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Editorial

YEAR '26 made a happy choice in the selection of B. K. Sandwell, editor of “Saturday Night,” as speaker at their year’s lectureship.

Mr. Sandwell’s clean cut explanation of the present economic situation did much to emphasize the importance of a thorough knowledge of economic principles to those who expect to do any constructive work after leaving college.

Still more important is the knowledge to those men who possess ability as leaders, for despite their minority, it is this group who shoulder the great burden of difficulties with which society always has been and always will be faced.

Agriculture to-day, with its multiplicity of peculiar problems, stands foremost of the industries requiring capable guidance, and it is justifiable to reason that those concerned with agriculture will turn for leadership to men who have been privileged to receive a higher education than the average. It is in this way that O. A. C. students become deeply concerned in this matter.

Agriculture needs men of education, deep thought and vision, and students should think seriously of preparing themselves for the role that they will be expected to play.
Spongers

WITH the approach of the final examinations, some authoritative body should declare an open season on spongers. These animals are parasitic in nature, lazy in habit, and are a particular annoyance to those who go to the great trouble of taking notes in lectures.

Spongers do not realize what trouble and annoyance they cause others, and likewise what harm they inflict on themselves. Students do not like to lend their notes or their text books because they usually wish to use them themselves, especially since the "sponger" launches his semi-annual attack about examination time. Besides no one likes to see a person taking advantage of work that has been done by somebody else. The sponger is likewise inflicting harm on himself, for not only does he usually fail in his exams, or barely manages to pass them, but he becomes accustomed to depending on the work of someone else, that when he goes out into the world expecting everybody to likewise assist him, he receives a rude shock. His college career instead of furnishing him with self-reliance, as it is normally supposed to do, has actually in his case warped this quality, with the result that he finds it doubly hard to get on when he leaves the university. Such a person is a menace, and the sooner he gets wise to himself, the better it will be for everybody.

The College Royal

IN making his criticism of the club exhibits at the College Royal, Mr. F. C. Nunnick expressed the feeling of a good many people when he suggested that the time had come for definite rules to be laid down with regard to these displays.

Despite any criticism, however, this year's "Royal" was certainly an excellent show. The members of the College Royal Executive, under the leadership of Harry Seymour, are to be congratulated for the organization of the very extensive programme, and for the smoothness and despatch with which it was worked out.

The members of the College Royal Executive are to be congratulated upon the success of this year's show, and the clubs and individual exhibitors deserve a great deal of credit for their part in making the standard of the 1933 Royal the highest yet achieved.
The Canadian Beet Sugar Industry

Dr. Harold D. Brown

Sugar Beets “pitted” on the ground, and arriving by freight cars, at the Canada and Dominion Sugar Company’s Plant at Chatham, Ont., 1932.

Canadians annually consume over 970,000,000 pounds of sugar, which means an average consumption of almost 100 pounds per person each year. The sugar comes either from sugar cane, produced in countries with a warmer climate than Canada, or from the sugar beet,—a plant with parsnip-like root which has been genetically bred for over a hundred years.

The story of the sugar beet is a fascinating one. Starting with a little, scraggy, irregular-shaped plant, weighing but a few ounces and found growing on the shores of the Mediterranean, the sugar beet has become one of the most scientifically bred plants in the world. In 1747, Marggraf, a Prussian chemist, showed that sugar could be extracted from the beet root. In 1812 Achard was able to get 2.27% sugar from beets, which averaged only

* This article was prepared for the O.A.C. Review by Dr. H. D. Brown, of the Canada and Dominion Sugar Co., of Chatham. Dr. Brown is in charge of the Agricultural Research Department of the firm.
4% to 5% sugar and yielded 5.89 tons per acre. A hundred years later, we find that the botanical wizards have bred "Beta vulgaris" to large regular shaped roots of one to two pounds, (we have had 15-pound sugar beets), averaging 14 tons per acre with 16% to 20% sugar, of which 85% is recoverable. Germany, alone has 1,300,000 acres of sugar beets and harvests as much from one acre now as Achard harvested from seventeen. Most plant breeding work has been for size, beauty and flavor, but the beet has been bred for chemical constituents.

Every bag of "Dominion Crystal" beet sugar had such an ancestry, and its practical life history began as seed germs within the flower ovary which formed the seed balls, containing 2-5 germs. These seed balls develop along the seed stalks of beet plants, grown chiefly in the Hartz Mountain region of Germany. The commercial sugar beet has changed from an annual to a biennial in the course of its economic history. Growing a leaf-rosette and a root the first year, the beet plant will remain in the ground and send up seed stalks the second year. Usually weather conditions necessitate lifting and pitting the beets over the Winter and replanting the second year for seed. We can secure nearly a ton of beet seed per acre in Canada as well as in Europe, but the large amount of hand labor required, has made the German, Danish, Czecho-Slovakian and French seeds much cheaper, even after adding the cost of ocean travel to Canada. The German and other continental beet seed firms have elaborate farm systems, fine research laboratories and technical experts which carry the ordinary "commercial seed" through a 4-year selection before it is shipped to the factory areas for commercial sugar production.

The beet seed used in Canada comes chiefly from Europe, and is planted in late April or May in rows 22 inches apart, at the rate of 15 pounds per acre. The rows of seedlings are thinned by hand labor. The field workers use short handled hoes to block out 4-inch clusters of seedlings and thin the clusters to one beet every 12 inches. The land has been well prepared previously by Fall plowing, and in the Spring the seed bed worked thoroughly. Ideally, the best field comes in a five-year rotation, which has included Clover and Alfalfa, is manured, and receives about 250 pounds of 2-16-6 fertilizer when the beet seed is sown. The farmer cultivates the beets six or seven times with a 2 or 4-row riding cultivator and the laborers re-hoe the
field in mid-summer. Early in October, the farmer plows out the rows of beets with a special “lifter” plow and the laborers receive another $7.00 per acre for shaking off the dirt, topping the crown of leaves, and throwing the beets into piles of 100-200 pounds. These beets are forked into wagons or trucks and delivered either to the factory or to one of the several score of weigh-stations, distributed along the railway lines. The beet loads are individually sampled for “tare,” by which is meant improperly topped crown or adhering earth.

The beets, once at the factory, are thrown into long bins and floated into the factory at the rate of 2000-3000 tons per 24 hours. After thorough washing, they are shredded and these “cosettes” are washed free of sugar by a simple process of diffusion where the temperature regulated water passes through the cosette mass in a series of tanks, called the “diffusion” battery. This sugar juice is limed to precipitate the impurities and neutralized with CO₂ gas. Clarification is assisted by SO₂ gas, and after passing through several sets of cloth filters, a clear thin juice is obtained. Under carefully graduated temperature and pressure, this juice is concentrated to thick syrup. Assisted by “seed crystals”, the syrup becomes a mass of granules which are regulated, as to size, by the expert in charge of the “Pan Floor.” A marvellously efficient centrifuge throws off the molasses and leaves the crystal white sugar, which is soon dried, graded and bagged for shipment.

It is only thirty hours from the time the beets are washed into the plant at Chatham until the sugar is piled in the twenty-six million pound capacity warehouse. The 100-pound bags of “Dominion Crystal” find their way up and down the Great Lakes by freighter, or by truck and rail into the stores of a thousand Canadian villages and towns. The social celebrity at afternoon tea and the prospector of Northern Ontario depend upon “Dominion Crystal” grains to sweeten their diet and provide energy in a concentrated form.

Like all modern industries, the beet sugar industry must pay attention to its by-products, for economical production. A ton of sugar-extracted beet shreds, when dried, makes a 100 pound bag of “Dominion Dried Beet Pulp.” This by-product is receiving merited recognition as a “conditioner” and “appetizer” among the better class dairymen and livestock breeders. The molasses might be processed further to yield sugar, if market prices war-
ranted it, and the residue go into commercial fertilizers as "mother liquor." However, present conditions divert it, as molasses, into yeast production, alcohol and anti-freeze manufacture, while the large quantities of lime await the discovery of an economical processing and a market that will return the lime and contained salts, to needy farm soils.

In Canada, there are three beet sugar factories, producing about 100,000,000 pounds of sugar annually. Two plants are located in South Western Ontario and one at Raymond, Alberta. The sugar beet industry must utilize all natural advantages and must constantly strive for economy of production, maximum yield at minimum cost, and thorough farm and factory efficiency, for herein lies its hope in a competitive world. Here, also, scientific agriculture plays its part and the progressive farmer is a success while his backward neighbor fails.

It has often been urged that the sugar beet industry should expand and provide more than 1/10 of the sugar consumed in Canada. Only certain soil types are suitable for beets and these must be in large enough areas, within easy distance of the beet sugar plant. A factory such as the Chatham or Wallaceburg one is a very large and expensive unit, costing over two million dollars. The "run", or period of sugar-making, is restricted by climate to approximately 75 days, for the factory must have beets testing 85%, or more, purity, and cannot get under way until near the end of September. The beets are very bulky and easy frozen when out of the ground. Though frozen beets can be processed into sugar, they deteriorate rapidly, if thawing occurs. Consequently the "run", to be economical, must finish by mid-December—even in the most southern part of Ontario.

The Chatham plant is one of the largest and most efficient in North America, and has been slicing 3,000 tons of beets per day. The two Ontario plants, built originally to slice 1,500 tons a day at Chatham and 500 tons a day at Wallaceburg, this year, sliced as high as 3,072 tons and 2,076 tons, respectively. Modern machinery and efficient organization is thus producing two and a half times the original capacity of these factories. The 1932 total tonnage received, has gone over 353,000 tons—the largest crop in the history of Ontario sugar beet culture. The average tonnage over the past ten years has been 9.5 tons per acre with 15.8% sugar. The sugar content has been as high as

(Continued on page 384)
Record-Breaking Holstein Bred by O. A. C. Associate

James V. Ross '34

THE O. A. C. joins in congratulating Mr. Thomas R. Dent, of Woodstock, Ontario, in his recent achievement of establishing a new record for long distance butter fat production, with his Holstein cow, Springbank Snow Countess.

