

*Publications*

MACDONALD COLLEGE

McGILL UNIVERSITY

RAILWAY STATIONS AND EXPRESS:  
STE. ANNE DE BELLEVUE, QUE.

POST OFFICE:  
MACDONALD COLLEGE, QUE., CANADA

FACULTY OF AGRICULTURE  
OFFICE OF THE DEAN

January 24th, 1933.

Sir Arthur W. Currie, G.C.M.G., K.C.B.  
Principal,  
McGill University,  
Montreal, Que.

Dear Sir Arthur:

I am enclosing a report of the  
Committee on Publications made to the Faculty  
of Agriculture at its meeting on January 21st,  
1933. This includes the publications of the  
members of the staff of the School of Agricul-  
ture during the calendar year 1932.

Yours faithfully,

*J. Snell*

Acting Dean.

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Faculty of Agriculture  
Committee on Publications  
Report for 1932.

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During the year 1932 additions to the list of Macdonald College publications have been made as follows:

FARM BULLETINS.

- No. 4. Summerby, R. "Soil Management" 73 pp.  
" 5. Heimpel, L.G. "Dairy Barn Ventilation" 43 pp.

TECHNICAL BULLETINS.

- No. 10. Lattimer, J.E. "Progress and Problems of the Dairy Industry in Canada" 39 pp. 1st edn. June, 2nd edn. September.

JOURNAL SERIES.

- No. 7. Maw, A.J.G. "Photographing Birds Indoors" Poultry Science XI, 1, 1932.  
" 10. Maw, A.J.G., Maw, W.A. "A Method of Estimating the Mean Annual Egg Weight". Sc. Agric. XII, 5, Jan. 1932.  
" 12. Whitehead, W.E. "The Morphology of the Head-capsule of Some Coleopterous Larvae" Canadian Journal of Research, February, Vol. 6, pp. 227-252.  
" 13. Snell, J.F. "Monosaccharose Configurations and Interrelations" Chemical News, May 20th, Vol. 144, No. 3762, pp. 321-6.  
" 14. Snell, J.F. "Report on Maple Products" Jour. of the Assoc. of Official Agricultural Chemists, May, Vol. 15, pp. 181-194.  
" 15. Snell, J.F., Skazin, Lev, Atkinson, H.J., and Findlay, G.H. "Improvements in the Analysis of Maple Products" Canadian Journal of Research, July, Vol. 7, pp. 106-112.  
" 16. McKibbin, R.R. and Gray, P.H.H. "Chemical and Microbiological Factors in Some Quebec Soils" Canadian Journal of Research, September, Vol. 7, pp. 300-327.



The following papers have been accepted for the Journal Series by the Committee but have not yet appeared in print.

- No. 17. McKibbin, R.R. "Soil Organic Matter" accepted by the Journal of the American Society of Agronomy.
- " 18. Heimpel, L.G. "Some Results on Research in Ventilation of Dairy Barns in Quebec" accepted by Scientific Agric.
- " 19. McKibbin, R.R. "Climate and Soil Leaching Variations in Quebec" accepted by Scientific Agriculture.
- " 20. Lattimer, J.E. "Intra-Empire Trade, Opportunity for Agriculture" accepted by Scientific Agriculture.

An anthology entitled "Some Canadian Essays" (XII+ 240 pp.) has been compiled and edited by Prof. Norris Hodgins. It is published by Thomas Nelson & Sons, Ltd., London, Edinburgh and New York as No. 181 of the Teaching of English Series, a series under the general editorship of Sir Henry Newbolt.

A collection of "Formulae for Meal Mixtures" was prepared by Prof. E.W. Crampton and published as a bulletin of the Quebec Provincial Feed Board on October 1st.

