actual physical structure of the soil itself all help to decide the quantity and quality of the crops the land will produce.

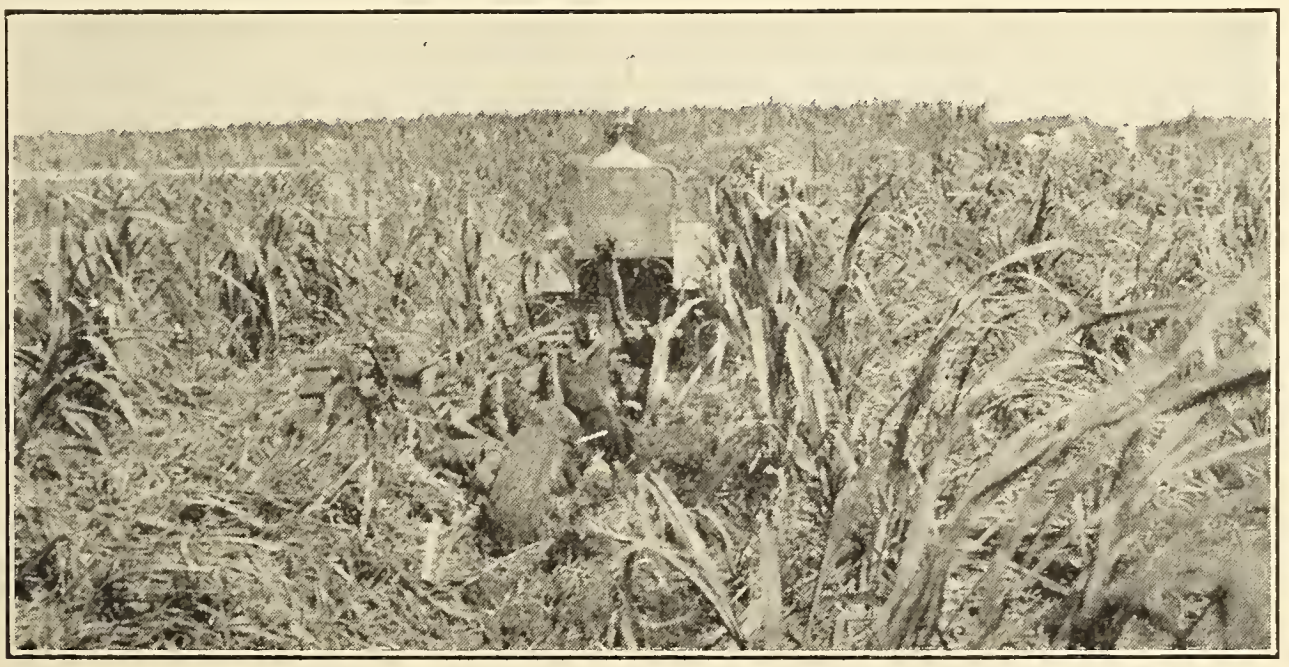
Cuba produces the great majority of her cane from one standard variety—"Crystalina," or "White Transparent." This cane, by its ability to "ratoon" (produce crops from stubble) over long periods, and its adaptability to a wide range of soils, has attained such favour with Cuban planters that it is exceedingly difficult to displace. Of late years, however, the rapid spread of Mosaic disease in some sections of the Island has seriously affected the production of this variety, with the result that planters have been forced to turn to the more resistant or tolerant Java varieties. These varieties have been in existence only a few years and their ratooning qualities have not been well established, but they appear to be a good proposition on account of their ability to withstand Mosaic. Barbados Hybrid 10 (12) and Santa Cruz 12 (4) are also canes that have shown promise, but their susceptibility to Mosaic is about equal to Crystalina, so they have not made any marked progress in popular favour.

The method used in planting cane depends altogether on the conditions encountered. These may be divided roughly into three classes: 1, Planting areas from virgin forest. 2, Planting cut-over or pasture lands. 3, Replanting land already in cane.

The planting of virgin forest area involves the felling of the bushes, trees and timber, and the burning-over to destroy sufficient of

the material to expose the land for planting. Large quantities of logs and stumps are usually left in the fields and, as the cane is planted among these, the use of implements for cultivation is hampered until such time as the field is replanted and the logs and stumps are taken out. Planting is usually done 6 feet by 6 feet in so far as the physical condition of the land and the felled timber present will allow. The area is staked to guide in planting and the "seed" is inserted in holes made by a sharp stick shoved into the soil at an angle.

Pasture and cut-over lands are first cleaned of any remains of forest, and the grass is either pastured or cut low before plowing. Burning is avoided as much as possible in order to conserve the valuable humus and plant food that has accumulated in the top layer of soil. Plowing may be done with either steam plows, tractor, or bulls. Steam plows are now used only on sizeable areas in rough condition. Their work is expensive and unless the presence of quantities of roots in the soil or the necessity for deep knifing indicates the advisability of using them it is usually considered more economical to use caterpillar tractors with disc plows. These do good work at reasonable cost where there are not many obstructions, and therefore, are used to plow fully ninety-five per cent. of the area now being planted on Company property. The use of bulls on mold-board plows is limited to small areas, hillsides and fields where conditions are such that it would not be economical to use mechanical equipment. The quality of work done by mechanical equipment is so superior to that performed by animals that bulls have been practically displaced for this work at Banes, except under conditions described.



The replanting of land already in cane involves burning in order to eliminate the trash, or accumulated deposits of cane leaves. Fields

that are being replanted for the first time often contain quantities of wood left at the time of original planting. This is either burned off or drawn off in order to leave the area in such condition that it may be cultivated by implements. When the land is clear the procedure and sequence of operations is the same for pasture, cut-over land, and replant areas. Plowing, harrowing, and cross plowing and harrowing are done, each operation being properly timed, until the land is in condition for planting. Operations may be varied to suit local conditions; for example, the use of the harrow plow may be substituted for the more expensive deep cross-plowing where the soil is in good physical condition after first plowing. Low, flat lands may be banked to advantage in order to provide drainage and to get the cane roots well above the water level. This operation has been successfully effected in Banes Division by means of a large road grader; and, judging from the results, it will become part of the regular procedure in the planting of low, level lands where it is difficult and expensive to get adequate drainage by other means.

The cane "seed" used for propagation is secured by cutting the sugar cane stalk into sections with at least two sound, healthy internodes and eyes on each seed piece. This "seed" is usually secured from cane that is of latest planting and is not fully mature, as it has been found that such "seed" has greater vitality than that secured from mature cane. The elapsed time between cutting and planting should be kept to a minimum to prevent drying and to insure good germination. Selection of fields for freedom from disease, such as Mosaic, and pests, like the Borer, is essential, and the importance of rejecting seed pieces with defective or injured eyes, or infected with disease, cannot be over-emphasized.

The actual planting on plowed land is done by one of two methods. The first is to furrow the soil in rows six feet apart and to drop the seed pieces in the furrows, either as they fall or two together, at regular intervals three to six feet apart. The furrows are then closed either by manual labour with a hoe, or by such an implement as a high-disc cultivator or a small plow. The other method is to line out a field six feet by six feet, or six by three, and plant two "seed" pieces in holes opened by a pointed stick, a pick or a hoe, covering by means of the foot or with a hand implement. The first method described, that of planting in furrow, is gaining in favour and is being used to a greater extent every year where physical conditions permit. It has the advantages of lower cost, resulting from the employment of less manual labour, and better covering of "seed", which develops a deeper

root system—an aid in withstanding drought, and an insurance against damage from heavy winds.

New cane on virgin soil must be maintanied by hand cleaning entirely, which means that periodically labour must be put in with hoes and machetes to clean out undesirable vegetation until such time as the cane matures. As each successive crop is produced the process must be repeated. Plant or replant cane on cleared land may be maintained largely by implement cultivation with one or more hand cleanings to eliminate the weeds that are not within reach of plow or harrow. After the first cutting there is an accumulation of cane leaves, called trash, which interferes with the use of implements. This trash is a very useful mulch, moisture conserver, and weed controller, but its accumulation year after year leaves the soil without cultivation, which in turn results in a compacted condition, particularly in low lying areas. This condition is obviated by turning back the trash of alternate rows and cultivating the clean row with plows and harrows. Manual labour has been used to do the great majority of trash turning work, and mules and bulls for cultivation work, but the use of mechanical equipment is rapidly coming to the fore. Trash turning by means of mule-drawn hay rakes has been increasing, but the usefulness of this method is limited because the implements will work only under favourable conditions.

Cultivation work can be done to best advantage during the harvesting season, at which time labour is scarce for other work, a factor which increases the need of using mechanical equipment. Two implements have been developed recently that bid fair to give excellent results in trash turning and inter-row cultivation at the most advantageous time with a small amount of labour. These are the Bernson trash turner and the Horter cultivator. Each of these machines is hauled by a caterpillar tractor and is capable of doing splendid work under average conditions at a cost comparable with the cheapest manual and animal labour available. These machines should have a far-reaching effect inasmuch as they will improve the quality by a properly timed operation and increase the quantity of cultivation work. The advantages of cultivation in improving and maintaining the physical condition of the soil, in helping to eliminate weeds and grasses, in conserving moisture through the establishment of dust mulch, and in reducing costs of bringing cane to maturity have been so well established, particularly on heavy soils, that the operation is being extended by every possible means. Cultivation of young replant cane is practically the same as that practiced for the production of corn in the best

farming sections of the United States. The same principles hold true for ratoon cane except in so far as the cultivation operation is affected by the turning of the trash and the necessity of breaking up the compacted soil by means of plows.

Sugar cane fields should be protected from the outside against the encroachment of pernicious grasses and weeds and the passage of fires. This is most cheaply accomplished by plowing and cultivating an area of eight to ten feet immediately adjoining the cane, and by keeping the grass and weeds on roads and open areas in proximity to the cane cut back to prevent the production of weed seeds or the development of undesirable vegetation. The work on roads is most economically effected by the use of a sturdy type of ordinary farm mowing machine drawn by two mules. The ordinary cultivaiton equipment of plows, cultivators and harrows is sufficient for maintaining the desorillos, or area about the edges of cane fields.