Mr. Dent received his associate diploma at the College in 1910, and it is interesting to note that despite the remarkable

The above exhibit, in the Rotunda of Royal York Hotel, Toronto, was a feature of the annual meeting of the Holstein-Friesian Association of Canada. The model is of Springbank Snow Countess, and beside her is a pile of cartons, representing the amount of butter that could have been made from her world's record lifetime output of 7,547 lbs. of butter fat. To the right may be seen her owner, T. R. Dent, receiving from the hands of Premier George S. Henry, a gold watch presented by the Association. Beside him stands Mrs. Dent.

—Courtesy of the Ontario Farmer.
achievement of his cow, his efforts have been primarily toward the efficient production of market milk, rather than the breeding of fancy cattle. Many people are of the opinion that the men who are winning the championship awards in the show rings of to-day and are setting new records of production, are “wealthy” farmers who are interested in agriculture only as a hobby. It is true, the show rings have been captivated to a considerable extent by this class of farmers, but Mr. Dent has proven, by establishing a new record for butter fat production, that world records can be made by plain, practical, men who depend on the farm for their livelihood.

Up to January 7th, 1933, Mr. Dent’s cow had produced 7,547 lbs. of butter fat, and her milk had given an average test of 4.38 per cent. fat. Countess is now in her 13th year, and she will quite likely raise her record still higher for she is still a vigorous cow, and will probably continue to produce through several more lactation periods.

The world record, previous to that made by Springbank Snow Countess, had been held by a Jersey cow, Sophie 19th of Hood Farm, for ten years. This cow’s lifetime production was 7,544 lbs. of butter fat, and it was spread over eleven lactation periods. Mr. Dent was originally a breeder of Jersey cattle, and on January 31st he was tendered a banquet by the Oxford County Jersey Breeders’ Club in honor of his recent achievement. A spirit of true sportsmanship prevailed at this banquet despite the fact Mr. Dent had taken the coveted honour away from the Jersey breeders.

Several factors enter into the setting which helped to make Mr. Dent a great stockman. In the first place his farm is located in one of Canada’s finest dairy centres. Oxford has a wide reputation as a dairy county, and it has sometimes been called “The Holland of America.” The foundation which Mr. Dent received in the principles of breeding and management of livestock, while he attended the O.A.C., have doubtless been a large factor in bringing about his success. Mr. Dent’s academic training, however, was built upon a solid foundation of practical experience, which, after all, is very necessary to any man who expects to become successful in the livestock business. Record of Performance work in Mr. Dent’s first pure bred herd, which was of the Jersey breed, was undertaken soon after he had finished his college course, and his earliest success was the
That Mr. Dent had a sound knowledge of the principles and value of breeding is evident in the distinguished lineage of Springbank Snow Countess. Her sire, Pioneer Snow Korndyke, was from a strain of heavy producers bred by Walburn Rivers, of Ingersoll, Ontario. Owing to the high price commanded by stock of this calibre, it is reported that Mr. Dent found it difficult to purchase this young bull of the Rivers breeding, but it has since proven to be one of the best investments he has ever made. It is also evident from the records made by the progeny of Springbank Snow Countess that she has good breeding behind her. She has five daughters in production with an average yearly record, all made while heifers, of 18,190 lbs. of milk and 673.6 lbs. fat. This is also a world’s record. One of these heifers sold recently to a United States buyer for the reported price of $2,200. Springbank Snow Sylvius, a son of Springbank Snow Countess, was sold to the Hon. T. A. Crerar to head his Holstein herd in Manitoba, and now has eighteen daughters qualified in the R. O. P.

Many high producing cows survive for only two or three lactation periods. They are literally burned up by overfeeding, artificial stimulation or through poor management by men who do not thoroughly understand the fundamental principles of their work. This has not been the case with Springbank Snow Countess. Mr. Dent knows and practices the established principles in formulating rations. He is careful not to “burn” his cows up with concentrates even though he might temporarily increase their production by so doing. Countess is fed a ration of about an 18 per cent. protein content, and her feed never exceeds 20 per cent. of protein. Mr. Dent is reported to have made the following statement: “Had I been after just a one year record I think I could have gotten 1,500 lbs. of butter, but instead I always kept her safely under her limit.” Springbank Snow Countess has never been fed over 25 lbs. of grain daily, which is not a heavy feeding of concentrates considering her production of milk, for she has a seven day record of 39.25 lbs. of butter.

“Springbank Farm” is well adapted to growing alfalfa, and this, along with home grown barley and oats, constitute a large percentage of the rations used by Mr. Dent. The protein con-

(Continued on page 350)
Corn, Currency and Comedy

B. K. Sandwell, at Year '26 Lectureship

The Year '26 Lectureship brought to the O.A.C. this term, one of the most distinguished of Canadian scholars and journalists in the person of B. K. Sandwell, editor of Saturday Night.

Taking as his subject, Corn, Currency and Comedy, Mr. Sandwell discussed the factors leading up to the existing financial stringency, in a brilliantly witty and instructive address.

Explaining the title of his address, Mr. Sandwell declared that it was actually dealing with little besides currency. Corn he had introduced because he was speaking at an agricultural college, and comedy because he felt that everyone should endeavor to draw from the present situation all the comedy which there is.

"I suggest that you view present conditions as an economist historian would in the year 1983—fifty years hence," he said. "It is one of the most amusing experiences in the world's history when a group of civilized, self-governing nations should allow themselves to go as they have gone for four years without doing anything about it except grouse a little and abuse the Government."

In Mr. Sandwell's opinion, only one part of the economic machine has actually broken down, and if it is repaired with intelligence, the machine will function again as satisfactorily as it has in the past. Therefore, in his view, it is unwise to ditch the machine and start tinkering with another new one. The part of the machine he believes has failed is money.

The two forces, supply and demand, he explained, not only governed the prices of products, but also govern the purchasing power of a unit of money, such as the dollar. There is a certain amount of gold in the world, and if it is increased, prices of products go up, because the value of money goes down. The supply of money is determined by the amount of available gold, and money in itself exists only for the making of transactions.
Therefore, economists have decided that the demand for money is the need for money in business transactions.

**COMMODITY PRICE TREND**

Describing a commodity price graph from the Canada Year Book. Mr. Sandwell declared that commodity prices started at a fairly high level in 1867, and reduced steadily until 1896. From 1896 until 1921, they rose just as steadily, and from 1923 until 1928, maintained a steady level. When the shortage of gold became very marked in 1891, William Jennings Bryan fought hard for the recognition of silver in the ratio of sixteen ounces to one of gold, but when the Klondike rush arose and gold became more easily available through laboratory processes, his plan became unnecessary. In Mr. Sandwell's opinion, the silver plan would not have worked in any case.

Skipping the years from 1914 to 1921 as having no actual significance for purposes of comparison, Mr. Sandwell recalled the tremendously high price level which came into being from various causes in 1921, and declared that with the resumption of stable prices in 1923, conditions righted themselves. “From 1923 to 1928, prices behaved as beautifully as anybody ever saw them,” he declared, and at this point he commented parenthetically on what he termed the “fantastic theory” that production has increased beyond the capacity for consumption. Increased consumption can easily be learned by both men and women, particularly women, he stated.

**WAR DEBTS QUESTION**

Turning to the question of war debts, he practically laid on the United States the responsibility for existing economic conditions. The debt of the Allies to the U.S.A. was definitely formulated at 22 billions, payable in annual instalments, and the total amount of monetary gold in the world is slightly more than eleven billions. The U. S. A. did not need gold, and the first five years accepted I. O. U.'s for the debts, he explained. Nothing, therefore, happened to disturb the circulation of gold throughout the world.

“When gold began to move to the U. S. A., the price level began to fall in Europe,” he continued. “The U. S. A. never consented to accept goods or services in payment for the debts. The amount of gold going into the U. S. A. could not affect the
prices of commodities, and there was but one market where that surplus gold could exert itself. That was the security market, and then there arose the phenomenon of the prices of securities going up while the goods manufactured by the firms whose securities were selling at higher prices were going down. Intelligent business men eventually said, 'This can't go on,' and from then on, the surplus gold in the United States has been doing nothing."

"In a world in which there are only eleven billions in gold," he said in conclusion, "the withdrawal of a substantial part for the payment of a debt of 22 billions throws all things out of balance. I won't try to tell you how to remedy the situation. There are enough speakers doing that at the present time; but you can do what you like."

Mr. W. E. Hamilton, of Guelph, acted as chairman for the evening, and Professor Blackwood rendered two vocal solos that added much to the programme.

Dr. Christie brought the meeting to a close by expressing his appreciation, and that of the large audience, of the address delivered by Mr. Sandwell.

—Guelph Mercury.

RECORD BREAKING HOLSTEIN

(Continued from page 347)

tent is brought up to the desired percentage by the use of a commercial concentrate. Corn silage is fed, but only to a limited extent to test cows. Sugar mangels, however, make up a large percentage of the roughage fed. Sugar mangels are termed by Mr. Dent as the "safety background" of the rations used in feeding his test cows.

It has sometimes been said that graduates of the O. A. C. do not become successful farmers. The achievements of Mr. Dent, of Woodstock, show the fallacy of such a statement, and it must also be remembered that thousands of good farmers have received training at the College. As in Mr. Dent's case, they have received the grounding or foundation at the college which has given them an understanding of the fundamental principles of agriculture, and enabled them to solve the problems with which they have been confronted in their practical work.
O.A.C. Men Who Have Become College Presidents.