The appearance of the following papers by members of the staff or by students has been noted in scientific journals by the Chairman of the Committee:

- Baker, Alex. D. "Records of Distribution of Internal Parasites of Poultry in the Province of Quebec". Scientific Agriculture, October, Vol. 13, pp. 127-130.
- Boyle, R.W., Froman, D.K. and Field, G.S. "Dispersion and Selective Absorption in the Propagation of Ultrasound in Liquids Contained in Tubes" Part I. Canadian Journal of Research, January, Vol. 6, pp. 102-118.
- Crampton, E.W. "Provendeine for Market Pigs" Scientific Agriculture, May, Vol. 12, pp. 553-563.
- Crampton, E.W. "Estimating Statistically the significance of Differences in Comparative Feeding Trials" Scientific Agriculture, September, Vol. 13, pp. 16-25.
- Conklin, R.L. "The Gizzard Worm in Quebec" Scientific Agriculture, October, Vol. 13, p. 126.
- Froman, Darol K. "The Faraday Effect with X-Rays" Physical Review, September 15th, Vol. 41, pp. 693-700.
- Godbout, Fernand L. and Coulson, J.G., "Quebec Orchard Spray Service" Scientific Agriculture, December, Vol. 13, pp. 249-255.



- Lattimer, J.E. "Business Revival" Scientific Agriculture, January, Vol. 12, pp. 300-306.
- Lattimer, J.E. Review of J.F. Pyle's "Marketing Principles", Scientific Agriculture, March, Vol. 12, p. 446.
- Rayner, J.A. "Parasites of Wild Birds in Quebec" Scientific Agriculture, January, Vol. 12, pp. 307-9.
- Suit, R.F. "Studies on a Physiological Spotting of Apples" Quebec Society for the Protection of Plants - Report for 1931-2.
- Suit, R.F. "Recent Advances in the Knowledge of Crowngall of Plants" Quebec Society for the Protection of Plants, - Report for 1931-2.

The following have been contributed to The Journal of Agriculture and Horticulture:

- Barton, H. Percheron and Belgian Mares for Quebec - "Notes on the Importation" - Vol. 35, p. 107.
- Bemont, L.H. "Hatching the Chicks" March, Vol. 35, pp. 135-137.  
"Brooding the Chicks" April, Vol. 35, p. 162.  
"Summer Poultry Problems" July, Vol. 36, pp. 11-12.  
"Poultrymen Feed Too Many Rats" November, Vol. 36, p. 72.  
"A Reliable Tonic for Poultry" November, Vol. 36, p. 73.
- Bird, J.N. "Hay and Pasture Crops" March, Vol. 35, p. 143.
- Brittain, W.H. "A Perspective of the Orchard Pest Situation" May, Vol. 35, pp. 174-175.  
"The House Fly" August, Vol. 36, p. 25.
- Bunting, T.G. "The Red Raspberry" February, Vol. 35, pp. 122-123.  
"Strawberry Plants for Distribution" April, Vol. 35, pp. 159-160.  
"Lawns" June, Vol. 35, p. 158.  
"Trees" May, Vol. 35, pp. 170-171.  
"Home Beautification" October, Vol. 36, pp. 54-55.
- Crampton, E.W. "Protein - The Building Material of the Body" February, Vol. 35, p. 120.  
"Two Tips for the Feeder" November, Vol. 36, pp. 65-66.  
"Q.F.B. Meal Mixtures for 1933" December, Vol. 36, p. 83.