Sugar cane farming in Cuba is in the transition stage. Only a few years ago agricutural methods were most primitive, large amounts of manual labour being employed for every operation. Progress has been made in that better farming methods have been adopted and extended, improved machinery has been imported, special implements have been designed to suit local needs, and labour has been trained in the use and operation of mechanical equipment. There is much to be accomplished yet. The road to improved methods is a toilsome one, requiring the best efforts of all concerned, but the results in the condition of fields and lowered cost of planting and maintenance are so obvious and satisfactory that the only logical course is to continue to modernize methods and to utilize every mechanical unit of economic value.

Where O.A.C. Men and Women are Always Welcomed

By Wm. C. Noxon, Agent-General for Ontario

THERE have been quite a number of O. A. C. students hailing from England and Scotland, who, in the first instance, obtained information about the College as a result of paying a personal visit to the Ontario Government Office, at 163 Strand, London, England. Perhaps, on the other hand, some students and graduates of the College, scattered throughout the world, may learn for the first time something about the Ontario Government Office by reading this short article in the "O. A. C. REVIEW."

Already there are a number of circumstances which link the London Office of the Ontario Government with the Ontario Agricultural College. As already mentioned, a number of students from Great Britain have at different times made arrangements through the London Office to go to the College, and several of them are there now. It is also worthy of remembrance that the late Dr. George Creelman, so long associated with Guelph, was for a time my predecessor in the office of Agent-General. Moreover, there are two O.A.C. men working in this office at the present time—Mr. S. E. Percival, who was at the College from 1913 to 1915, and Mr. Andrew Fulton, who was a student there from 1913 to 1915, and also from 1919 to 1921.

It would hardly be expected that the Ontario Government Building in London and the handsome new main building at O.A.C. are built of the same kind of stone, from the identical Canadian quarry! This interesting coincidence is explained by the fact that the present London Office building was built in 1930, of Ontario materials as far as possible. Building stone, granite and marble, as well as several kinds of timber, were brought specially from Ontario for the purpose of being used in the new Ontario Building. The building itself was opened on October 21st, 1930, by the Hon. G. Howard Ferguson, who was then Prime Minister of Ontario. On that occasion, the Prime

Minister of Great Britain, the Right Hon. J. Ramsay MacDonald, was also present, and made a very interesting speech about the visit he paid to Ontario in 1928.

It should be explained that there has been an Ontario Government Office at 163 Strand, London, since 1908, although the new building is much larger than the old one, far more in keeping with modern requirements, and more worthy of the great Province of Ontario, which it represents in one of the most widely known and busiest streets in the British Empire.

This reference to representation touches the primary purpose of the Ontario Government Office, which is to worthily represent our great Province in the British Isles. Every Overseas Dominion and many Provinces and States are represented in London by High Commissioners, Agents-General and other officials, and have their own buildings and offices. It is therefore appropriate that a great country like Ontario should also have adequate representation.

The functions of the Ontario Government Office are many and various. First of all, it performs a very useful service in furnishing official and reliable information about Ontario to all enquirers. In normal times it has done a considerable amount of emigration work, and under its auspices many thousands of farm workers, women household workers, and boy farm learners have gone to Ontario and been successfully settled in our Province. Several young lads who first went to Ontario as boy farm learners have afterwards entered the Ontario Agricultural College.

In connection with the general work of the Office, a good deal of advertising and publicity work is done, the whole object of these endeavours being to make Ontario better and more favourably known in the British Isles.

Many thousands of copies of illustrated booklets, maps, and other publications describing Ontario are distributed every year, not only to enquirers who apply personally or by correspondence, but also through the medium of the numerous local shipping agents throughout the country. In this connection it is of interest to mention that very special efforts are being made to make Ontario better known in schools and colleges. We pub-

lish our own quarterly magazine, the ONTARIO BULLETIN, which has now a circulation of over 20,000 copies per issue. Most of these go to head masters and school teachers throughout Great Britain, who have asked for copies for use in their educational work. Cinematograph films and lantern slides descriptive of Ontario are also used extensively.

A great deal of effort is also made to enlighten the investing public and others concerning Ontario's great mineral wealth. For many years past a considerable amount of publicity has been obtained for Ontario mining industry in the Press and by distributing from the London Office the latest reports of the Ontario Department of Mines.

The staff of the London Office now includes the Commercial Representative of the Ontario Fruit Growers' Association, who acts as selling agent for Ontario growers who consign their fruit to him.

Another branch of the Office work which gives great pleasure to the staff is the increasing number of visitors from Ontario, who make the Office their headquarters while in London. It is in this connection that I would like O.A.C. students and graduates to keep the London Office of the Ontario Government in mind. If any of them ever visit London, they will receive a very hearty welcome at 163 Strand. For years past, many of the foremost citizens of Ontario have made the fullest use of our Office whenever they happen to be in London. So have the Ontario school teachers, who come over each year under the system of one-year exchanges with English and Scottish teachers. Delegations, officials, sportsmen and business men from Ontario enlist our services while in London. I would like to emphasize that the same facilities are freely available to every visitor from Ontario, and especially to those who come to London for the first time. It is also worthy of note that the Dominion Students' Athletic Union, which acts as a link between University students who come to Great Britain from overseas, holds its meetings in the Ontario Government building.

There are many ways in which the London Office is useful to visitors and travellers—for example, by re-directing their mail, securing hotel and steamship accommodation, helping them to obtain passports and visas, giving advice concerning journeys

they wish to make and places they desire to see, etc. There is, of course, a very fine reading and writing room in the office, where most of the leading Ontario newspapers are on file and can be read in comfort.

It is surprising how acceptable a little reliable and specialised information often is. We have for some years past issued from our Office a little booklet entitled "Sight-Seeing Hints for Canadian Visitors to London." When we issued the fourth edition of this unpretentious booklet, we thought it would be a good idea to send a few copies to steamship agents in Ontario, so that they could enclose a copy in the envelope when they happened to issue a ticket to anyone who was coming to England. In this connection we sent 20 copies to a well-known firm of agents in one of the largest cities of Ontario. They acknowledged the receipt of the booklets in a very cordial way, saying: "It is just what we wanted; only instead of 20 copies, we could use 2,000 to advantage and will be pleased to receive a further supply." Many other agents replied to the same effect, which shows that some things have only to be made known to be appreciated and made use of. I therefore sincerely hope that now the London Office of the Ontario Government has been introduced to O.A.C. men and women, past and present, that none of them will ever visit London without coming to see us.

A Friend to Canadian Agriculture Retires From Service

Dr. J. H. Grisdale's many friends throughout the Dominion, particularly those interested in Agriculture, have learned with regret that, because of ill health, he has had to retire from the position as Deputy Minister of Agriculture, under the Federal Government.

Undoubtedly, his most outstanding accomplishment was the development of the Dominion Experimental Farms. Because of his broad knowledge of agriculture gained throughout his period as Director of Experimental Farms, he was appointed Deputy Minister of Agriculture, in 1919.

Dr. Grisdale was born in Ste. Marthe, Quebec, in 1870, and entered the O.A.C in the Fall of 1896, and received his Associate Diploma in April, 1898. Seeking wider experience and knowledge of agriculture in other parts of this continent, he proceeded to Iowa State College to take his B.S.A. degree. Almost immediately after graduation, he was appointed agriculturist at the Experimental Farms, Ottawa. Twelve years later, on the retirement of Dr. Saunders, he was appointed Director of Experimental Farms for the Dominion. His early farm experience, combined with his training in agriculture and his experience as agriculturist, gave him the wide grasp on agriculture necessary to fill this position, and it was as Director of Experimental Farms that he rendered excellent service to the Dominion. Under his directorship, research work in agriculture throughout the Dominion made very rapid progress.

As Deputy Minister of Agriculture, Dr. Grisdale proved himself a very capable official. In 1922, he went to London, England, as advisor to the Canadian Government in the conference with the British Minister of Agriculture regarding regulations incidental to the lifting of the British embargo on Canadian cattle. He visited London again in 1923 and 1926, as agricultural advisor to the Canadian delegation to the Imperial conference. Dr. Grisdale also headed the Canadian delegation to the Imperial Research Conference in London in 1927 and 1928, representing Canada in the Imperial Agricultural Bureau Executive Council, meeting to consider a scheme for the establishment, on an Imperial basis, of clearing houses for information on certain

branches of agricultural science, and to inaugurate the controlling authority for such clearing houses. He is a member of the Canadian Research Council and joint chairman of the council's committee on Tuberculosis. He also acted as joint chairman of a committee appointed to study the important question of cereal rust.

In recognition of Dr. Grisdale's outstanding contributions to agricultural progress, Laval University, Quebec, honored him with the Degree of Doctor of Science, 1918. He is the director of many agricultural organizations throughout the Dominion, and has had a directing influence on many of the agricultural problems of the Dominion.

Throughout his busy official life, Dr. Grisdale has not lost touch with practical farming. His eldest son, Hume, is a graduate of Macdonald College, and A. J., locally remembered as "Joe", graduated from the O.A.C. in 1927. Both sons are progressive farmers.

Dr. Grisdale's many friends here and throughout the Dominion sincerely hope that he may be restored to good health and that he may have many years in which to enjoy the fruits of well rendered service.

The Review Staff extends to all readers, wishes for a happy and prosperous summer.

"May your days be spent in productive industry
Your leisure time in profitable enjoyment
And your hours of sleep in pleasant dreams."

Research and Extension Activities at the College

In the last issue, we gave a brief resumé of the growth and development of the O.A.C., also the activities during the past two years of the Departments of Agricultural Engineering and Animal Husbandry.