No. 4. Dr. H. A. Morgan, President of the University of Tennessee

To the acquaintances of his student days at O. A. C. he is plain "John" Morgan, but to his many friends and admirers in the United States he is known as Dr. Harcourt Alexander Morgan, President of the University of Tennessee. The descendant of a pioneer family who had settled in Ontario in the early part of the nineteenth century, he was born in Strathroy in 1867, the son of John and Rebecca Trueman Morgan.

After completing his preparatory work at Strathroy Collegiate Institute, he entered O. A. C. in the fall of 1885. It was here that he became the friend and room-mate of late President Creelman. Friendship of "John" and "George" was lasting and was one of the ties that bound the former closely to his Alma Mater when his college days were over. After his graduation in 1889, Morgan pursued graduate work at Cornell, and followed this with some special research at the Marine Biological Laboratory at Woods Hole, Massachusetts.

The career of Dr. Morgan is closely linked with the educational history of two far southern states—Louisiana and Tennessee. It was to the former state that he turned his steps when his student days were ended. For fifteen years he served that commonwealth as entomologist and zoologist, first at Louisiana State University, and then at the Louisiana Agricultural Experiment Station. Outstanding among his contributions to agriculture in this State were his measures designed to eradicate the cattle tick and his study of the migratory habits of the boll weevil. All of his attention was not turned to agricultural work, however, as it was in Louisiana that he met Sara Elizabeth Fay of Baton Rouge who became Mrs. Morgan in June, 1895.

In 1905 Dr. Morgan accepted an invitation to become director of the Agricultural Experimental Station of the University of Tennessee. He served in that capacity until 1913, when
DR. H. A. MORGAN
President of the University of Tennessee.
he was asked to assume additional duties as the Dean of the College of Agriculture. His admirable work in developing the state's agricultural programme brought him so into the limelight that when upon the death of President Ayres, the State turned its attention to the selection of a president of the University there seemed to be but one logical selection—H. A. Morgan.

When in 1919 Dr. Morgan assumed the presidency of the University of Tennessee, that institution was comparatively small and was not fully recognized even in the State of Tennessee. The story of the advance of that institution into one of the outstanding Universities in the South is a record of the personal achievement of President Morgan and the earnest workers with whom he surrounded himself. The growth of the University has indeed been phenomenal, its enrollment having grown steadily from 1919 to 1932, when over 6,000 students matriculated in its various branches. The increase in enrollment has been matched by equal development in every other department of the University. Outstanding among President Morgan's achievements has been the tremendous development of the University's physical equipment, a building programme involving over two million dollars having been only recently completed. Most gratifying of all his accomplishments, however, has been his ability to maintain equal balance between the cultural and utilitarian elements in the University's programme. In spite of his deep interest in vocational education he has proved to be one of the staunchest friends of the College of Liberal Arts.

In addition to his administrative activities President Morgan maintains nation-wide contacts through the medium of various societies and organizations such as the American Association for the Advancement of Science and the Association of Land-Grant Colleges and Universities. He is a fellow in the former organization and in 1927 served as the president of the latter. He has rendered signal service as a member of the Advisory Council of the Agricultural Committee of the American Bankers' Association, and at the present time is the representative of land-grant colleges on the Land-Use Planning Committee. But recently the press carried notice that Dr. Morgan was a possible choice for the post of Secretary of Agriculture in President Roosevelt's cabinet. Only the announcement of Dr. Morgan that he would not consider such an offer were it made prevented his friends from warmly espousing his appointment to this most important position.
Although Dr. and Mrs. Morgan are ideal hosts, the pressure of official duties prevents the President from taking much part in social life. An occasional round of golf, a hand at bridge, or a dinner with his fellow Rotarians are among his few diversions. Naturally activity in the Morgan home centres around the four children, all of whom are alumni of the University of Tennessee. Their widely diversified interests are shown by the fact that Fay is interested in newspaper work, and Jack is engaged in business, while Lucy is developing a state health programme under the direction of the Commonwealth Fund. H. A., Jr., is now completing his medical education in Memphis.

When from time to time President Morgan suggests that he retire to his farm he is prevented from doing so by Tennesseans who deeply appreciate his work and are determined to hold him in service of the State as long as he is willing to remain in his post. This is only one of the ways in which the citizenry of Tennessee have shown how truly grateful they are for O. A. C.'s contribution to the far South and the vision which he has given to the two and a half million people who compose the commonwealth.

COLE-RITTENHOUSE

Friends of Henry Allan Cole, a graduate of the O. A. C., will join in congratulating him upon his recent marriage to Mary Georgina Rittenhouse, of Jordan Station, Ontario.

The couple will reside at Prescott.
The Barrie Island Warble Control Project

Lionel Stevenson, Provincial Zoologist

BARRIE Island is an island township, sheltering some thirty-four farm families; it is located off the north shore of Manitoulin. We wanted an island as a demonstration area, because the natural isolation of an area surrounded by water, offered a barrier to the re-entrance of the two-winged cattle pest, the removal of which we were desirous of demonstrating.

The owners of the 800 head of cattle on these Barrie Island farms, asked that the demonstration work be undertaken there, and they also expressed themselves as being willing to co-operate in the fullest measure, a very necessary promise. With this understanding a meeting was held in the little school house that serves the youth of the district. A full discussion of the evils of the warble flies, and the problems incident to their removal took place. The meeting terminated with the acceptance of a definite plan of action, and a definite understanding as to the part each cattle owner should play in this organized thrust against the warble flies. The township was, fortunately for the work, already divided into three districts by main roads. A member of the township council was appointed captain or key man for each district; his duty being to get the work done. A day’s allotment of work was set at the treating of the cattle on every farm in one district, and this made a three day programme reach and treat all the cattle on the island.

The treating of the cattle, many of which were young, quite wild and unused to being handled or being tied up, was carried out with the usual scramble incident to the handling of untamed cattle. However, they all got their sore, warble-infested backs, washed with a solution made up of powered derris root, soap and water, and they apparently learned to like it, as they were much easier to handle during the second and third applications. Accurate records were kept of the condition of the cattle, the extent of the infestation, and of the killing effect of the wash. All cattle were treated three times at four week intervals, covering March, April and May. At the end of the first application of the warble killing wash, March 25th, some of the warbly backs...
contained as many as 110 grubs, while others had but few. The average number of grubs at this time was 14.3 per animal for the entire 800 head of cattle. The average at the time of the second treatment was 5, and it dropped to 3 at the time of the third treatment, which was applied at the end of May. New grubs continued to appear under the skin, each month during the period of observation, but became less as the season advanced, and were believed to be all up and killed at the time of the last treatment, as there was no gadding of cattle during the summer.

The farmers were particularly pleased with the quick and pleasing way that the sore and grubby backs of the infested cattle cleaned up after treatment. The derris killed the grubs and caused them to shrivel up, making it possible for the contracting healing tissues to force the dead grub body out, and promoted a rapid healing that was pleasing to see. Needless to say the cattle were saved much suffering.

The work on Barrie Island will continue during the spring seasons of 1933 and 1934. It is expected that the three seasons attention to the problem of warble fly removal will result in the cattle of the Township of Barrie Island being entirely free of this pest. The cattle owners have expressed their great satisfaction with the first season's demonstration work, a knowledge of which has now spread over the entire Manitoulin, and culminated in many requests, that the entire cattle population of Manitoulin, some 22,000 head, receive treatment during the spring of 1933.

To R. E. Cumming, Agricultural Representative for Manitoulin, much of the credit for the Barrie Island work is due. Mr. Cumming graduated from the O. A. C. in 1916. Two other O.A.C. Associates also enter prominently into the picture, P. E. Runnals, a Barrie Island farmer, and V. R. Brown, who is assistant to the Provincial Zoologist.

(L. Weaver, Biology Editor)
The College Royal

Arthur Stewart, '33

The Ninth Annual College Royal has come and gone. The general opinion of those who are in a position to judge, is that this has been the most successful "Royal" since its inception.

The number of entries this year was larger than ever. Several new classes were added in the pavilion and in the gymnasium, and the new sections attracted many excellent entries.

The weather, though not ideal, was quite favourable for the showing of the livestock, and it is generally conceded that the animals were brought out in better trim than in previous years. This was the result of intensive work on the part of many individuals, and each student who showed is to be congratulated on his or her performance. The excellent manner in which "Al." Pinkney fitted and showed "Thornham Delight"
was deserving of Grand Championship, but probably not any more so than some of the other entries in the class.

In the gym, the competition was keen in practically all of the classes. Large entries in many of the girls’ classes show the interest which is being taken in the Royal by them.

The section creating the keener competition, and the most excitement, was that for the Wade Toole Memorial Trophy. Very extensive exhibits were presented this year, and Mr. F. C. Nunick, in discussing the exhibits, wondered if we hadn’t just about reached the time when we should have certain rules to govern the preparation of the exhibits. He stated that in the first four placings, there was not one unanimous decision. This indicates the keenness of the competition.

Championship prizes were presented in Memorial Hall in the evening, together with a very interesting programme. This provided a very fitting ending for a very successful day.

The excellence of this year’s “Royal” is well attested in the following statements, made by three of the prominent judges:

**Dr. Christie**

“Extensive exhibits of high quality, a large crowd of visitors and a smart, active programme with sincere, helpful co-operation on the part of the students and faculty were outstanding characteristics of the College Royal for 1933. The management, together with everyone participating in this outstanding event, are to be congratulated on the success of the day. They should feel gratified that their efforts and hard work have been rewarded. The results of the College Royal are evidence of excellent organization, a fine, active spirit of co-operation and a determination on the part of all those interested to do a good job in a good way. I am sure that everyone who visited the Institution on March Seventh was greatly pleased and impressed with the activities, enthusiasm and spirit of the student body.”

**Dr. E. S. Archibald**

“The Royal teaches the boy to develop an idea and present it in such a way that the average person can quickly see the advantages of improved agricultural production and marketing. Students also learn through this competition what it has taken some of the older graduates years of experience to acquire.”
As to this particular year, the improvement of the exhibits over last year or, in fact, any preceding year, is most marked.