- Hamilton, L.H. "Analyzing Our Sheep Situation" January, Vol. 35,  
p. 104.
- Heimpel, L.G. "Forty Miles of Underdrains" January, Vol. 35,  
pp. 105-106.
- "Ventilation of Dairy Barns" March, Vol. 35, pp. 144-145.
- "Ventilation of Dairy Barns" Article II. April, Vol. 35,  
pp. 160-161.
- "Ventilation of Dairy Barns" Article III. May, Vol. 35,  
pp. 176-177
- "Ventilation of Dairy Barns" Article V, August, Vol. 36,  
pp. 20-21.
- "The Sherbrooke County Plowing Match" December, Vol. 36,  
p. 82.
- Hodgins, S.R.N. Numerous editorials and other contributions.
- Lattimer, J.E. "Volume and Value" April, Vol. 35, pp. 158-159.
- "The Price Puzzle" May, Vol. 35, pp. 168-169.
- "New England" October, Vol. 36, pp. 49-50.
- "Britain's Food Bill" November, Vol. 36, pp. 66-67.
- Lods, E.A. "Couchgrass" July, Vol. 36, pp. 7-8.
- Maw, A.J.G. "Battery Brooder Problems" March, Vol. 35, pp. 138-139.
- Maw, W.A. "Finishing Market Poultry for Top Grade Quality"  
September, Vol. 36, pp. 41-42.
- "How to Feed for Quality Finish in Market Stock"  
September, Vol. 36, pp. 41-42.
- Millinchamp, R. "Farm Implements - Systematic Care and Repair"  
November, Vol. 36, pp. 69-70.
- Murray, H.R. "Peas and Beans for Distribution" May, Vol. 35, p. 166.
- "Vegetable Varieties for the Home Garden" May, Vol. 35,  
p. 171.
- Raymond, L.C. "Varieties of Corn and Root Crops" April, Vol. 35,  
p. 152.
- "Quebec Pastures" September, Vol. 36, pp. 37-38.
- Suit, R.F. "Seed Treatment for Smut Diseases" April, Vol. 35, pp. 151-2.
- "Late Blight of Potatoes" July, Vol. 36, pp. 9-10.



- Summerby, R. "Looking Forward to 1932" January, Vol. 35, p. 103.  
"The Quebec Seed Board" February, Vol. 35, p. 124.  
"Recommended Varieties of Cereals" March, Vol. 35,  
p. 138.
- Webster, J.L. "Thinning Apples" July, Vol. 36, pp. 10-11.

The following contributions to other farm journals have been noted:

- Crampton, E.W. Replies to Feeding Problems - Family Herald and Weekly Star, throughout the year.
- Heimpel, L.G. "Can Plowing Matches be Improved?" Canadian Countryman, Feb. 6, Vol. 21, No. 6, pp. 3, 25.  
"Overhauling the Farm Car and Truck" Canadian Countryman, March 26, Vol. 21, No. 13, pp. 3, 22.  
"The Ideal Power for Water Systems" Canadian Countryman, May 14, Vol. 21, No. 20, pp. 2, 21.  
"Important Factors in Weed Control" Canadian Countryman, Aug. 13, Vol. 21, No. 33, pp. 3, 17.  
"Fitting Electricity to the Farm" Ontario Farmer, February, Vol. 29, No. 2, pp. 3, 4, 17.
- Hodgins, S.R.N. "Histoire des Mm. Ness de Howick, ou quatre générations de fermiers écossais" Le Journal d'Agriculture, March and April, Vol. 35, pp. 142-144, 157, 161.  
"David Roy Aims High" The Country Guide (Winnipeg) April, pp. 6, 38-9.  
"Class-room to Orchard" The Country Guide, May, pp. 4, 51.  
"A Million Eggs a Year" The Country Guide (Winnipeg), August, pp. 4, 33.
- Maw, A.J.G. and Maw, W.A. "The Problem of Small Eggs" American Poultry Journal, November, Vol. 63, p. 3.

Jan 21, 1933

*H. L. Lull*  
*Bhairman*  
Committee on Publications



January 30th, 1933.

Professor J. F. Snell,  
Acting Dean, Faculty of Agriculture,  
Macdonald College, P. Q.

Dear Professor Snell,

Thank you for your copy of the report of  
the Macdonald College Committee on Publications.

You probably know that the McGill Librarian,  
Dr. G. R. Lomer, compiles for me each spring a list of  
Publications by members of the staff which I include in  
my annual report. Since the Bibliography is no longer  
published, this is the only printed record of the complete  
list of Publications.

I suggest that you send Dr. Lomer a copy  
of this Report, and that when he sends out his circulars  
you impress upon the members of the Faculty of Agriculture  
the importance of sending in the completed form to the  
Librarian.

Yours faithfully,

Principal



Brudenell, Ontario,  
January 20, 1933.

Sir Arthur Currie,  
McGill University,  
Montreal Can.