This month we publish some interesting information about the Apiculture, Bacteriology, Botany and Chemistry Departments.

DEPARTMENT OF APICULTURE

Apiary Registration — All beekeepers in the Province are required by law to register the number of colonies which they keep each year. This registration work is done by the Department of Apiculture at the College. It involves the registering of about 6,600 apiaries including approximately 162,000 colonies.

Apiary Inspection — In order to control the "American Foul Brood" disease, a methodical system of inspection is carried out each summer. Owing to limited funds only about one-half of the apiaries in the Province can be inspected each year, but this makes it possible to keep the disease fairly well under control and keeps the bees in fairly good working condition. The work of inspection is done by or under the direction of the Department of Apiculture. About one hundred inspectors are temporarily employed for about from two to four weeks each summer.

Processing Honey — Dr. Dyce of the Department of Apiculture has, in the past two years, developed a method of processing honey which prevents it from fermenting, improves its physical texture, and at the same time enables it to retain its natural, fine flavour. This process has been patented, and the patent turned over to the Ontario Agricultural College so that no one may secure a monopoly on it. It will undoubtedly prove of enormous value to the honey producers of the Province. It has been adopted by the Ontario Honey Producers' Co-operative, and may be adopted and used by any organization or individual, under Government license.

DEPARTMENT OF BACTERIOLOGY

Poultry Blood Testing — In connection with the movement for the eradication of bacillary white diarrhoea of chicks from poultry breeding stations, the agglutination test has been made on two hundred and thirty thousand samples of blood drawn from adult birds to determine if these birds are carriers of Salmonella pullorum, the bacterium that causes the disease.

Cause of Rancid and Mottled Cheese — At the request of the Dairy Branch an intensive Bacteriological survey of the cheese industry in Eastern Ontario was undertaken, to determine the cause of so much rancid and mottled cheese being produced.

The conditions prevailing in over one hundred cheese factories and many farms were investigated. At the factories producing the poor quality cheese the milk was found to be badly contaminated with a high content of undesirable bacteria. The source of the contamination in nearly every case proved to be badly washed and improperly sterilized milk cans. Some of the cans were in a bad state of repair, having cracks and fissures in the badly soldered joints that made it impossible to properly sterilize them. Steps were taken to have all defective cans thoroughly repaired, and to have the cans regularly sterilized at the factory where possible. Reports from the Dairy Inspectors late in the season indicate that as a result of the recommendations being adopted, most of the trouble has been eliminated.

Legume Bacteria Cultures — Over ten thousand legume bacteria cultures for inoculating alfalfa, clovers, peas and beans were prepared and sold to farmers applying for them.

Examination of Butter Samples for Yeast and Mould Content — Over six thousand butter samples submitted during the summer by the Ontario Butter Grading Station, Toronto, were examined by plate culture for their yeast and mould content. These analyses afford an index of the care taken by buttermakers in the manufacture of their butter, and enable them to check up promptly on the conditions for yeast and mould contamination in their factories

DEPARTMENT OF BOTANY

Chemical Weed Killers — Extensive investigations as to the value of chemical weed killers have been conducted, and already certain useful facts are evident.

It has been shown that certain chemicals (Commercial weed killers and otherwise) will effectually kill certain weeds in one season, and may be satisfactorily used on small patches where destruction of a growing crop is not an important consideration; and that after one succeeding season the residual effect of such chemicals on the soil will have completely passed so that useful crops may be successfully grown.

It has been further shown that certain weed killers may be used over large areas of grasslands without serious injury to the grass, and still effectually kill certain weeds, e.g. on a pasture badly infested with oxeye daisy, the daisy was completely eradicated in one season without any serious injury to the grass, and at a cost of $8.00 per acre for material.

It was shown that Sodium Chlorate, although one of the best and cheapest chemical weed killers, must be used with great care since it is highly inflammable.

Tomato Disease Investigations — In co-operation with the Department of Horticulture, a rather extensive experimental study was made in 1930 and 1931 of diseases infecting the tomato crop and their possible remedies. The results obtained in the two years indicate that spraying or dusting the tomato plants in the frame, just before they are set in the field, is a profitable practice from the standpoint of disease control and increased crops.

Smut Treatment for Oats — Experiments during the past few years show conclusively that certain dust treatments can be used effectually in control of oat smuts, and that these have some advantage over the liquid treatments now commonly practiced by the farmers.

DEPARTMENT OF CHEMISTRY

Soil Surveys — Through the soil survey 4,545 square miles have been mapped in the following counties:—Nor-

folk, Elgin, Kent, Grenville, Middlesex, Wentworth and Lincoln. An illustration of the value of the soil survey can be taken from the results in Norfolk County and the Eastern part of Elgin County where large areas of soil were found suitable for growing flue-cured tobacco. These areas have been mapped and there has followed a tremendous development in the growth of tobacco—from a few hundred acres in 1925 to approximately twenty thousand acres in 1931. Soils suitable for canning crops were designated through the soil survey and this industry has made a big development during the past few years.

The soil map and report made from the soil survey provides an important basis for land valuation for banks, loan companies, insurance companies and other agencies interested in rural credits. It also provides a fundamentally sound basis for social and economic surveys which are made in agricultural areas, for it must be admitted that "the life blood of the nation springs from out the soil".

Fertility Studies on Permanent Plots

Careful research work on fertility problems has been conducted on permanent plots in Haldimand, Norfolk, Welland and Wellington Counties. Definite results have enabled the Department to advise on the best methods of handling the soil and the type of fertilizer most needed. This work has also assisted in the development of the truck crop industry in Welland County, and in the successful production of tomatoes and other crops. Special attention has been given to the production of flue-cured tobacco in Norfolk County and to the necessary balance of nitrogen, phosphoric acid and potash in the fertilizers used.

Co-operative Demonstrations

In co-operation with the fertilizer manufacturers, 2,425 co-operative demonstrations have been conducted on 707 farms in the various counties of the Province. These demonstrations have proved to be an educational centre, and have reached large numbers of farmers in every community. They have proved of great value in giving information to farmers on the value of fertilizers and the best methods of handling crops. As a part of the demonstration 115 meetings were held with an attendance of more than 21,500 people.

Acid Soils and Lime

Soil acidity has been found to retard the development of legume crops. The Department has devised and made available a simple acid test for soil acidity, which has been extensively used by the agricultural representatives

with farmers. These tests are meaning much to farmers in determining where lime is needed.

Reduction in the Number of Brands of Fertilizer

An important outcome of the investigations and demonstrations carried on by the Department is the recent action of the Canadian Fertilizer Association in reducing the number of brands of fertilizers from 76 to 28. For the reason that a number of the mixtures had already been prepared for this coming Spring, it was impossible to go as far in the reduction at this time as they would desire. It is the intention to make another reduction next year.

The Canadian Farmer
1873

"Ontario Agricultural College"

CONSIDERABLE progress has been made during the past few weeks in fitting up the main building on the Provincial farm, for the accommodation of students, and the Government expects soon to be able to fix the time for opening the institution. For some months past much thought, investigation and discussion, have been going on as to the system on which the institution shall be conducted. The conditions on which the pupils shall be admitted; the extent of literary and scientific instruction to be given; the number, and character of officials to be employed; and numerous other questions deeply affecting the future success of the enterprise, have received earnest consideration. Naturally enough, a good variety of views have been suggested, and to avail themselves of every means of arriving at a wise conclusion, we now learn that an Honorary Commission has been issued by the Government to a number of well-known gentlemen deeply interested in agricultural and educational matters, inviting them to consider the whole subject of the future organization and management of the institution, and report without delay. We understand that among the gentlemen composing the Commission, will be found the names of the Commissioner of Agriculture; the President of the Provincial Agricultural Association; two ex-Presidents of the Provincial Agricultural Association (Hon. Messrs. Christie and Skead, we believe); Hon. Geo. Brown; the President of University College, Toronto; the Senior Inspector of Grammar Schools, for Ontario; and the Secretary of the Provincial Horticultural Society, Dr. Beadle, of St. Catharines.

(The above was taken from the "Canada Farmer" of December 15th, 1873. The copy was discovered by Mr. Thomas Brown, of New Hamburg.)

Agricultural Extension Work in Nova Scotia

Its Development and Personnel

By Dr. W. V. Longley, Director of Extension,

N.S. Agricultural College, Truro

IN considering Extension Work in Nova Scotia it is well first to review a few points relative to the agriculture of the Province. This is particularly necessary for the benefit of those who through newspapers, magazines and like sources obtain such widely conflicting stories as to what agriculture in Nova Scotia really is. First, it is well to point out that while the census states that there are some 47,000 farms in the Province, it also states there are less than 40,000 farms over 10 acres. Many of the farms under 10 acres in size, as well as many over this size, are called "farms" because there is no other designation in the census to describe them, and not because a family obtains a living on each of them.

Nova Scotia is a Province of diversified occupations and what is more many of these occupations are closely allied to farming, in fact the farm with many is nothing more or less than a place to live and a place to pass the time when there is nothing else to do. During October of the past year the increase in butter production at the creameries was some 50 per cent. while the increase for the year was 25 per cent. This in part was due to the fact that many families in the lumbering and fishing areas, finding their usual occupations unprofitable have been turning their attention to the cow, the same as many of the grain farmers on the Western Prairies. Nova Scotia was settled to a very large extent when men were looking for a place to take up a piece of land and establish homes, expecting to make their living largely from the forest and the streams. Later lumbering developed and until very recently it has been one of the main industries, in fact even yet it is relatively important. Many others living on farms work in the mines, on the road, or at other work during part of the year. Others have been going to the United States in the summer time, returning to their places for the winter months. Thus the question, how many farmers are there in Nova Scotia, cannot be answered.

but a good estimate is that not more than one-half the 47,000 are actual farmers, depending upon the farms for their livelihood.