In developing an exhibit, the first consideration is the value of the idea which is being transmitted to the observer. Without exception, each exhibit presented an excellent idea. The development of the idea in the exhibits was good throughout. A year ago, one of the general criticisms of a number of the exhibits was the lack of completion of the story being told. Without exception, all the exhibits this year were much better in this respect than any previous year. Finally, in the general neatness of arrangement, artistic design and general finish of exhibit, there was a marked improvement this year. This applies particularly to lettering and colouring. I would consider that any one of the first four exhibits this year were superior to any exhibits which I have seen here in previous years.”

W. H. J. Tisdale

“To me, one of the greatest values in a show of this kind, is the manner in which the students can bring their originality into play and carry an idea through to its ultimate conclusion.

The show was outstanding in every way and a very distinct credit to the boys and to the College. I thoroughly enjoyed every part of it, and look forward to being with you another year, even through the Animal Husbandry Club did get the award.”

A brief description of the prize exhibits, together with the official judge’s remarks regarding them, follows:


The exhibit was based upon the slogan, “Power from the Sheep Industry.” Sheep as a source of power in Ontario’s industry were compared with Niagara Falls, on the basis that “Revenue is Power.” The exhibit indicated the advisability of using more Canadian woollen goods, and displayed the different grades of wool, together with the products that could be made from them.

Remarks:—The word “power” confuses the visitor. It is hard to compare wool with water, electricity or steam. Colour, attractive arrangement, and motion attracted the attention and called for a lot of favourable comment.

(Continued on page 392)
Structural Changes in Canadian Agriculture

A Brief Analysis of the Latest Census Returns

Canada has long been regarded chiefly as an agricultural country, mainly because of the large area of land (about 360 million acres in all) suitable for farming of one kind or another. But it is known to most observers, although perhaps only in a general way, that the economic progress of this country in recent years has been largely outside the sphere of agriculture.

A complete stock-taking of agriculture is possible only once every ten years, when the national census is taken. The full report for that of 1931 is not yet available, but from the analysis of the short preliminary reports that are issued from time to time, dealing with agriculture, it is possible to see the structural changes that have taken place during the last decade.

An examination of the statistics dealing with the movement of population, brings to light some interesting facts regarding the changes in the two major divisions, rural and urban, in the various geographical areas. It is shown firstly, that the greatest increase in population took place in the West, and secondly, that in the Central and Western Provinces the rate of increase of the urban population was, respectively, five times and twice as rapid as that of the rural. Having these changes in mind, it is interesting to find that 46 per cent of the population of Canada in 1931 was still classed as rural. But it must be borne in mind that the rural population includes more than those who live on farms, for it takes in, among others, storekeepers in hamlets, owners and employees of gasoline service stations in the country, and those engaged in shipping on the Great Lakes. The farm population is, however, the largest single economic unit in Canada.

A summary of the changes in the number of farms and their acreage shows that while the number of farming units

the country as a whole increased but slightly, less than 2½ per cent., the productive area was 16 per cent. larger than in 1921. This quite wide-spread in the rates of increase may be attributed in the first instance to an improvement in agricultural practice—in the West, for example, each ten year period carries farming further away from the pioneering stage—and, secondly, the increasing mechanization of agriculture, the development of which will be explained later. The size of the average farm increased from 198-224 acres, while the acreage of improved land on occupied farms increased from 100-118 acres. The four Western Provinces and Ontario shared in the movement to increase the improved acreage, Alberta showing the greatest increase, with Saskatchewan, British Columbia, Manitoba and Ontario following in the order named. The Maritime Provinces and Quebec all showed a decrease in improved land. Concentration of farming into larger units was reported in all the Provinces, but Alberta again led. Naturally the largest are in the Prairie Provinces, where the average ranges from 279 acres in Manitoba to 408 acres in Saskatchewan.

The values of farm property and crops have of course been greatly lowered as a result of the depression (for agricultural prices in 1921, although well below the peak of 1920, were really twice as high as in 1931), and an equitable comparison must take this factor into account. The 1931 census revealed that 1-3 of the farm property in all of Canada was encumbered by mortgage, aggregating 678 million dollars, and averaging approximately $3,000 per farmer so indebted. This is, however, not an unduly large figure even in relation to the depressed value of farm property.

In considering the gross agricultural revenue, only one crop shows an outstanding favourable change. This is tobacco, the production of which has undergone considerable expansion in Ontario during the past few years. The most conspicuous decline are seen in field crops, wool and flax fibre. The value of farm animals was down slightly, but dairy and poultry farming more than held their own.

The greatest progress as measured by population took place in hog production and poultry farming, and again it may be noted that while the livestock population decreased in number in the east the expansion in the west more than made up for it.

We turn our attention now to the question of whether the
living and working conditions of the farmers, as measured by some of their equipment, has improved in the last ten years. The number of automobiles and motor trucks on farms more than doubled in all Canada and in each province, and in 1931 there was one automobile for every 2.27 farms. The number of farms reporting tractors increased from 43,578 in 1921, to 97,176 in 1931, or 123 per cent. This is a corollary of the increase in the size of the average farm. The number of gasoline engines is not available for 1921, but the number of farms reporting this equipment increased from 136,632 in 1921 to 155,655 in 1931, or 14 per cent. The comparison with 1921 in power farming ends here, but the 1931 reports make it clear that mechanical farming, apart from the use of tractors and gasoline engines, was practised on a large scale in that year, for there were then 431,000 binders, 75,000 threshing machines, and nearly 9,000 combines on farms, mostly of course in the Western grain belt. There are indications that the agricultural community moved either too far or too quickly in this direction, but such a change in practice was undoubtedly instrumental in reducing labor costs between 1921 and 1931 by 25 per cent. for all Canada, and by nearly 50 per cent. in Manitoba, 43 per cent. in Saskatchewan, and more than one-third in Alberta. In 1931, for the whole of Canada, one farm in six had a radio, one in three had a telephone, and one in twelve had water piped to the house. Most farmers must, in fact, find the automobile, the radio, and the telephone boons that they would give up only in case of dire necessity.

To sum up, agriculture has been standing still, or even falling behind, in the Maritime Provinces, but advancing slowly in the Central Provinces, and progressing rapidly in the West. This movement westward has been the experience, not only of Canada, but of all civilized countries, from the earliest times to the present day. There has been a trend towards greater urbanization of the population. Dairying, and hog and poultry production have tended to increase; this is a healthy development, and had it been carried on more extensively in the past, Canadian agricultural practice would to-day be more in line with the world demand for farm products. Finally, we may conclude, that with 60 per cent. of her agricultural estate unoccupied, Canada still affords ample room for that part of the surplus population of other countries seeking new land to cultivate.
The task of the public debater is too often a thankless one. He must concentrate for weeks upon problems which seldom have for him a personal interest. He is the object of public criticism, and frequently of adverse and destructive criticasters. Few men sacrifice more for their college than those few who "make" the debating team.

The subject of the first debate of the series was:

"Resolved, that this house approves of Japan's activities in Manchuria."

The speakers were:

Affirmative—H. W. Minshall, O.A.C., R. E. Heal, O.A.C.

Negative—J. Milroy, McMaster, G. Price, McMaster.

The chairman, Mr. C. W. Riley, in his opening remarks, explained the system of elimination debates adopted by the Inter-University Debating League.

Mr. Minshall opened the debate by calling attention to the fundamental principle of Japanese imperial policy—that of consolidation against the Russian military menace, and of provision for her increasing population surplus. He upheld the right of Japan to protect her civilians and commercial developments in Manchuria, and resented the interference of the League of Nations. His speech could have been agreeably varied by an occasional appeal to the chairman or to his worthy (but ignored) opponents.

Mr. Milroy, the leader of the negative, had the air of an
experienced debater. He refuted most of the affirmative arguments with enviable facility, and appealed to the chairman and to his opponents on the grounds that the Japanese action was immoral, illegal and unprincipled. His manner was decidedly discursive and agreeably persuasive. He succeeded in portraying effectively the blacker side of many Japanese actions and he appealed to the sense of justice of his audience. His argument against the maintenance of extra-territorial rights was quite convincing. “Japan has flouted the League of Nations, the international tribunal of the world,” he concluded.

Mr. Heal, in supporting the affirmative, succeeded in refuting some of the points made by Mr. Milroy. In three instances he implied that the statements of his opponent were falsehoods. A considerable portion of his speech was devoted to an attack upon the League of Nations along the recognized grounds. The relation of this argument to the main issue was not immediately apparent, but in spite of this, to Mr. Heal must go the honours of the evening, both on account of his material, his delivery, and for his clever rebuttal.

Mr. Price, the second speaker for the negative, made a number of good points. His tendency to inopportune gesticulation had the effect of distracting the attention of the audience from his argument.

The programme was supplemented by vocal and instrumental numbers, which were highly appreciated.

The Judges:—His Worship, Magistrate F. Watt, Mr. Henry Howitt, Miss Jessie T. Hill.

The decision was unanimous in favour of O. A. C.

Impressions of the Osgoode Hall-O. A. C. Debate in Toronto

For those few who attended, the visit of our debating team to Osgoode Hall, was quite a novel experience. On our own campus we usually expect to see the house filled to capacity; to hear some good music; and above all, to spend an evening surrounded by the feeling of cheerfulness and good nature.

At Osgoode Hall it was quite different. We arrived sharp on time, and there behind its big iron fence stood the law build-
ing, massive and dark. No one to tell us which way to go, or which of its many doors to try. After a fourth attempt we finally found a way in.