Dear Sir:

I read with much interest the "Family Herald & Weekly Star" report of a speech delivered by you before the Quebec Pomological Society. You apparently sympathize, at least to some extent, with the appalling conditions confronting the farmer. You admit that the prosperity of the rural community is the sine qua non of national well-being. If the men who have taken on themselves the responsibility of directing the country's destinies were thoroughly convinced of the vital importance of the happiness and independence of the labouring classes, there would surely be less political intriguing, less solicitude about the money-making opportunities afforded to those who are already wallowing in wealth, more interested in seeing that the worker's standard of living was commensurate with the progress ~~which~~ ~~of~~ ~~industrial~~ ~~development~~ of industrial development.



Liberal education appears to be deteriorating grievously. A stage has been reached where intellectual effort is gauged in monetary terms. The curriculum foisted upon students in the Arts department of our universities has little or no intrinsic interest for those subjected to it. Great interest is taken in the specialization of technicians, but this can scarcely be called a liberalizing influence. The building of a taller skyscraper, a super-powerful dynamo, or a further increase in labour-saving devices can contribute little to better the conditions of humanity, if these advances in man's conquest of the environment are used to augment the wealth of the wealthy. The scandalous revelations made now and then regarding the nefarious activities of campaign fund seekers would seem to indicate that unwarrantable influences are undermining the foundations of democracy. When the first work of a new government is to revenge itself on petty office-holders who have ventured to use the liberty of the franchise, the national interests must be in grave danger of suffering. Above everything else, the world is ~~xxx~~ in need of sincerity in the legislative halls of nations.

Who is really suffering from hard times today but the labouring classes? There is no scarcity of money in this country. The loan floated a short time ago in Quebec was oversubscribed before it was generally known that a loan was sought. The same has been true of every loan asked for by a provincial or federal government. Most banks report increase of deposits. I often wonder who are making the deposits. The



stockholders are receiving their dividends as usual. The crash of the stock market in the latter months of 1929 started the flow of the country's money into the coffers of the rich, and, though the current is decreasing in volume, it still has the same direction. Profits have had to be slightly ~~increased~~ decreased, influential salaried men endure slight cuts, professional people do with a little smaller income as the source of all funds has been depleted from year to year. There are many who still have a little savings which the hungry profit seekers are gradually extracting. Beggary is bound to increase as the financial sponges soak up the fruit of many thrifty years on the part of farmers and labourers. Personally, I have a little money which it took me a good while to save, but in a year or two more it will have vanished. No doubt there are thousands like me in this country. The butcher, the baker, and the candlestick maker will have received all we have. These in turn will have passed it on to others, and where it will eventually settle is a matter of speculation.

Fine after-dinner speeches, and even assurances of such able financiers as Holt, Aird, Logan, etc have failed to better conditions. People who are not actually suffering can afford to wait on prosperity. Those pestered by privation naturally wonder at the callous, selfish attitude of men who have pushed themselves into the position of leaders. Why have we made it a condition, that selling to foreign countries is a requisite to using the natural resources of our own country? We have food, we have the materials for most of our clothing, we have build-



ing materials. Have men who call themselves leaders not brains enough, not magnanimity enough to let their fellow mortals get something out of life? It is not unpatriotic to ask this question. Look at the Union Jack. Think of the virtues it symbolizes. Give these virtues their broadest and most fundamental significance and you have almost a utopia. I often wonder that people who can lustily sing the National Anthem cannot build their patriotism on a basis commensurate with the sentiments expressed.

The Great War was fought to make the world safe for democracy, to end aggressive militarism etc. If the gallant men who laid down their lives could return from the dust, we can imagine how they would point the finger of scorn at the mess that has been made of their sacrifices. What a picture would confront them! The sound of the armour-maker's hammer ringing everywhere, chemical witches which would beggar the imagination of Shakespeare brewing their deadly gases, demoralizing poverty stalking triumphantly over the earth and grinning ghastly as a boney finger ~~was~~ directed towards the surplus stores of food and clothing rotting in elevators and warehouses. Would it be startling, if a voice was heard out of the voids of space saying, "And these people call themselves Christians".