Take it another way and look at the agriculture of the Province. The average size of farms according to the census is 100 acres but much of this is woods or rough pasture. The improved area per farm is only 21 acres. This though varies with counties as the improved area in Pictou County, one of the leading agricultural counties, is 39 acres per farm, while all of the North Shore counties have an improved area per farm averaging 33 acres or more. Eight of the eighteen counties in the Province have an improved area of 21 acres or more per farm and roughly it is these 8 counties which are to a very large extent the agricultural counties of the Province, producing 62 per cent. of the farm products. Six counties produce 55 per cent. of the total farm production, while another six counties produce only 14 per cent.

There is in the Province a very wide variation not only as between districts, but even between farms. C. C. H. Eaton, one of the first men to be named "Scotia Premier Farmer", has a farm of some 1,000 acres keeps 60 to 80 head of cattle, a hundred breeding ewes, a dozen or more brood sows, grows 55 acres of potatoes and raises 8,000 barrels of apples. One man named "Scotia Banner Farmer" last year had cash receipts of more than $7,000 while men, also called farmers, living in the same district did not sell products to a greater value than $350.

Nova Scotia agriculturally is a Province of extremes. There are many fine farming regions, as fine as are to be found on the continent, while in many other districts the farming is so backward that an extension man wonders where to start. Even within a few miles of a good farming district may be a poor farming district. Possibly the difference is due to the people, but considering that the people are usually the same stock it is quite probable that the difference is often due to soil or to the fact that one group has been forced out of lumbering or some other occupation at an earlier date and have had to make their living on the farm. Thus the district of Shinimicas in Cumberland County is an outstanding agricultural district, and it is an example of a group of people, some 20 miles from a railroad, who have made out of the forest one of the finest farming communities to be found. The very fact that in the two years the "Scotia Premier Farmer" project has been conducted in the Province, two men out of the nine named, have come from this community is evidence of the type of men and of farming found here. Still there are communities not many miles from here, where people have hardly yet turned from lum-

bering to farming, who have not made the progress nor have they the advantages of schools, buildings and farms as material evidence of the things accomplished.

History of Extension Work

This wide variation in the agriculture of the Province and the competing industries is quite essential to even a cursory understanding of the problems of agricultural extension work in Nova Scotia. What of the history of agricultural education? The first Agricultural Society organized in Nova Scotia was organized at Hortonville in 1789 and this Society is still in existence. Fairs were held at Windsor as early as 1765. The first agricultural revival came about through the agency of John Young, who wrote under the name of "Agricola", and he it was who was named the first Secretary of Agriculture for Nova Scotia in 1819.

Modern agricultural instruction received an impetus with the establishing of a farm at Truro and teaching started in the Normal School on agriculture in 1886 while the Experimental Farm at Nappan was started in 1888. It was in 1904 that the Agricultural College at Truro was established under the leadership of M. Cumming. It was not though until the war years that any attempt was made to further modern organization of extension work. During the war years and the following years a start was made and a few men were stationed in Eastern Nova Scotia on extension work. This work though was not systematically organized, and the number of workers was usually not more than two to three. Thus progress made was slow, but nevertheless many present day projects such as alfalfa growing, school fairs and boys' and girls' club work had their start in this work.

It was not until the present Government of Nova Scotia came into office in 1925 that a definite move was made to organize agricultural extension work along modern lines. A commission investigated the problem of agricultural extension work in the Province and it is interesting to note that Dr. W. S. Blair, son of Col. Wm. Blair, the first Superintendent of the Dominion Experimental Farm at Nappan, had much to do with the work of this commission. As a result, in 1926, the work was definitely organized under J. M. Trueman as director of extension, and men were stationed to cover all parts of the Province.

The work thus organized has gradually developed until today there are twenty full time employees in the field including four workers

with girls' sewing and cooking clubs. Besides, student assistants are also used during the summer months. Due to the variation in farming districts, the South Shore district practically cover three counties while in other instances there are two workers in one county.

Boys' and Girls' Club Work

No attempt will be made in this article to disccuss the various projects which are being furthered. One example, though, will give some idea of progress made. Possibly no line of work has developed so rapidly or effectively as boys' and girls' club work. The first clubs were started in the Province in 1922 when a heifer club and a swine club were organized at Antigonish. In 1926 there were 434 members which number has been increased by 1931 to 2,187. This gives us some 6.4 members per thousand population which is approximately the same number in relation to population as has the United States, while the average for Canada is 2.2 per 1,000 population. The number of projects has been increased from the original two until now there are 18 projects offered. Club Work has become an important feature not only of the Maritime Winter Fair, but of the Provincial Exhibition. the Seed Show and Short Course. Its work in the country is ever increasing. and results are already showing in the stocks, crops and practises on the farms of members.

The Personnel

O.A.C. Review readers will. no doubt, be interested in a resumè of those members of the extension staff who have been students of the O.A.C. Here, as elsewhere in agricultural work in Canada, the O.A.C. has made a very definite and substantial contribution. The Deputy Minister of Agriculture, Col. R. Innes, took his Associate work with the Year 1911, although he transferred to Macdonald College, graduating in 1911. At the time that he left the O.A.C., the present Director of Extension, W. V. Longley, went with a group of Nova Scotians to the O.A.C. Amongst this group were N. C. MacKay. Director of Extension in Manitoba, W. H. Porter, Editor of the Farmers' Advocate and J. G. Taggart, Superintendent of the Dominion Experimental Farm at Swift Current.

A. W. Mackenzie and H. K. MacCharles, 1923 graduates, were both on the original group of the 1926 "invincibles" but both have left for other lines of work. one is now Maritime Superintendent of

Colonization and Agriculture for the Canadian National Railways, while the other is Senior Sheep and Swine Promoter in Nova Scotia. Both though have left their mark on the work, the one in Cumberland County, the other in Antigonish County. A. B. Banks, O.A.C. 1926 first started the work in the Colchester-Halifax district but was later transferred to Cumberland County to follow in Art's tracks. Some said that he could not follow Art's pace, and possibly he cannot turn quite so many corners or even get his car into high speed in quite the same time, but ask the farmers of Cumberland County and you will find that he fills a large place there. This was evidenced last fall when a presentation was made to him. He attended the Royal Winter Fair last year with two of the three boys' and girls' club teams from Nova Scotia, both from Cumberland County. Furthermore, this is not his first trip to the Royal, as it was one of his boys from Colchester County, who placed on the Canadian Overseas Cattle Judging team two years ago. Then there is D. R. Kelley, O.A.C. 1924, who passed up his own institution and took all four years at Guelph. He first tried the milk truck business on his own farm at River Hebert, but later decided to turn the business over to his brother and he is now in the Colchester-Halifax district. It might be interesting to readers to know that a son and heir has recently arrived at the Kelley household which, it is to be hoped, as he starts to follow in his father's footsteps will result in the present Agricultural Representative taking the corners at a little lower speed with his car. Then there is N. I. Clark who has been with the Department two years in the Valley district as assitant to C. Eric Boulden. Norman can do a good job singing a solo, and he is also doing excellent work in orchard and junior work. He has a poultry and fruit farm and is planning on leaving the service and giving the farm his full time this year. Poultry and apples are his specialties, and it is the former which now demands his undivided attention. A younger member of the force is D. E. McPhee, a 1921 graduate of the O.A.C. Ed. has been initiated in the work under A. W. Mackenzie and A. B. Banks in Cumberland County, and they say he learned to drive a car under Art, which speaks for itself as to his type of driving.

E. L. Eaton, O.A.C. 1920, now Provincial Agronomist, started the work in the South Shore district and was then transferred to the Annapolis-West Kings district. It was during his period of stay at Lawrencetown that the Annapolis County Exhibition was started, an Exhibition which in a very short period of time has come forward as one of the strongest in the Province, with one of the best Guernsey shows in the Maritimes. Any mention of the extension men in Nova Scotia who have attended the O.A.C. would be incomplete without a

word on M. D. MacCharles, or Malcolm as he is commonly known not only amongst his fellow workers but also amongst the farmers in his district. He first started with the 1915 year, taking his third year's work with them in 1913-14, but then went Overseas returning to graduate with 1920. Pictou-North Colchester farmers well expressed what they thought of him when they gave him a banquet at which 100 were present, from Thorburn in the eastern part of the district, to Tatamagouche in the west; a banquet not on his leaving the district, but just to let know how much his work was appreciated. Material evidence was also presented by means of a very fine travelling bag, not presented to speed him on his way, but to be used while he still remained in the district. A presentation was also made to his splendid life's partner. Seldom is an extension man so honoured while still at work in a district, by such a gathering as welcomed Malcolm on the evening of November 27th last.

Tick-Tock Says the Clock

A write-up on extension work in Nova Scotia would not be complete without mentioning the splendid co-operation which exists between the workers of the Dominion and Nova Scotia Departments of Agriculture. This possibly was never so well expressed as when at the recent extension conference of the Nova Scotia Department of Agriculture, the Agricultural Representatives were making a presentation to the Director of Extension, and the workers of the Dominion Department co-operated. As a result the Director and his wife have now standing in their living room a magnificent Grandfather's clock. This expression from the workers in the Province well shows the unity of purpose which characterizes the agricultural extension forces in the furthering of a more profitable agriculture and a richer, fuller, rural life. Results along these lines are after all the test of any extension work in rural districts, and right well are the workers in Nova Scotia making good along these lines.

Tne O.A.C. Review is published by the students of the Ontario Agricultural College Students' Publishing Association for ten months of the year.

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Correspondents are requested to write clearly on one side of the page only.

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The Editor cannot accept letters in which the real name of the author is not enclosed, even if not for publication. All contributors should enclose with their MS. an address which would find them in case of need. If they do not do so they must be prepared to find considerable alterations in their productions.

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DAIRY

Editor, E. R. Munday, '33.