It was as if we had been transferred into some old medieval castle. Through the huge dim halls we wandered, half frightened by the echo of our own footsteps. The walls were lined by rows of monster portraits, all of which seemed to stare down at us as if to say, “Why are you intruding? Why break the stillness of our silent halls?” For ten or fifteen minutes we wandered up and down the big broad staircases, exploring these long dark halls—enjoying ourselves!—but what of the debate?

A sudden turn brought us into a larger square hall, and at the far side, like monks at prayer, we saw four or five men talking quietly together. Surely they could direct us which way to go. “Yes, there is the old Court of Appeals (pointing to a doorway off the hall). The debate is to be held there.”

It was now twenty minutes after the appointed time, so we hustled across the hall and into the Courts of Appeals. First glance at this famous old room, and the picture of Memorial Hall rushed across our minds. It was so different. In spite of being late, only one person had arrived before us—the caretaker, and he was leisurely pulling down the blinds. The room itself looked for all the world like a little chapel, with its high-backed seats and quaint decorations.

In a short while our own debaters entered the hall, accompanied by Mr. Ford, their host, who presided as chairman for the evening. A little later, their opponents, the judges, and a few others joined us. In all, there was an audience of seventeen.

The debate itself was exceedingly fine. Both sides held the attention of the audience till the end, and seemed to avoid those long dull spells which usually accompany debate-speeches. Of the four speakers, our own man Pascoe was outstanding. However, when the last speaker concluded, it was extremely difficult to prophesy as to which side the judge would favour. Seemingly they had the same trouble themselves. Osgoode won by a narrow margin.

—C. Castell.

Noonhour Recital—Walter McRae

Mr. Walter McRae, the man who accompanied Pauline
Johnson, Canada’s Indian poetess on her recital tours, visited Guelph on Monday, 20th February, and favoured us with an hour of after-dinner recitation in Memorial Hall. He joked and recited to an appreciative audience from a variety of poets’ writings in a diversity of moods. His entertainment was the more interesting because it was often bathetic. Nothing was said which might have recalled the blood from the digestive organs to the cerebral cortex. There was nothing profound and no argument; so that the audience enjoyed a very pleasant hour. If all after-dinner speakers were to take Mr. McRaye as their pattern, their so-called “oral aids to digestion” might then be tolerated.

### Annual Public Speaking Contest

The speeches of the entrants in the Public Speaking Contest on 21st February aroused considerable comment and drew an immediate response from the tautologists of Mills Hall and other College groups. The final contest this year was limited to six competitors, each of whom spoke for ten minutes. The student interest in the misrepresentations of the economic situation was reflected in the selection of subjects, each of which dealt with some phase of the production and distribution of wealth. The stipulated relation of the subject to agriculture or to rural life was in most cases quite obscure.

A list of the contestants and their subjects follow:

- **Year ’36**, W. G. Tolton, “Towards an Agricultural Policy.”
- **Year ’35**, W. A. Stephens, “The Desert Blooms.”
- **Year ’34**, Tom Bell, “Ford and the Future of Factory Farming.”
- E. T. Parkin, “Empire Free Trade.”
- J. Cullen, “Will Currency Inflation Benefit Agriculture,”

The Judges—Professor D. H. Jones, Mr. E. H. Garrard, and Mr. G. P. Collins, made the following placing:—1st, W. Godfrey; 2nd, W. G. Tolton; 3rd, E. T. Parkin.
As we sat through the recent Philharmonic performance of "Pinafore" it occurred to us that we do not encourage and develop the operatic talent in our midst to the greatest advantage. Our impression of the excellence of the "Pinafore" production and its enthusiastic reception suggests that an increase in the operatic endeavour of the Philharmonic Society would be desirable and justified.

The cast, which was well chosen, was as follows:

Captain Corcoran........................................ E. H. Banting
Ralph Rackstraw (An Able Seaman)......................... R. H. Keith
Dick Deadeye (An Able Seaman) .......................... D. D. Fletcher
Bill Bobstay (Boatswain's Mate) .......................... J. H. Scott
Bob Beckett (Carpenter's Mate) .......................... E. Kosikowsky
Tom Tucker (Midshipmite) ................................ W. D. Lawrie
Hebe (Sir Joseph's First Cousin) ........................ Miss Elizabeth Brydon
Josephine (Captain's Daughter) ......................... Miss Lorna Snow
Mrs. Cripps (Little Buttercup) (a Portsmouth bumboat woman) ..................... Miss Ruth Walters
First Lord's Sisters, His Cousins, His Aunts, Sailors, Marines.


Accompanist ........................................ Miss J. T. Hill, A.T.C.M.
Orchestra ........................................ Miss G. McCarthy, Mr. P. Ingram
Lights ............................................. L. Marshall, R. Sexsmith
Stage Manager ...................................... J. R. Windatt
Stage Technicians .................................. P. R. Pittis, L. L. Woods, M. Beldam
The opening chorus was surprisingly weak, coming, as it did, from sixteen full-voiced sailors, but the appearance of the numerous company of sisters, cousins and aunts, seemed to encourage the crew to such an extent that the chorus work in the second act was quite meritorious and an increased confidence and action was noticeable as the opera progressed.

Mr. Banting, as Captain Corcoran, was the outstanding soloist of the evening. His rich baritone was most effective, and he executed the role of the gallant captain who is never sick at sea with conviction. As Mrs. Cripps, Miss Ruth Walters, drew considerable applause. One felt that here was “Little Buttercup” as Gilbert had portrayed her. She looked the part, played the part, and her contralto carried well to the balcony.

The most polished performance of the evening was that of Ralph—played by Mr. R. H. Keith. His soft and silver tenor fascinated the front rows, but unfortunately, at times, owing to the peculiar acoustic properties of Memorial Hall, he did not reach the back rows. As the heroine, Miss Lorna Snow was charming in appearance, and her singing and acting combined well with that of Mr. Keith to give some most effective scenes of pathos and humour. Her dancing was outstanding, and her long solo in the second act pleased the whole audience greatly.

As Cousin Hebe, Miss Brydon gave a very pleasing portrayal. She led the ladies’ chorus with enviable abandon and her performance is deserving of the highest approbation.

Deserving of particular praise, too, is the work of Jack Appleton, a newcomer to the stage last year, whose work in each successive performance has shown increased power, versatility and restraint. He was easily the favourite of the audience throughout the evening. His appearance and deportment as the Admiral, Sir Joseph Porter, were faultless in every detail, and his accomplished acting afforded the touch of humour necessary to make the production a success. Mr. Fletcher, who played Dick Dead-eye, was a valuable discovery. His was the cleverest piece of character work in the whole play, and we look forward to seeing more of him in the future. Mr. Scott played the Boatswain’s Mate with consummate ability throughout. Space does not permit
of individual mention of the fifty or more remaining members of the cast, including the dancers, the ladies' chorus and the sailors. Suffice it is to say that they all played well and made a very substantial contribution to the success of the show.

The stage technicians are to be congratulated on the simplicity and suitability of the settings and lighting. The orchestra was quite effective. The work of Miss A. T. Hill, the talented accompanist calls for special mention.

We join with a crowded house in applauding the show; the success of which we attribute to the untiring efforts of all concerned in its production, and especially to the co-operation and experience of the directors.

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S. C. A. Notes

A chapel service was held in Memorial Hall on February 19th, at which Earl Lautenslager, B.A., of Toronto, was the speaker. Mr. Lautenslager's address on "World Problems in the Light of Christianity" was very interesting, and brought forth ideas from a viewpoint different from that to which we are accustomed. On a recent tour around the world he studied the social and economic conditions in Japan, China, India, Great Britain and Germany at first hand.

The chapel service was conducted by our S. C. A. President, Art Gardner. "Abide With Me" was presented as a male quartet by Messrs. Banting, Buchner, Sparling and Fletcher. Miss Pollard, a graduate of Mac Hall, sang a beautiful solo, "A Voice Crying in the Wilderness." The college choir led the hymns.

Mr. Lautenslager also conducted the Sunday Morning Discussion Group, taking as his subject, "Socialism, Communism, Christianity."

—James E. Sparling.

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S. C. M. International Week-End-Toronto

On February 18th two Aggies and two Macites attended an International Week-end at Toronto, under the auspices of the S. C. M. The visiting speaker was Dr. W. A. Visser 't Hooft, general secretary of the World Student Christian Federation. Dr. 't Hooft outlined for us very clearly how Nationalism and (Continued on page 376)
Ideals

"I have had three personal ideals. One to do the day's work well and not to bother about to-morrow. It has been urged that this is not a satisfactory ideal. It is; and there is not one which the student can carry with him into practice with greater effect. To it, more than anything else, I owe whatever success I have had—to this power of settling down to the day's work and trying to do it, to the best of one's ability, and letting the future take care of itself.

"The second ideal has been to act the Golden Rule, as far as in me lay, towards my professional brethren, and towards the patients committed to my care.

"And the third has been to cultivate such a measure of equanimity as would enable me to bear success with humility, the affection of my friends without pride, and to be ready when the day of sorrow and grief came to meet it with courage befitting a man."

—Sir William Osler.

Why Not Cram?

Although the tendency of students to attempt to absorb a large amount of material in a short time when examinations approach has long been condemned by instructors, this method of study apparently has its advantage.

In an article, "Why Not Cram?" in a recent issue of Education, Clay A. Daggett, of Wisconsin State Teachers College, points out that cramming is concentration of the highest order. In spite of the fact that teachers have always contended that what is learned by cramming goes in one eye and out the other, modern psychologists believe that one who learns more rapidly will retain more. According to the new theory, concentration cannot possibly last longer than half an hour at a time, as brain stimuli becomes less receptive after that time. In other words
a student studying overtime is not accomplishing any more than one who studies intensively for a short time.

The Wisconsin instructor deplores the fact that in education, as in other fields, instruction methods have come into use by custom rather than by investigation of the most efficient systems. In suggesting cramming as an efficient study method, he feels that one of the outworn scholastic traditions should be done away with.