In the above paragraphs I have given expression to what hundreds of thousands of Canadians must feel at this time. I am laying this before you to learn what comment a great man would have to make.

Yours respectfully,

Peter Krohan



January 30th, 1933.

Peter Drohan, Esq.,  
Brudenell, Ontario.

Dear Mr. Drohan,

Let me thank you for your letter of January 20th, commenting on the few words I addressed to the Pomological and Fruit Growing Society of the Province of Quebec. I was most sincere in all I said to them, and feel that there can be no real prosperity in Canada unless the farming communities are prosperous. Let us hope that out of the present hard times and suffering, something better will come.

With all kind wishes,

I am,

Ever yours faithfully,



## MINISTER PRAISES RESEARCH EFFORTS IN AGRICULTURE

Hon. Adelard Godbout Pays  
Official Visit to Mac-  
donald College

### PARASITOLOGY SECTION

Newly Established Institute  
for Experimentation in  
Animal Pests Attracts  
Attention

Tribute to the part played in agriculture by Macdonald College of McGill University through the practical application of research and the close relationship existing between the college, the provincial Department of Agriculture, and the rural community, was paid yesterday by the Hon. Adelard Godbout, provincial Minister of Agriculture, addressing the teaching staff of the college at luncheon prior to a visit of inspection, the first he has made at Ste. Annes since his acceptance of the portfolio two years ago. Chief point of interest in the tour of the institution was the new Institute of Parasitology, erected by the Quebec Department of Agriculture.

The minister was welcomed by Sir Arthur Currie, principal and vice-chancellor of McGill University, who said that Mr. Godbout had every sympathy for the college's efforts to contribute to the agricultural life of the province and the Dominion, and he for his part was glad of the opportunity to tell him that they stood ready to aid his department in whatever way they could.

"We cannot hope for any revival from what we call depression," Sir Arthur went on, "until the rural population begins to prosper. That is a fundamental economic fact and one to which we are compelled to turn our attention. When farmers cannot pay taxes and interest on loans and mortgages there can be no assurance that the turning point has been reached, or that we are on the road back.

"Mr. Godbout is engaged in a difficult task, a problem which entitles him to all our sympathy and help. We cannot neglect rural life and we must aim to put more humanism into the agriculture industry. We are inclined to lose sight of the human and personal element in industry, but in this, our special endeavor, we must not lose sight of the individual farmer, and we must continue our direct aid to him through the practical application of technical and theoretical knowledge." Sir Arthur concluded by saying that the agriculturist must be the "rural thinking" leader in the community, and by proposing a toast to the Minister of Agriculture.

The Hon. Mr. Godbout declared himself glad to see at the head of such an institution as Macdonald College a man who realized so well the needs of the rural community. On behalf of the Government he extended his thanks for the work the college had done, not only in the province, but throughout the whole Dominion. The problem of agriculture in the province was largely one of education, he said, and as such it rested with the institutions of learning in co-operation with the Government department and the "service des agronomes."

#### PROBLEMS FOR SOLUTION.

"It is especially important," the Minister went on, "that the present generation receive the benefit of agricultural knowledge, for of their shoulders will fall the burden of the province's future prosperity. Serious problems such as production and marketing have yet to be solved, apart from the more scientific aspects of prevention of disease, and Macdonald's part is to explore each field and every avenue of agricultural knowledge and to hand on the practical results of such experiment. It is a difficult task you are faced with,

but through the development of practical interest and research work you can do much, as indeed you have done, to improve the position of agriculture. But research will not do everything unless predicated upon and related to practical value and results, and in this Macdonald College has taken a leading place."

The minister concluded by assuring the staff of his co-operation and sympathy in furthering the agricultural programme in the province.

Mr. Godbout was specially interested in the Institute of Parasitology which has been established by means of a provincial grant from the department and is to be maintained jointly by the Empire Marketing Board and the National Research Council. Dr. T. W. M. Cameron, director of the institute and formerly of Edinburgh University, conducted the party over the three-storey building in which laboratory equipment is rapidly being installed.