RELATIVE COSTS IN MAKING FLAT VS. TEN POUND SIZE CHEESE

(Extract of Address to Western Ontario Dairymen's Convention, London, by Prof. W. H. Sproule).

The extra cost of manufacturing Cheddar cheese into ten-pound Stilton sizes over that of flats, has been a matter of consideration on the part of many of our Ontario cheesemakers for a considerable time. The desirability of turning out the smaller cheese has been actuated by the possible need of meeting the changing market requirements, and competing with other forms of cheese being sold in smaller packages, as well as to increase consumption of Cheddar cheese in our home market.

During the past year studies were conducted in an effort to determine the relative cost of making these cheese. The expenses incurred has been conveniently divided into four groups as follows:—

(a) Labor—Computed at 50c per hour.

(b) Cost of bandage and cap cloths—At rates of 6½c per yard for flats, and 33c per yard for 10 lb. cheese.

(c) Packing, or boxing, the cheese for market. Flats 40c for 80 lb. cheese, 10 lb. cheese 40c for 40 lb. cheese (4 tens to a box).

(d) Shrinkage.

Assuming the cost of manufacturing to be the same for both types of cheese, up to and including the salting of the curd, the costs which are reported in this paper cover the process from the time the curd is ready for pressing. They include labor and materials, for hooping, pressing, bandaging, turning cheese in the press, removing cheese from the press, and washing hoops, followers, etc.

The yields of cheese per 1000 lbs. of milk were 103.78 lbs for the flats, weighing 48 lbs., and 101.62 lbs. for the ten pounders. This item is not included in the cost values given.

Both cheeses were held in storage at 60°F. to 65°F. for three weeks. Neither lot was paraffined. The percentages of shrinkage were 3.12 and 4.24 respectively for the flats and ten pound size. These values at present prices are equivalent to an additional cost of .0013c per pound for ten pounders over flats on shrinkage alone.

Summary of Relative Costs

	Flats	Ten Pound Cheese
Labor, per pound	.0013	.0046
Materials, per pound	.0004	.0025
Packing, per pound	.0050	.0100
Shrinkage, per pound	.0040	.0050
Total	.0107	.0221

Total extra cost for 10 pound cheese.....0114c per lb

The cost values given indicate that the cost of manufacturing flat cheese is 1.07 cents per pound, and for tens, 2.21 cents per pound—or practically double—calculated from the period of putting the cheese to press to the completion of packing the cheese suitable for marketing. The cost of labor and overhead for manufacturing the milk into curd, cutting, dipping, Cheddaring and salting are not included. This cost would vary with the output and other conditions, but assuming that it cost the same to manufacture both cheeses up to the period of pressing, the extra cost values for ten pound cheese are submitted to be used as an approximate guide to the relative cost of manufacture as compared with the regular flat cheese.

It is necessary to obtain a higher price for the small cheese in order to make them as profitable as the larger ones, owing to less yield, more labor, and increased shrinkage.

APICULTURE

Editor, E. Martin, '33.

DR. DYCE'S PROCESSED HONEY

Beekeepers and merchants who handle honey have always been troubled with fermentation and coarse granulation in their product. The problem has become more important of late years owing to the large quantity of honey that is stored each year for sale in the future. Although many people think honey will not ferment, and it generally does not if well ripened and stored in a suitable place, great quantities are lost every year through fermentation. Coarse granulation does not injure the honey as far as food value is concerned, but it turns good honey into a poor quality article. When the public cannot consistently get a good product they do not buy as much as they otherwise would. so it is seen that control of these two factors is exceedingly important to the honey producer.

Nectar contains three sugars, sucrose or cane sugar, dextrose and levulose. As the nectar ripens into honey in the hive, inversion of the sucrose to dextrose takes place. Formerly a great deal of emphasis was placed on the proper ripening of honey in the control of fermentation, but it has been found that the point is not nearly as important as once thought.

Honey is a supersaturated solution, generally containing about twenty per cent. of water. While liquid, the water is distributed throughout its mass, and upon granulation the dextrose forms crystals containing nine per cent. of water of crystallization. The remaining water now forms a levulose solution which is spread around the dextrose crystals as a thin film. The liquid part of the granulated honey, after crystallization has a considerably higher water content than the original liquid honey. It is because of this increase in the water content of the levulose that granulated honey is more subject to fermentation than liquid honey. Every year when honey is extracted from the combs, a certain amount remains in the cells and crystallizes

during the winter. These crystals acting as seed or starter soon cause the fresh honey stored in the comb to granulate.

Practically all honeys contain yeasts, which under suitable conditions grow rapidly, causing fermentation. If honey is heated to 160°F all these yeasts are killed and any dextrise crystals are dissolved. The trouble from fermentation is thus controlled but in order to prevent further coarse granulation, honeys are commonly overheated and the flavour spoiled.

Dr. E. J. Dyce, lecturer in Apiculture at the College, has found a practical solution to the problem. Dr. Dyce's process was developed during the past two years while taking a post graduate course at Cornell University, Ithaca, N. Y., under Dr. E. F. Phillips, who iis recognized as an outstanding authority on Apiculture.

The first step in the process is to heat the honey to a temperature of 160°F, in order to kill the yeasts and dissolve all crystals dispersed through its mass. The honey is then cooled rapidly by means of a cold water jacket which surrounds the tank. At a temperature between 80°F and 75°F, preferably 75°F, five to ten per cent of very finely granulated honey or previously processed honey is added and the whole mass agitated until the crystallized honey is thoroughly incorporated. This honey is then put into containers and kept in a cool place so granulation will be as rapid as possible. From Dr. Dyce's experiments the best temperature for rapid granulation appears to be 57°F (incidentally the temperature at which bees form their winter cluster). After two or three days at this temperature the honey sets firmly. It is a delicious product of a fine, smooth, uniform texture, safe from fermentation and with the natural flavours intact. The 5% of previously processed honey is added to act as a starter or nucleus for further crystallization. In order that the honey be fine and smooth it is, of course, essential for the starter to be finely crystallized.

The discovery of this method of treating honey will prove of very great benefit to the beekeepers, and should greatly increase the sale of this natural sweet. Dr. Dyce has applied for patents both in U. S. A. and in Canada. He is generously turning over his U. S. A. patents to Cornell University, and his Canadian patent to the Ontario Agricultural College. These patents prevent anyone from securing a monopoly on the process. It is

(Continued on page 570)

CHANGES IN THE GRADUATE LIST

'04 T. C. Barber is an Entomologist with the Bureau of Entomology United States Department of Agriculture. Washington, D.C.

'05 C. W. Esmond is General Sales Manager for the Dairy Corporation of Canada. 80 King St. W.. Toronto. Ont.
J. A. Hand is living at 366 Glenlake Ave.. Toronto. Ont.

'08 J. D. Gilmore is Woods Manager for the Anglo Canadian Pulp and Paper Mills. His address is Box 38, Quebec City. P.Q.
R. M. Winslow is Section Office Manager for the Canadian Manufacturers' Association. 705 B.C. Mining Buildings. Vancouver, B.C.

'09 G. L. Jarvis is a Salesman for the Bee Supply Co. He is living in the Woolwich Apartments. Guelph, Ont.

'10 J. G. Lloyd-Jones has been reported as deceased.

'12 R. H. Murray is with the Department of Mines, Box 2075, Sudbury, Ont.

'16 R. Creed is Supervising Inspector of Fruit and Vegetables for the Dominion Department of Agriculture. His address is Box 202, Charlottetown, P.E.I.
H. S. French is District Agriculturist for the British Columbia Department of Agriculture. Box 359, Prince George, B.C.

'19 J. R. Higgins is with the Ontario Tobacco Co., Vittoria. Ont.

'21 R. M. Lewis is a Graduate Student at Cornell University, Ithaca. He secured his M.Sc. at Cornell in 1931. His address is Slaterville Rd.. Ithaca. N.Y.

L. C. Long is a Graduate Student at the University of Alberta His address is 11016—88th Ave., Edmonton, Alta.
J. A. McAdam is in charge of the Floral Department for C. H. Smith & Co., Windsor, Ont.
J. A. Semple is an R.O.P. Inspector with the Dominion Department of Agriculture. He is living at 25 Garden Court Apartments, Windsor, Ont.
R. H. Sibbitt is an Inspector with the Dominion Seed Branch, 86 Collier St., Toronto, Ont.
F. W. Stock is a Life Insurance Agent. He is living at 1129 Avenue Rd., Toronto, Ont.
J. W. Wadsworth is a Salesman with the Heywood-Wakefield Co., 737 Howard St., San Francisco.
W. W. Young is a Salesman with the Brighton Co-operative Co. He is living at R.R. No. 1. Wyoming, Ont.

'22 H. R. Clemens is a Florist at 3800 W. Philadelphia St., Detroit Mich.