While Mr. Daggett's recommendations is a definite departure from present teaching methods, it must be understood that he does not condone a week's steady cramming before final examinations to make up for a whole semester of neglect. Under his system a certain amount of cramming would be done regularly.

Although the suggestion that certain types of cramming are often advantageous, may prove helpful to some students, most undergraduates already have their own systems of study. And certainly if Mr. Daggett looks with disfavour upon attempting to do a season's work in a week there are a lot of college men and women who will say that he does not know the real definition of cramming.

Spring Fever

I write once again to that wee girl of mine,
And just to be silly, I'll put it in rhyme,
For it is known as it draws near to spring,
That an average young man will do any old thing.

While I sit and I listen to lectures so dead,
A number of notions will flash through my head,
So often I'll fondle my pen in my hand,
And scribble fool nonsense that ought to be banned.

There is maybe a reason why things are like this,—
It may be linked up with past moments of bliss;
Or is it the Springtime's o'erpowering effect,
That recalls to the memory the evenings we've necked?

It often is stated, and 'tis quite true I do fear,
That a man gets real "dippy" at this time of the year,
But this is increased to a worse degree yet,
When one gets attached to a winsome brunette. —Holz.
MEETING of the standing committee on tobacco fertilizers was held at the office of the Department of Agriculture, Simcoe, on February 1st and 2nd, 1933. Dr. N. T. Nelson, Chief of the Tobacco Division, Dominion Department of Agriculture, Ottawa, was in the chair. Three other representatives of the Federal Department were present. Dr. R. Harcourt and two representatives were present from the Ontario Agricultural College, while the Provincial Department of Agriculture was represented by three officials. Representatives of the N. V. Potash Export, My., and the Eastern Canada Fertilizer Association were also present.

The first of the considerations of the two day meetings had to do with a survey of the tobacco growing regions of Norfolk County with reference to the reaction of the soil. Mr. J. E. Musgrave, O. A. C., found a variation of pH from 5.2 to 6.0 in his observations. He also added his conclusion that the higher the pH within these limits the ranker was the growth of plant, the lower was the quality and disease content of the crop. Best quality of tobacco came from a soil pH range of 5.5 to 6.

Recommendations were decided upon for flue-cured and burley tobaccos, as follows:—

FERTILIZERS FOR BRIGHT FLUE-CURED TOBACCO

1. Quantities of Fertilizers and Analysis of Mixtures:

Use 800-1000 lbs. of approximately a 3-10-6 mixture per acre; i.e., 3% nitrogen, 10% available phosphoric acid and 6% potash. This quantity of fertilizer is also equivalent to an application of 600-800 lbs. of a 4-12-8 mixture. If the 4-12-8 mixture is used, care must be taken to have the drill shut down so that it will properly sow the smaller amount required.

It has been found in some cases that the use of more potash in the fertilizer is of advantage. In any case the potash content should be very carefully watched because potash has a very definite effect on the quality of leaf produced. On certain soils less nitrogen and more potash have given very satisfactory results.
Note: — If in doubt as to what fertilizer analysis to use, consult the Dominion Experimental Station, Harrow, or the Provincial Tobacco Specialist at Simcoe or the County Agricultural Representative.

2. Sources of Plant Food Materials:

(a) **Nitrogen.**

1. Organic Sources — at least one-quarter of the total nitrogen should be derived from high-grade organic materials of plant or animal origin, such as cottonseed meal, soybean meal, dried blood or high-grade tankage.

2. Inorganic or Mineral Sources — at least one-quarter of the total nitrogen should be supplied from calcium nitrate or sodium nitrate and the remaining half of the nitrogen should be derived from other standard inorganic materials such as sulphate of ammonia.

Note. — A portion of the inorganic nitrogen might be advantageously supplied from some of the other synthetic products. However, insufficient data are available at present to warrant such a recommendation.

(b) **Phosphoric Acid.**

Derived from superphosphate and other easily soluble phosphates.

(c) **Potash.**

Derived chiefly from sulphate of potash, a portion of which may be replaced by sulphate of potash magnesia. The percentage of potash in the mixture should be at least twice the percentage of nitrogen.

Note: — While muriate of potash is recommended in a limited way as a source of potash for flue-cured tobacco in the United States, insufficient information is available to warrant such a general recommendation under conditions in Western Ontario. In any case the percentage of chlorine in the total mixture should not exceed 2%.

**FERTILIZERS FOR BURLEY TOBACCO**

1. Analysis of Mixtures:
(a) Lighter Soils—Four per cent. nitrogen, 8 per cent. available phosphoric acid and 6 per cent potash.

(b) Heavier Soils—Four per cent. nitrogen, 12 per cent. available phosphoric acid and 6 per cent. potash.

Note:—On the light soils experimental results have shown that when tobacco is grown following legumes in a rotation the percentage of potash in the fertilizer may be raised as high as 10 to 12 per cent. with profit.

2. Quantity of Fertilizer:

Use 600 to 1000 lbs. drilled in the row and thoroughly mixed with the soil at least one week prior to transplanting. Very satisfactory results may also be obtained by broadcasting the fertilizer on the heavier soils.

Note:—If manure is applied at the rate of 10 to 12 tons per acre, the organic portion of the nitrogen may be reduced.

3. Sources of Plant Food Materials:

(a) **Nitrogen:** At least one-quarter of the nitrogen should be derived from high-grade organic materials of plant or animal origin, such as cottonseed meal, soybean meal, high-grade tankage or dried blood. The remainder of the nitrogen should be derived from standard inorganic sources, such as nitrate of soda, sulphate of ammonia and / or urea—one-quarter of the total nitrogen being derived from nitrate of soda.

(b) **Phosphoric Acid:** Derived from superphosphate.

Note:—Some of the synthetics products, such as diammonium and treble superphosphate appear very promising.

(c) **Potash:** Derived from sulphate of potash, sulphate of potash magnesia, or possible a portion from high-grade muriate of potash. The percentage of chlorine in the mixture, however, should not exceed 2%.

**FERTILIZERS FOR DARK TOBACCO**

In as much as the Dark Tobacco type is concerned 800 to 1000 lbs. of a 4-8-6 or 4-8-10 mixture per acre has given good results under average conditions, providing the same recommendations for plant food materials are used as outlined for the burley tobacco.

(Continued on page 388)
Social Events

The Senior Banquet

On Friday, February twenty-fourth, Year '33' held their senior dinner and dance in the College Cafeteria.

This, perhaps, even more than looking forward to graduation and the inevitable examinations that come before, caused them to realize that they would soon join the ranks of the Alumnae of Macdonald Institute. However, even this did not mar their enjoyment of the evening. The Cafeteria was very tastefully decorated with flowers and ferns. The banquet tables also looked very attractive with the corsages and buttoniers as favours at each place.

At the close of the banquet the floor was cleared, and dancing, to the Oriole Club orchestra, was enjoyed until shortly after midnight.

On February the first, the junior girls of Macdonald Hall entertained the members of the faculty and the senior girls at a delightful tea in the Community House, from 4.30 to 6 p.m. The table was set with a filet lace cloth, and centered with daffodils and carnations, in a silver basket, and yellow tapers in silver baskets.

On Sunday morning, February 26th, Miss Cruikshanks entertained the remaining residents of Watson Hall at a delightful breakfast party. Dr. Ross was our guest of honour.

Mrs. A. W. MacKenzie

Friends of Mrs. A. W. MacKenzie, formerly Miss Alice Fisher, a member of 1922 Winter Short Course at Macdonald Institute, will regret to learn of her recent death. Mrs. MacKenzie succumbed to influenza early in January.
Sports

Basketball

Since the last issue of the "Review" we have completed our basketball schedule. Two games have been played with the Hamilton Normal Grads, both of which we dropped to the Grads. The Intermediate team won their game from McMaster University on our own floor, but unfortunately our Senior team was defeated. The return games with McMaster were played early in the month, and once again the seniors lost while the juniors won.

Now that the season is practically over, we would like to take this opportunity to extend to Miss McQueen our appreciation for all that she has done for the teams. We appreciate the time and effort she has spent coaching us.

Badminton

Something new in the line of sports has been introduced to the school this year. At the time of writing we are in the throes of a badminton tournament, which we expect will be completed early in the month.

S. C. A. NOTES

(Continued from page 369)

Communism as well as Christianity are appealing to the loyalty of the students of today with considerable success in some countries. The call of Christ is ten times more enacting than the demands of Lenin of the leaders of the Nationalist movement. "Perhaps," he suggested, "this period of dissatisfaction and depression will arouse the Christian students out of their complacency and make them realize that Christianity is a force which does affect the world situation as much as Communism or Nationalism."

—Frank W. Thompson.
Work of Dairy Council Outlined at Short Course Banquet

E. H. Carrcadden, '34

Some two hundred dairy representatives and students attended the Ice Cream Short Course banquet, which was held in the College Cafeteria on February 22nd.

Prof. Blackwood led a short sing-song after the banquet, and then rendered a very pleasing solo.

Prof. W. H. Sproule, of the Dairy Department, acted as chairman, and introduced F. Jones, a graduate of Year '23, who is at present the vice-president and general manager of the Ottawa Dairy.

Mr. Jones spoke on the subject, "Research in Ontario." He pictured the "trial and error" methods of former days, and stressed the need of science in the solution of modern dairy problems. "Many important problems are confronting the industry to-day," he said, "the chief being: firstly, the cost of delivery per quart of milk, and secondly, the cost of production per cow."

"With these problems, as well as many others, in mind," he continued, a group of enterprising dairymen formed the Ontario Dairy Research Council. This Council was met with the approval of all the Dairy Associations," he said, "and they have pledged their support."

The aims of the Council are as follows: Firstly, to collect and study all forms of dairy data, and present it to the public in an interesting and educational way. Secondly, to study productive methods, and make them available to the trade. Thirdly, to study sanitation problems and the practicability of new dairy equipment.

The Council is composed of trained men in every branch of commercial dairying, who, through their contact with the various phases of the industry will be able to suggest problems.

Dr. Christie, the second speaker, outlined his reason for supporting the Dairy Research Council. Despite objections raised by
many of the people to-day he felt there is a great need for this organization. "At the present time," he said, "the farmer is receiving too low returns for his produce." The speaker felt that the new Council should give this matter some attention.

He stressed the need of producing high quality products, and in his opinion, the panacea for this problem lies in the education of the producers themselves. "Until then," he said, "we cannot hope for high quality products to place on the world markets."

Mr. John Scott, of the Dairy Branch, the last speaker of the evening, also gave a very interesting address. In the course of his talk he informed the audience that at the present time all branches of dairying, with the exception of butter, are manufacturing products of higher quality than ever before. "The inferior quality of butter produced," he said, "is in all probability due to a great extent to the manufacturers themselves, who have made no organized plans to improve the quality of their product."

He was also of the opinion that the marketing system is not all that is to be desired; as for example, in the case of butter, where there is a spread of one-quarter of a cent between first and second grade butter, and a three cent spread between first and second grade cream. With regard to the quality, he said that, at the present time, the consumer has no idea of the quality of the butter he is buying until it is consumed. The only solution for this problem lies in the marketing of butter on a graded basis, and the only way to establish a quality product is to market on a graded basis.
With Mitt, Matt and Sword Men

As a result of a distinctly one-sided victory last month in Toronto, the Aggie Assault-at-Arms squad are first champions of a newly formed Intermediate Inter-Collegiate group. Engaging with the pride and joy of McMaster and Western Universities' wrestlers and boxers and Toronto's second string, the Redmen showed enough boxing and wrestling knowledge to carry off thirteen out of the sixteen bouts. The remaining three were divided between Toronto, Varsity and Western.

It may have been that the boys, disappointed when certain powers-that-be prevented their debut in senior company this year, went to Toronto with a vengeance. At any rate, they clearly demonstrated to any doubting "Thomases" that most senior squads would do a lot of stepping to keep up with them. Incidentally, no sooner was the Intermediate Assault finished, than Toronto Seniors disposed of Queen's and McGill in a senior tilt, and just two weeks previous the Aggies, by virtue of their Interfaculty victory, had beaten Varsity's best.

Two men who deserve a great deal of credit for the good showing of the team are Danny McDonald, wrestling mentor, and Art Adie, coach of boxing. Fortunately, so far as we know, the mitt and matt men will have the benefit of their presence next year.

Every member of the squad, both the tried veterans, Watt, Wright, Archibald, Reid and Wass, and the newcomers, as McLellan, McAlpine and Walton, gave all that they had and garnered in the results. Congratulations to the worthy group of Intermediate Champions.

Intermediate Intercollegiate Champions—Boxing, Archibald, Cruickshanks, Walton, Saunders, Gear and Jones; Wrestlers, McAlpine, McLellan, Read, Wright, Watt, Vickers and Duff.

The fencing team, recently inaugurated, made its depute in Toronto the same time as did the boxers and wrestlers. After giving a good account of themselves, they placed a close third
with McMaster. With another term devoted to this fine art, the swordsmen should give fencing the place it deserves in the college. Their efforts towards this end are to be commended.

---

**Dan McDonald**

One Friday afternoon last October a quiet fellow walked into Mills Hall wrestling room, looked over his group of embryo mat men, and went to work. The quiet young fellow was Danny McDonald, the coach, who brought three Interfaculty and seven intercollegiate wrestling championships to O. A. C. within the last month.

Two of his men who returned champions had never wrestled before coming under his wing, and all others benefitted immeasurably by his coaching.

Danny himself, is a crack wrestler, who knows the game thoroughly. Besides holding the Ontario title at 150 lbs., he made his way to the Canadian finals, and became a member of the Canadian Olympic team last year. He went further. At Los Angeles he lived up to his reputation by advancing into the finals.

The valuable experience he gained in the ring has stood him in good stead in his coaching duties. He works with the fellows easily, quietly, but thoroughly, and he possesses that happy faculty, with which few coaches are equipped, of getting results, and good ones, without "bawling out" his men.

His first season at O. A. C. completed, Danny has left for a light wrestling tour of Britain. While there we wish him well, and anticipate hopefully his return next fall, to carry on the good work from where he left off.

---

**Hockey**

With the hockey sticks and pads hung up for the season, we have the task of figuring out why O. A. C. hockeyists share the bottom birth of the Intermediate Intercollegiate League with our friends the Baptists.

Lack of hockey facilities and practices were the main factors contributing to the team's low standing. Toronto and Western
possessed more skating ability and combination, and they had a habit of uncorking a scoring punch at critical moments that stood them in good stead. As a matter of fact, in at least four games, the result was in doubt, up to the last minute or so of play, when the opposition would invariably drive the puck into the Aggie net, thus relegating that squad one rung lower on the league ladder.

The team did well; it gave the best it had, which, after all, is the limit expected of any person or persons. And those who are statistically minded individuals, may gather some comfort in the thought that only once was the squad beaten by more than one goal. The results:

O. A. C. at McMaster, 1-0 for McMaster.
Toronto at O. A. C., 1-0 for Toronto.
O. A. C. at Western, 3-2 for Western.
O. A. C. at Toronto, 8-1 for Toronto.
Western at O. A. C., 3-2 for Western.
McMaster at O. A. C., 4-2 for O. A. C.

Line-up:—Goal, Heeg; defence, Borisuk and Gagnon; forwards, Ready and Malcolm; centre, Bainier.

Second string:—Cain, Dempsey, Thompson, Turnbull.

Ball and Basket

Our venture into senior intercollegiate basketball did not bring us the honour of winning the group. The team, however, is a credit to the athletic part of our college life. They played wonderful basketball, but unfortunately they met up with a very fast team which was entered by McMaster in the league. In the home and home game series O. A. C. defeated the hard fighting R. M. C. team in both games, but lost the series to McMaster by losing both games to their team.

The games that we witnessed on our own gymnasium floor left little to be desired in the way of a thrilling game with more action per second than even hockey.

Our Junior Intermediate and Interfaculty teams have also taken their places as can be seen in the following list of scores:
SENIOR B. GROUP

O. A. C. 19, R. M. C. 16.
O. A. C. 18, McMaster 28.

Intermediate

O. A. C. 39, Western 32.
O. A. C. 38, Western 14.
O. A. C. 22, McMaster 20.

Juniors

O. A. C. 24, Western 32.
O. A. C. 9, McMaster 57.
O. A. C. 16, Western 40.

Teams

Seniors—Brown, Folland, Monroe, Chislom, Crane, Yeates, Wood, Richardson.

Intermediates—Gollehan, Brechin, Shantz, Aitken, Tofani, Hicks, Buchanan, Morgan.

Juniors—Wolf, Kemp, Love, Fuller, Bromley, Fairbairn, Young, Blake, Hunter.

Interfaculty—Aude, Morgan, Hales, Thorpe, Bartlett, Hayme, Thompson, Fox, Logan.

Swimming Meets

Swimming at the O. A. C. for the past few years has not taken a very important place due possibility to several reasons. Not sufficient interest on the part of the students nor a person interested enough to manage a team and give it the attention necessary to make something out of it. This year due to the efforts of Mr. Ozburn and Bert Martin we have a team which has taken part in intercollegiate competition. Their effort has been creditable, and with a new interest the team should next year be among the first place winners.
The following events have taken place to date:

Practice Meet—February 16th, Western at O. A. C., 4 points to Western, 3 points to O. A. C. February 18th, O. A. C. at Western, tie score.

Interfaculty.—

February 25th—O. A. C. ranked third with 141/2 points, being outpointed by S. P. S. 21 points, and U. C. 19 points. Seven teams competing in the events.

Intercollegiate Invitation Meet at Hamilton:—

February 28th—McMaster 36 points, Western 15 points, O. A. C. 8 points.


Rifle Association

During the past term of the Rifle Club the scores in general have shown marked improvement over those of the fall term, and the weekly competition for spoons have been very keen. Prof. Blackwood has the grand aggregate prize won with an average of 49 out of 50 for fifteen targets, but he was pushed to the limit by several other “snipers” who are waiting for revenge in the inter-year competitions. Strong teams are representing all the years, and the faculty for this match, which takes place Saturday, March 18th, after which a complete list of spoon and prize winners on both sides of the campus will be published.
18.1% for a season, and in this year (1932) the average tonnage per acre has exceeded all previous averages and is 11.4 tons per acre over an area of 31,000 acres.

To obtain this high average yield, the Canada and Dominion Sugar Company, Limited, co-operates with the farmers in every way possible. The Sugar Company purchases the highest grades of seed obtainable and carefully tests each seed source for germination, sugar, tonnage, uniformity of type and disease resistance. The Company maintains an Agricultural Staff with a Research Department and eighteen full time district fieldmen. From the data of years of experience and the co-operation of such institutions as the Ontario Agricultural College, and the Provincial Experimental Station at Ridgetown, and the Dominion Experimental Farm at Harrow, the Sugar Company recommends special fertilizer-balances for the various types of soil. At the present time, the average soil type responds best to a balanced fertilizer of about the 2-16-6 composition. The Sugar Company assists its growers by advancing them seed and fertilizer to be paid for, at wholesale prices, out of the beet crop. The Sugar Company has always a guaranteed minimum price for beets, and agrees to accept all beets grown under contract with the Company. The farmer is also bonused for high quality beets, based on the average sugar content of his individual loads delivered. Moreover, the price to the farmer rises with the selling price of sugar, so that this business is truly co-operative, in addition to guaranteeing a market with a previously fixed minimum price. During the past few years, this guarantee has been a “life-saver” for the growers and there is a great demand for acreage. The industry, however, has been straining to maintain even a $5.00 per ton guaranteed minimum price for beets and the margin, in competition with cane sugar production, has disappeared. Nevertheless the Company has maintained a full complement of acreage and the counties of Kent, Essex, Lambton, Huron and Middlesex have benefitted by an industry, paying over $2,000,000 to the farmers each year for their beets.