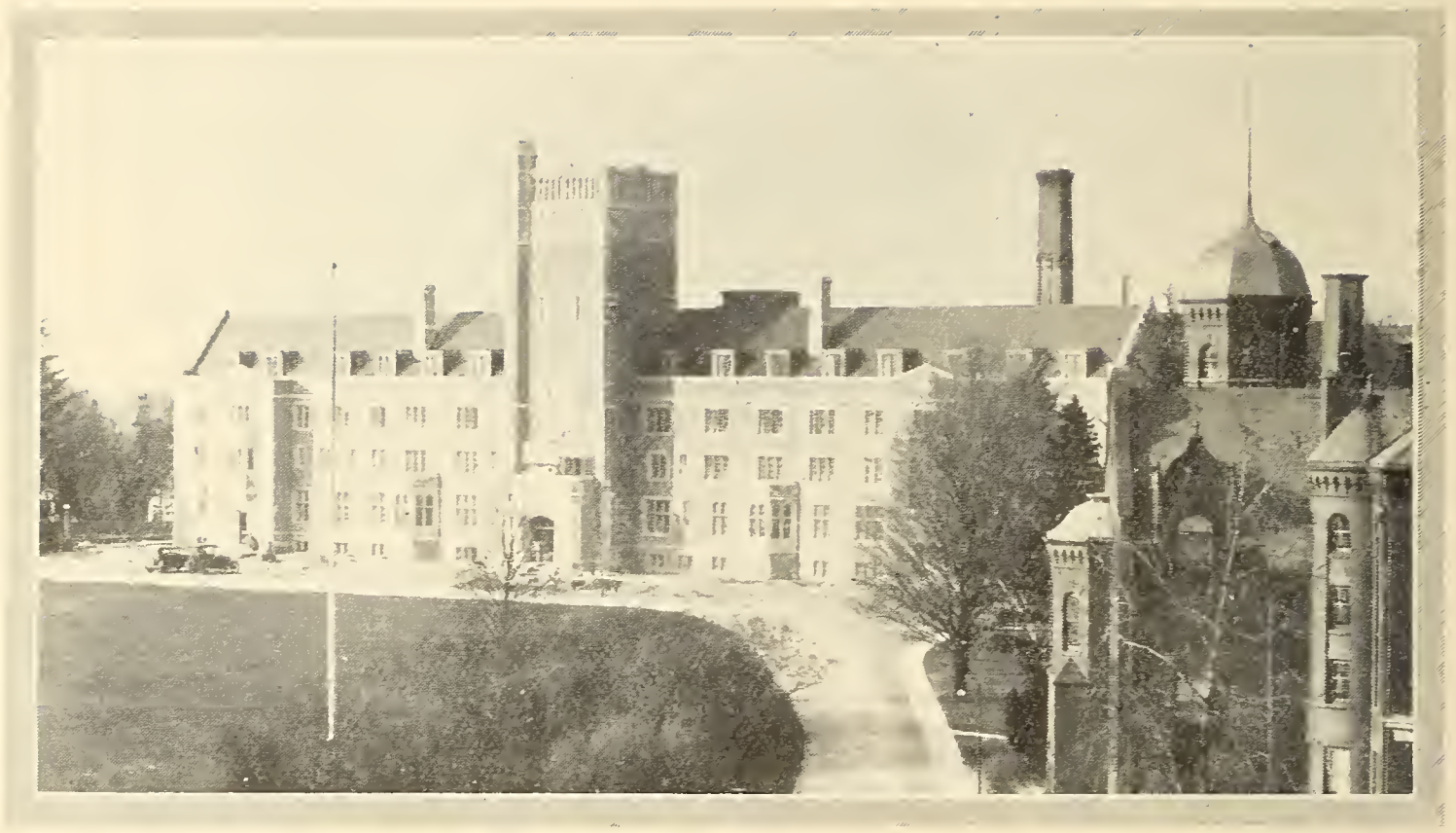
'26 G. S. Walley is an Assistant Entomologist with the Dominion Entomological Branch, Confederation Building, Ottawa.

'27 Helen B. Williams is teaching in the High School at Cobalt, Ont.

'28 H. F. Partridge is teaching in the Niagara Falls Collegiate Niagara Falls, Ont.

'29 E. M. Mackey is Assistant to the Chief of the Fibre Division, Central Experimental Farm, Ottawa, Ont.
C. E. Robinson is engaged in Golf Construction Work with the Stanley Thompson Co., Star Building, Toronto, Ont.
F. E. A. Smith is District Sales Representative for the New England States for the Diversey Corporation, 53, W. Jackson Blvd., Chicago, Ill.

'31 K. C. Reynolds is with the Renfrew Creamery, Renfrew, Ont.



COLLEGE LIFE

J. Cullen, '33, Editor

ON THE USE OF OUR TIME

College men and women.—undergraduates of a University—Are we worthy of that name? Have we any just claim to this appellation? 'Tis trŭe our name is enrolled in the office of the Registrar, 'tis true that we are conducting a course of studies in a recognized University. But are we taking full advantage of the opportunities afforded here? Are we making our contacts, developing our character, accentuating our individuality?

If not, why not? We go through College but once and never again in our whole life will we have such an opportunity of meeting people, of exchanging views, of coming into contact with leaders in thought. When we graduate our circle of intimate co-workers is diminished and we spend our days with those who, engaged in the same business as ourselves, can exert no freshening or revitalizing influence on our lives. Then why is it that we can scarce find a room about the College where ought but sports, "news", examinations, is being discussed? Why cannot we find here discussions on such matters as the weaknesses of our economic system, the relation of the church

to the state, the power of mind over matter? There are a thousand such subjects from a discussion of which one may learn to think, to express himself, to develop his personality. Are our minds not big enough to cope with such questions? Are they developed, like that of the man of the street, only sufficiently to discuss such matters as last night's hockey game, the forthcoming examinations, or the new murder case? It is our conviction that a University man should be able to show an intelligent appreciation of these things, otherwise how are we to distinguish him from any other man? Perhaps someone may voice the objection that we have not the time or may question the advantages of such questions when we get out into the world. Our answer to that first objection would be: Replace those hours of idle talk and listless studies with worth-while discussions on some vital topic and then you will go back to your work with your mind refreshed and your brain cleared for action. And wherein the benefit? We must not and we dare not go out into the world capable of conversing only on those subjects on which our studies have enlightened us. If we do we stand in grave danger of becoming boresome. No we must be prepared to express our ideas on matters of world interest, on philosophy, on ethics, and on similar subjects which probably have nothing to do with our practical, every-day life. Then and only then can we be said to have taken advantage of our opportunities: then and only then can we lay the slightest claim to the title "an educated man".

WANDERING IS OVER

Sleepy town in a sheltered hollow,
Rustic bridge o'er a lazy brook,
Wildwood path I trudge and follow:
Familiar places seen with hungry look.

Thatched cottage, fenced with hedges,
Gray smoke curling from the chimney top,
Gay flowers on the window ledges;
The journey is ended. 'Tis here I stop.

Through the door come happy voices,
Expectant faces at the window pane:
Wandering is over. My heart rejoices
In knowing that I'm home again.

"Richard Kent."

ATHLETICS

G. B. Henry, '34, Editor

BASKETBALL

AGGIES ELIMINATED BY VICTORIA SENIORS

The O.A.C. Inter-Faculty Basketball team lost to Victoria Seniors after winning their group and their way to the semi-finals. The first game of the finals was played in Toronto, and was won by Vics by a score of 32—20. The team played in Hart House gym, and turned in a very loose game of basketball.

The return game was played at the O.A.C., March 21st, and the Aggies made a much better display than in the first game. The play was very even and the game was anybody's, but the whistle blew when the score was tied. At the end of half-time the score was 14—14. The Aggies came back strong in the second half but could not seem to get a lead and the game ended a 29—29 draw. Tofani and Wood were outstanding for the Aggies.

O.A.C. line-up:—Wood 5, Tofani 13, Hales 8, Aitken 3, Finbow, Bartlett, Love, Hicks.

VETS CAPTURE BASKETBALL HONOURS

The Vet basketball team defeated the Aggie Juniors in the final game of the Inter-Year series, and in doing so won the McLean Cup. The game was fast and rough, but Vets gradually drew away from the rivals of '33, until at half-time they were leading by five points.

In the second half the Juniors made a determined bid for the honours, but could not seem to score. The Vets played a cool game and took advantage of the breaks until they had amassed 25 points at the end of the game. The final score was 25—15.

Vets:—Hoyme, Davidson (1), Gollehon (8), McGilvary (4), Hensler (12), Jenson, Dearbourn, Powers, Keefe.

Year '33:—Wishart (10), Minshall, Woods (3), Hales, Read (2), Grey, Robinson.

Inter-Year Results

Year '33—27; Year '35—10
Vets—25; Year '34—19.

Semi-Finals—

Year '33—23; Year '32—9.

Finals—

Vets—25; Year '33—15.

SOFTBALL

SOFTBALL TEAM LOSES TO VIC'S

The O.A.C. softball team lost the deciding game of the Inter-Faculty semi-finals by 12—9 in Toronto. The Vics and Aggies had each won one game previously and this was the deciding match. The O.A.C. team defeated the Vics at home by 11—10, but could not keep up to the pace set by their opponents on the return game. Our boys knocked off 5 runs in the first innings but could notched very few after that. The Vics scored 4 runs in the first innings, 7 in the second, and 1 in the fifth. Sinclair and Langdon were outstanding for O.A.C.

Batteries—

Vic—Garton and Cole.

O.A.C.—Sinclair and McCaugherty.

O.A.C. line-up:—O. Sinclair, p.; A. McCaugherty, c.; G. McNeil, 1st; B. Book, 2nd; O. Langdon, s.s.; B. Pollock, 3rd; J. Richardson, l.f.; K. Borisuk, c.f.; M. Funston, r.f.; D. Berry and J. Adamson, spares.

HOCKEY

VETS WIN INTER-YEAR HOCKEY

The Inter-Year Hockey turned out to be a great success with the stiff opposition put up by the different years. The Vets and Third Year managed to get into the finals, but the Vets came out on top winning the Pat Scollie Trophy. This Trophy was donated by Pat Scollie of Year '29, and it did much to stimulate a greater interest in the matches than has been shown before.

The Vets and Third Year put up a stiff fight for the trophy, but the Vets, being in better condition, were able to down the Juniors by a score of 3—2.

Results of Inter-Year Hockey:—

Year '33—5; Year '34—0.
Year '35—1; Year '32—0.
Dairy Short Course—4; Faculty 2.
Vets drew a bye.

Semi-Finals:—

Vets—1; Year '35—0.
Year '33—3; Dairy Short Course—2.

Finals:—

Vets—3; Year '33—2.

O.A.C. RIFLE ASSOCIATION—1931-32

The past season has proved very successful for the Rifle Association. The total enrollment has shown an increase over last year, but this is due chiefly to an almost hundred per cent. increase at the Macdonald Hall range. The distribution of prizes has been very even. The Pellat Trophy for the high aggregate was won by Prof. Blackwood, and the high aggregate in the Macdonald Hall section was won by Miss Ella Allen.

In the Inter-Year shoot, in the Macdonald Hall division, the Senior Associate team, composed of Ella Allen, Isobel McKay, Ester Sheldon, and Lorraine Leggatt, beat the Junior Associate team. The prize for high in the competition was won by Kay Margetts of the Junior team with 87 out of a possible 100.

In the men's division first place went to the Faculty team, composed of Messrs. Blackwood, Morwick, Garrard and McCalla. There were five teams competing, and the Third Year team came a close second. The prize for high score in the competition was won by F. F. Morwick with 98 out of a possible 100. This is the second year in succession that Mr. Morwick has won this prize.

Besides these prizes two spoons have been given weekly in both sections, and the members of the winning teams each received prizes. Needless to say we are looking forward to an even more successful season next term.

Athletic Activities for 1931-2

By F. G. Baldwin

The past year at the College has been a most interesting one from the standpoint of athletic activity. Although only one Inter-Collegiate championship—Basketball—has been won, every sport has been represented by at least two teams. In view of the spirit shown and the progress which the teams have made, the College has good reason to be proud of its athletic achievements this year. Competition for places on teams has been extremely keen. This, of course, is an essential thing to the success of any sport. Unfortunately, the competition has not been so prevalent in past years.

Perhaps one of the most interesting phases of the physical work at the College has been the special classes which have been conducted in the Gymnasium in corrective and other types of physical exercises. Approximately three hundred men have taken advantage of this work, spending three periods a week in the Gymnasium. The development shown over a period of three months certainly indicates that this activity is very worthwhile. Many students who are unable to participate in the various team sports at the College are availing themselves of the opportunity of "keeping fit" through these exercises and are deriving great benefit therefrom.

Through the enthusisam already shown, the indications are that the Ontario Agricultural College will have a particularly successful year in athletic activity next year.

Macdonald

HEIGH-HO! COME TO THE FAIR!

Florence Marshall

It hung on the walls of the Post Office, it filled the window of the Main Street Garage, it occupied a prominent position in the General Store—in short, it was everywhere, that huge poster with the brilliant red and blue lettering, which proclaimed to the world in general,

"THE TWELFTH ANNUAL EXHIBITION
Under the Auspices of the
CROCUS PLAINS AGRICULTURAL SOCIETY
Will be held at Crocus Plain
on Wednesday and Thursday, July 21-22."

This interesting announcement was followed by many breath-taking pieces of information to the effect that three thousand dollars would be given away as cash prizes for Livestock, Grains, Grasses, Roots, egetables, Women's and Children's Work, Dairy Products, etc., etc. In addition there was to be a Junior and Senior Ball Tournament

wherein the best teams for miles around would be seen in action, while at the same time the veteran Horse Shoe Pitchers would have an opportunity of choosing a champion from their midst. Reading on still further, those supporters of the "King of Sports", found that the were to have a full day's entertainment with Horse Racing and Jumping and even the tiny Shetlands would display their paces—not to mention the Farmer's Trot, an event designed to quiet those friends of old Dobbin, who had been told that "the horse's day was over". But the event which promised to provide the keenest competition was the Baby Show! In short, the Annual Exhibition gave every indication of fulfilling its promise and being "Bigger and Better Than Ever."

With so many pleasing prospects of a really exciting day, it is no wonder that some of the smaller lettering on the lower part of the poster escaped the attention or at least the memory of all who read. The smaller lettering exhorted all and sundry to "support your Fair by making entries, and make them early". Then just by way of warning, it also stated that positively no entries would be received after 6 p.m. on July 20. This touching little appeal was an idea developed in the mind of the Secretary after years of experience. You see the first day of the Fair was given over to the placing of exhibits and the judging of the Horticultural, Dairy, Women's and Children's entries while the second day was THE day—on it the Livestock Judging was done, the Sport Events run off and the Baby Show held! Well the Secretary knew just how busy the first day could be if exhibitors made entries at the last minute—hence the appeal.

The "Fair Office" was situated in an old building which had once housed buggies, farm machinery, later, Ford cars, and which was now deserted. The Secretary took up residence there four days before the "twenty-first", nursing the fond hope that this year his appeal might be noticed and that entries might come in early. His faith in his fellow-men was unjustified—by Monday night six entries had been received, at ten o'clock Tuesday morning the number had increased to eighty-seven and he and the Directors began to experience grave concern for the success of the "Twelfth Annual Exhibition". However, the person who said, "It is always darkest before the dawning." must have had some experience with Fair work, because, at exactly ten-twenty things began to happen. At that precise moment August Geiger walked in the door, slowly sat down in a chair and tilted it back to the wall, lit his pipe and obserbed, "Dis fair—dey give de prize for anyting, yah?" The system was explained in detail, how for instance one might, by paying the trifling sum of twenty-five cents, win a prize with one's black and white cow which

would amount to six dollars. August decided to grasp the opportunity, and thirty minutes later all the documents entitling him and his family to exhibit livestock, garden produce, butter, sewing and other articles to the number of eighty-three had been duly made out and handed over with fitting instructions.

That was the beginning. After August had departed, his neighbours came thick and fast, eager to participate in this marvellous get-rick-quick scheme, for, with the gambling instinct, they decided to bring in all their possessions and even after the baby had been entered, there were some who enquired if there were not prizes for the other children.

By six o'clock thhe Secretary began to wonder if his slogan, "Support your Fair by making entries, might not have been taken too literally because the crowds continued to come. The nine hnudred and ninety-second entry had been duly made when a tiny little mite peered over the edge of the desk and made timid enquiry regarding the Children's Pet Class as he pointed to a huge box, the substantial bars across the front imprisoning an indignant mother cat and her seven offspring. Next came the town's most socially successful in the person of Mrs. Bramley-Smith, who eyed with a look of contemptuous tolerance, the ignorant foreigner who knew not the correct method of making an entry, and the bothersome little owner of the feline family. She never would have dreamed that her apology, in well-modulated tones, for the lateness of her entry, did not raise her one degree higher, at least in the Secretary's estimation, than the foreigner who could not read—they were both nuisances at this busy hour.

At ten-thirty that evening something of a lull seemed to settle down on the business of entry making—but not for long. The door burst open and Mrs. Schmidt stood before the desk. Automatically the Secretary turned to the Livestock section of the Prize List because in previous years Mrs. Schmidt's entries had been confined largely to this class. Partly for this reason and partly because the knowledge that she operated a "still" on her farm was common property, Mrs. Schmidt had been scorned by her sister members of the community. Apparently this year she was determined to win their respect because all her entries were in Sewing and Cooking classes.

Mrs. Schmidt was followed by still other late comers, many of whom seemed almost overcome with a desire to support their Fair—in fact, they would give their support at the cost of great labour and inconvenience to themselves. To prove this they carefully went over

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Neilson's Chocolate Bars

Wanted. . . . Addresses!

Did you ever attend Macdonald Institute, even for a short course?
Do you correspond with your classmates?
Did any of your neighbours attend Macdonald Institute?
Do you know anyone who married a girl from Macdonald?
IF SO—please write to the **ALUMNAE SECRETARY, MACDONALD INSTITUTE, O.A.C.**, and send the names and addresses of former students, nor forgetting their maiden names. It is especially important to locate students who attended prior to 1927...Send:

NAME
PRESENT ADDRESS
MAIDEN NAME

to the

ALUMNAE SECRETARY
MACDONALD INSTITUTE, O. A. C.

the entry book, noted the sections where entries had not been made and made them—"just to help the Fair along"—the thought probably never having occurred that we help ourselves by helping others, especially when there is no competition!

The Secretary had been determined that entries would posivitely be stopped at six o'clock but it was one the following morning when he finally succeeded in making his escape. At four he awakened from horrible dreams of Mrs. Schmidt and Mrs. Bramley-Smith quarrelling over a first prize in embroidery work, to hear the telephone ringing and an appeal over the wire—"It isn't too late yet, is it, to enter some grain?"

It was Wednesday morning and the centre of interest had shifted from the "Fair Office" to the school—where the smaller exhibits were set up. The Directors bustled about most importantly, ever so happy in the deferences paid to that little ribbon badge marked "Official". In the Dairy and Domestic Department the two lady Directors had the busiest morning directing the men in the setting up of tables, receiving exhibits and carefully noting just who had made the heavy chocolate cake and the terrible tea biscuits, and in between these arduous tasks, had decided that they couldn't understand why Mrs. Hannah got so many prizes every year—for their part they failed to see that her work was any better than Mrs. Morrison's (who, by the way was a sister of one of the Directors!)

No such air of calm complacency pervaded the Sewing Department—the Directors there were plainly annoyed. They knew for a fact that Mrs. Jones had purchased the embroidered tea set at a bazaar the year before, that Mrs. Ford's "hand-knit socks" had been fashioned on her sister-in-law's Auto-Knitter, and as the last straw, Mrs. Schmidt had sailed into the room and put the finishing touches on a child's dress regardless of all the amazed looks cast in her direction. The dress when finished had been hung upon the wall and then only did one of the Directors take action. With a patronizing look she came forward (a look which quite plainly showed the other Directors that under ordinary circumstances she would never speak to a woman who kept a "still", but that this was her official duty) and calling Mrs. Schmidt back, said, "Oh, Mrs. Schmidt, this entry calls for a Child's Pantie Dress, and you have only the dress." Mrs Schmidt had paid her entry fee and not to be cheated out of any chance at a prize she rose to the occasion. "Well I feex it," said she, "Lillee has dem. Come here queeck, Lillee,"—and Lily, who had been playing with the white lines, having not yet reached the stage where the

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printed sign "Hands Off" meant anything, came forward, and in the twinkling of an eye Mrs. Schmidt's omission had been rectified. The Director, who had spoken, felt positively weak and ever afterwards affirmed that the Fair had grown too common.