And now to the quality of that sugar called, “Dominion Crystal.” In years gone by, there has been prejudice regarding both cane and beet sugar. In Europe, where the beet industry has
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Cement ............ 108 Sacks
Sand ............. 10 1/4 cu. yds.
Pebbles ........... 14 cu. yds.

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been strongly entrenched, ever since Napoleon established six technical beet-sugar schools in 1811 and compelled the farmers to plant 79,000 acres to sugar beets the following year, people were prejudiced against cane sugar and even, to-day, the preference is strongly in favor of sugar from beets. In North America, the preference has been the other way, chiefly owing to the earlier established cane sugar interests. Certainly to-day we can only smile if the candy-maker blames his failure on "beet sugar," or the housewife insists on "cane sugar" for preserving. The United States Department of Agriculture, Bureau of Chemistry and Soils, says:—

"The highest grades of granulated sugar on the market reach an ideal state of purity, so far as all practical purposes are concerned, and it is believed, that where the highest grades are used, there is no choice between the Beet and Cane Sugar."

The beet industry holds the interests of everyone engaged in it, for it is a fascinating business of changing sunshine, carbon dioxide and water into crystal sugar, employing 400 to 500 men at each plant, and giving a profitable agricultural business to 4,000 farmers of Ontario, who average $500.00 each year from their 8 to 9 acres of sugar beets. Scientific study is seeking to increase the quality and yield of beets while both in factory and farm, the most modern and efficient methods are being tried.

March 1st, 1933.

The Editor, O.A.C. Review.

Dear Sir:—In reply to the open letter of Mr. E. C. Williams in the February issue of the Review, I wish to state the true facts of the procedure by which the speakers representing the Third Year were chosen.

Three men, Messrs. Parkin, Bell, and Williams, expressed their desire to enter the contest. The choice of two of these men was left in the hands of the executive. All three applicants, when interviewed, agreed to dispense with trials as the members of the Executive were familiar with their abilities in public speaking. This plan was carried into effect with the resulting elimination of Mr. Williams.

I deeply regret that Mr. Williams has chosen so public a vehicle in which to express his disapproval of a procedure to which he once gave his assent.

Yours truly,

H. S. Graham.
There is Something in Knowing How!

As important as the tobacco itself, is the knowledge that selects it. Equally valuable is the expert knowledge of blending which today produces the matchless Winchester blend.

To thousands of Canadian smokers, this experience and knowledge means the difference between “just another” cigarette and Winchester’s mellow, rich smoothness and surpassing fragrance.

There is something in knowing how to make cigarettes.

Winchester Cigarettes
Blended Right!

Imperial Tobacco Company of Canada, Limited
The observations from the experimental work which largely influenced the committee in framing the recommendations, contain the following main items:

Sources of Nitrogen.

In 100% soluble nitrogen carrying salts, urea, sulphate of ammonia, and nitrate of soda acted in the order named. Where double sources of nitrogen carrying salts were employed, a combination of nitrate of soda and urea gave best results. Highest yields were obtained where organic carriers supplied 50% of the nitrogen of the fertilizer.

Phosphoric Acid Carriers.

Increase in the amount of phosphorus appears to benefit the yield rather than the quality. The optimum percentage ascertained in the Norfolk County tests varies from 8 to 10% $P_2O_5$, while at Harrow it is 12% $P_2O_5$.

Potash Carriers.

On the Windham field (O. A. C. test grounds) from 12 to 14% of potash in the fertilizer mixture greatly improved the quality of leaf. On the Teeterville field (O. A. C. test ground) 12% gave best quality. Harrow results on this point largely confirm the Norfolk County tests.

Burley Considerations.

On the burley tests at Harrow, a basal mixture of 8-8-12 was used. Among the variations of this mixture, Harrow results favor 4% nitrogen, 8% available phosphoric acid and 10 to 12% potash.

General Discussions.

Among the practical points discussed in the general session were the following: The forcing of plants with nitrate of soda in beds was not favored. While it is wise to use some fertilizer in tobacco beds, growers should keep in mind the objective, which is to produce strong, vigorous plants. A definite relationship between soil reaction and subsoil to “Frenching” was discussed. Importance of emphasizing quality in Ontario grown tobacco in view of the world market in which we are competing, was prominently emphasized. A new and troublesome disease known as “Blue Mould” has been very destructive in American
Capitol Theatre

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Three Shows Daily—2.30, 7.00 and 9.00 o'clock.
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Monday, Tuesday, Wednesday
March 20, 21, 22
"STRANGE INTERLUDE"
With Norma Shearer and Clark Gable

Thursday, Friday, Saturday
March 23, 24, 25
"THE KID FROM SPAIN"
Starring Eddie Cantor with Lyda Roberti and the Goldwyn Girls

Monday, Tuesday
March 27, 28
"NO MAN OF HER OWN"
With Clark Gable.

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tobacco growing centres. The disease is carried in the seed, hence Ontario growers are warned to exercise great precaution so as to obtain disease free seed.

In discussing varieties, Mr. Murwin of Harrow Station, said that the trend of flue-cured tobacco is toward the cigarette type of leaf. The new method of harvesting by priming emphasizes the necessity of suitable attention to choice of suitable varieties.

Mr. Perrett, in discussing practical tobacco growers' problems, called attention to the mistaken impression from certain press activity which portrayed tobacco growing as a get rich quick crop. Successful tobacco production really requires much capital, hard work, common sense and patience. Mr. Perrett emphasized the necessity of spring steaming of beds. In the matter of marketing the crop, the necessity of the farmer being able to evaluate his own product is obvious. The successful grower must know his land, every acre of it, in order to grow high grade tobacco.

Dr. A. Burt, M. L. A., whose address closed the conference, stated that the government is willing to render assistance to a tobacco growers' co-operative organization when it is organized on a sound basis.

INTERESTING LECTURES HEARD BY CLUB

Prof. H. Fulmer gave a very interesting talk on "The History of Chemistry." He outlined the beginnings of Chemistry from the time it was an Art amongst the Ancients, through its various developments up to the present time when it is the most important amongst the sciences. It was extremely interesting and made those present truly realize the growth and importance of their science.

"Methods of Testing Soil" was the topic by Prof. Rhunke in an address given to the Club on the 8th February. Treating his material in an entirely new manner Prof. Rhunke clearly showed how well he knew his subject, and more or less tracted the history of how soils were tested in the beginning up to the present, when the chemistry of soil and soil analysis is a very important branch of Agricultural Chemistry.

—H. Denis-Nathan.
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2nd. Field Husbandry.

This exhibit pointed out the benefits to be obtained from working corn and soy beans into the crop rotation. The slogan was, "Two Kingdoms United," and the idea was carried out with Corn as King and Soy Beans as Queen.

Remarks:—Outstanding in idea, arrangement and presentation of information. Too much material presented, too much time required in telling the story. Queen's crown similar to King's crown. Colours of cards out of harmony.

3rd. Poultry.

This was a very neatly arranged exhibit, featuring Canada's large sale of turkeys in England. Under the slogan, "Canada took advantage of the Imperial Conference." Turkeys of different grades were shown, and their effect on trade indicated.

Remarks.—Outstanding in the presentation of an important work now under way. Failed to show in what way the Imperial Conference provided an advantage as to preference, quota or other ways.

4th. Chemistry.

Under the slogan, "Does Lime Pay?" this exhibit showed the results to be obtained, and the profits to be made from a correct application of lime to acid soil.

Remarks:—"Does Lime Pay?" The question should not be raised. It might have been better to say "Lime Pays," and then with the evidence presented, prove the statement. The presentation of the clover fields was excellent, together with the background. It failed, however, to emphasize the residual effect of clover on the following crops. Booth was perhaps too narrow. Instructional cards were in the distance and of little interest.

5th. Dairy.

This exhibit showed the increased returns secured by a farmer as the result of testing and weeding out the poor cows in his herd.
SUCCESS!
Our New Venture in
SPECIAL CLUB BREAKFASTS
25c
Has proved successful and is gaining in popularity
We also Serve
SPECIAL DINNERS
Turkey  Duck  Chickens
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Before Buying Elsewhere See our Range of Men's Clothing and Furnishings.
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NEW STORE next to KELLY'S MUSIC STORE
Remarks:—“Cow Testing.” An idea with an appeal, but the charts and graphs were too complicated and not sufficiently intelligible. No urge for the farmer to test the cows. No totals or comparative figures. Lack of comparison of the present herd with the original herd.

The farm mechanics exhibit was worked out on the basis of what could be done around the farm workshop with a “nickel’s” worth of power.” Although the idea was a good one, the exhibit was criticized for lacking life.

Trent Institute presented an interesting story of the use of soy bean meal. It was a good type of promotional exhibit.

The Horticultural display was diagnosed to show the value of vegetables as guardians of health through their vitamin content. The idea was certainly presented in a graphic manner, but the display was a little cluttered up and did not present much proof.

The Apiculture exhibit, under the slogan, “Bee Neat,” presented an attractive exhibit, showing the benefit derived from the use of attractive containers in the sale of different forms of honey. The chief criticism here was that it lacked life, and would fail to stop the visitor.

The Art exhibit this year was especially attractive, and the large number of entries indicate the great interest being taken in this hobby.

The members of the College Royal Executive, under the direction of Harry Seymour, are to be heartily congratulated on the extensive arrangements made, and on the smoothness and despatch with which the details were worked out on the day of the show. It indicates a fine spirit of co-operation among the different departments.
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