The Horticultural Directors had their troubles, too, and so did the chap who had volunteered "to keep an eye" on the Poultry exhibt and the Children's Pets. Two of the kittens escaped from behind the bars, a canary almost died as they sped by its cage, the pigeons were most unhappy all day long, and worst of all the Director was almost arrested for theft. Returning from a futile search after the lost kittens, he was almost overcome by the sight of a huge turkey gobbler strutting up and down in front of the pens. He stalked it for ten minutes, made a brilliant capture and highly elated, locked it in a pen. The feeling of elation tured to one of mortification when he found that he was accused of stealing the bird—it belonged to the next farm and had not even been entered in the Fair!

But all these little differences of opinion were of minor importance to the dissension which arose in the Community after the results of the Baby Show were given out. Two of the mothers had been inseparable in their school days, had never quarrelled as girls usually do, and even after they married and settled down as next door neighbours this marvellous friendship had continued—but, alas, that the Directors had ever thought of a Baby Show! When Mrs. Ramsay heard that Mrs. Baker's baby was a little "more perfect" than hers—well, they never spoke again.

It was generally conceded by everyone that the programme of sports was most satisfying and to this day people talk about the Pony Race and how Taylor's little Roan came in ahead of the favourite. The Roan had always been regarded as hopeless because it was "hard on the bit" and no one had ever succeeded in keeping it on the Track, but Taylor was a psychologist and had given much thought to the head-strong characteristics of his horse. Up until this time all his theories had failed, and so, as a last resort, he stationed his supporters at intervals around the Track and whenever the Roan gave the slightest indication of leaving "the narrow way" it was promptly shooed back on again. The win was the most sensational ever witnessed on the Crocus Plains Track.

History was also made that day in the Livestock Judging Ring when the judge gave it as his opinion that he had seen as good a class of Clydesdales that day as he had anywhere else in his judging exper-

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Who lost his well-known nanny,
Donald was his name, and Golf was the game
That made him grey as his Granny.
He practiced much but his style was such
That his handicap stayed at thirty,
The words he'd use when the ball he'd bruise
Were nothing less than dirty.
In the locker room every night
He'd sing of his awful plight.

Chorus:
Oh, the dirty little pill went a rollin' down the hill,
And rolled right into a bunker,
From there to a green I lost thirteen,
And then By Gosh I sunk her.
I get no fun in the air and sun, but down in the traps I labor,
I sweat and weep where the sand is deep,
Till I want to murder my neighbor.

Just like a sap I hooked to a trap,
And I'll swear that I'm not joking,
I hammered and slashed, I dug and I smashed,
Till my niblick started smoking.
My caddie said, as he shook his head, "If your next swing don't
get clear, sir,
They'll think that stick is a laborer's pick
And you are working here, sir."

Oh, the dirty little pill went a rolling down the hill,
And rolled right into the water,
And the reason it would seem was I lifted my bean
When I know that I shouldn't ought-er.
Then I hit a shot that I liked a lot,
But it sailed right into the marshes,
How I wished right then, like a lot of other men,
That I had worn my galoshes.

"Keep the old bean down", I said with a frown,
You've got to look at this one"
For if you do and follow through, you know you'll never miss one."
Now don't look up till you reach the cup, I pivoted like a dancer.
But a dame passed by and the wind was high,
And maybe you know the answer.
Now Donald the Dub, broke club after club,
As he told the world "Good bye"
For he suffered every hour when his game was sour,
Even as you and I.

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The Katherine Fuller Fund

The executive committee of the Macdonald Institute Alumnae Association has been at work during the winter in preparation for raising the Katharine Fuller Fund. At the last annual meeting, June 1931, it was decided that a fund be raised to commemorate the long and outstanding service of Mrs. Fuller, that the interest from this fund shall be Mrs. Fuller's as long as she may require it, and that she be asked to designate the purpose for which it shall be used ultimately.

Miss Laura Cody, elected president of the Alumnae, was forced to resign through ill-health, and after a little unavoidable delay the committee was fortunate in securing Mrs. Nicholas Curtis of Edmonton, formerly Louise Creelman, to head the committee. As a special committee for the fund, the following were appointed: Mrs. D. B Shutt, Mrs. R. D. Fowke, Mrs. G. B. Whiteside, Mrs. R. L. Mackinnon, Mrs. H. H. LeDrew, Miss Margaret Hall, Mrs. F. L. Fulmer, Mrs. D. R. Sands, Mrs. H. A. Smallfield, Mrs. W. E. Hamilton and Miss Mayme Kay.

On consideration it was thought advisable to secure the interest of an advisory committee which would represent in its personnel the history of Macdonald Institute. The following have consented to act on the advisory committee: Col. the Hon. T. L. Kennedy, Mr. J. B. Fairbairn, Mr. W. B. Roadhouse, Dr. G. I. Christie, Miss O. R. Cruikshank, Mrs. Bostwick, who is a daughter of Mrs. Hoodless the founder of Macdonald Institute; Mrs. Lickley, whose first husband, Dr. Muldrew was the first principal of Macdonald Institute; Miss M. U. Watson, former principal, and Mrs. G. C. Creelman. These have signified their interest in the project and have already been of material aid to the committee with their valued suggestions.

The chief difficulty with which the committee is contending at present, is the address list. Of the thousands of students who have attended Macdonald Institute since 1903, a very large proportion have married and have moved without notifying the Institute. A radio appeal, by courtesy of the Ontario Marketing Board, brought in several replies, and the committee have been writing to graduates scattered throughout Canada for addresses of neighbours and classmates This is bringing an excellent response and is most encouraging.

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KATHERINE FULLER FUND

(Continued from page 568)

At present it is hoped to circularize the graduates and former students some time during April, and the committee is confident that it can report very satisfactory progress to the June 1932 annual meeting.

APICULTURE

(Continued from page 549)

likely that a license system will be used, and any company or individual wishing to process honey may do so after securing a license from the proper authorities. If the privilege is abused and poor quality honey put on the market, the license will be withdrawn.

OLD MAN LAUGHING ON A BENCH

"They think I'm mad!
I'm old and got T.B.
Long past use to man
Or woman. He! He!

"Some of 'em think
I'll live forever. I'm agoin'
To fool 'em some day.
I'll die! Yep!

"Then these here bees
Abuzzin' in my chest'll
Starve to death.
Ha! Ha! Ha!

"They think I'm mad!
I keep on laughin' though
'Cause I've lived and know
What they got to learn yet!"

—S. R.

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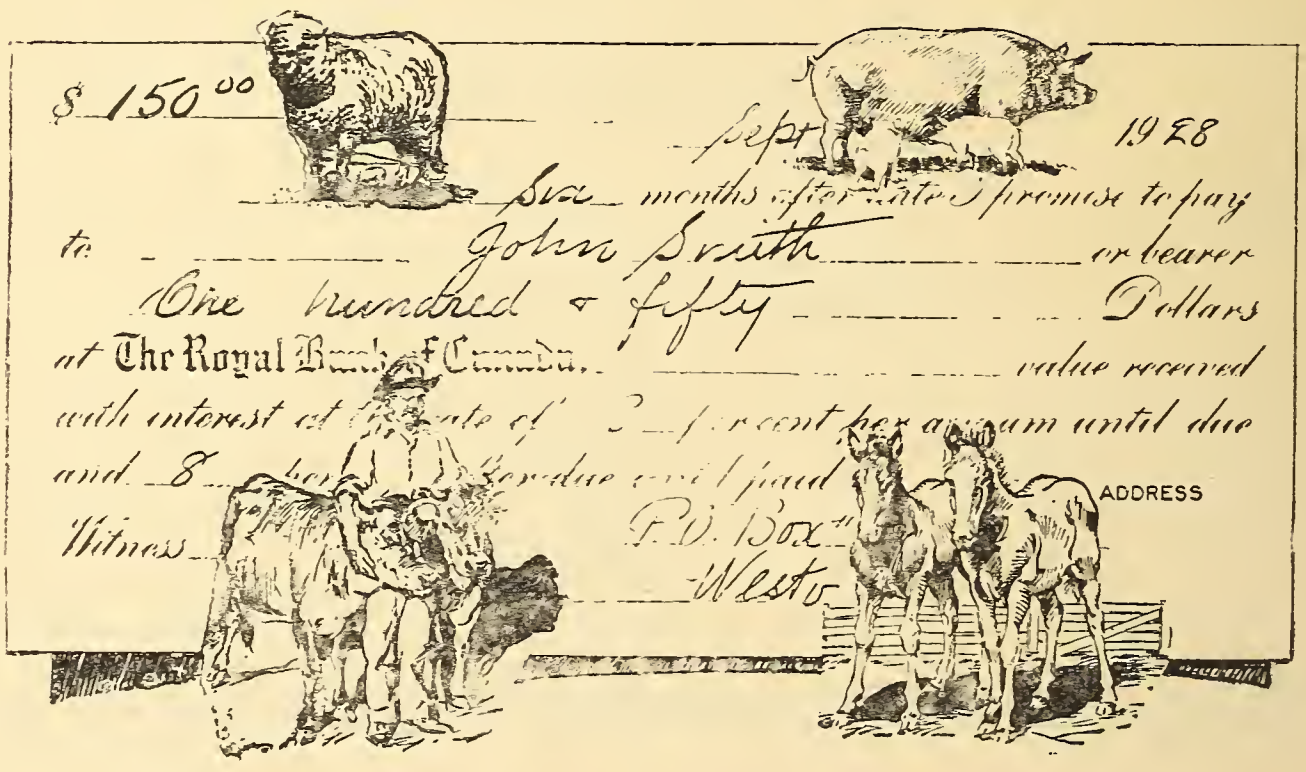

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