Practically nothing was known about what parasites do inside animals, Dr. Cameron told Mr. Godbout, and the importance of study was being realized more and more each year. He hopes to have the work completely under way by the end of the month, when efforts will be made to find out which parasites are present in Canada and which are the most important ones in agricultural and fur animals; how to prevent and reduce the effects of loss by parasitic infection which amounts to millions of dollars annually; and attempts will be made to grow parasites in a pure culture, which has not yet been entirely successful. The work will have a strictly practical application. Dr. R. L. Conklin, professor of animal pathology, continuing the valuable surveys and field work he has already done, and Dr. Cameron confining himself entirely to the experimental work. The institute at present has accommodation for eight post-graduate students, and is the only place of its kind in the country where such a study can be made. While the building is not yet fully equipped, Dr. Cameron has provided it with his own collection of slides and specimens so that it is already outstanding in parasitological data.

#### TOUR OF INSTITUTION.

In the basement of the fireproof building is a post-mortem theatre and an aquarium where cultures will be made; a photographic dark room and centrifuging apparatus. On the first floor are the offices and research rooms where the findings will be applied to practical work; upstairs there is a large well lit laboratory to accommodate eight students, with preparation benches and incubators. Living quarters for the assistant are also provided. The party took great interest in specimens of sheep worm and flukes, especially one segregated recently for the first time by Dr. R. L. Conklin. (Dicrocoelium.)

Visits were also made to the poultry department, the department of animal husbandry, where the minister took an especial interest in the Holstein herd, that being his main interest when he was connected with the agricultural college at Ste. Anne de la Pocatiere. He evinced great interest also in soil experimental work explained to him by Prof. P. H. H. Gray, assistant professor of bacteriology, and Dr. Thomson's account of his segregation of the bacillus *Brucella abortus* from the udder of cows which had not previously aborted, and from the milk, cheese, and ice cream produced from the same animals. Prof. J. G. Coulson, assistant professor of plant pathology, also held the minister's attention with a demonstration of a turnip disease which in the past few years has become acutely noticeable in the province and which has been devastating turnip crops to an alarming extent. It was explained that of 49 different fields visited, every one showed the signs of the blight in varying extent.

The party was entertained to tea by Miss B. M. Philp, head of the School of Household Science, and later the teaching staff was presented to the minister. Mr. Godbout was accompanied on his visit by Sir Arthur Currie, J. Antonio Grenier, his chief assistant at Quebec; Dr. C. L. Huskins, associate professor of genetics at McGill; Prof. G. W. Scarth, professor of botany at McGill; Dr. J. F. Snell, acting dean of the faculty of agriculture, and T. Fred Ward, bursar, conducted the party about the plant.

The Hon. Mr. Godbout expressed himself to The Gazette as being extremely impressed with what he had seen at the college. Not only was he convinced that in scientific experimentation the college

had left nothing to be desired, but he was especially pleased to find such research so closely related to practical development, and he was convinced that the institution's possibilities and potentialities were in the right hands.



# COLLEGIANS MAKE SUCCESS AT WORK

Survey of Past Ten Years at  
Macdonald College Shows  
Fine Results

## GRADUATES TRACED

Out of Total of 91 in Ad-  
vanced Courses All But  
Four Are Ably Ac-  
counted For

Out of 91 graduate students who have taken advanced courses during the past ten years at Macdonald College, St. Anne de Bellevue, all except four, whose whereabouts are unknown, are continuing their special work and are placed in positions, mostly within the Dominion, according to a recent survey of the graduate faculty at the college. Prior to 1921 there were four graduate students in the department of agricultural chemistry who are also included in the survey.

Records show the past successes and present position of M.Sc. students in the department of entomology, graduate students in the department of agricultural chemistry, in the bacteriology department, in the agronomy department and in the plant pathology department.

In the department of entomology from 1921-1931 there have been 11 who completed the graduate course and two who did not finish, but who have since found positions connected with this work. These men came from McGill, Toronto, University of New Brunswick, Oka Agricultural Institute, and the agricultural school at St. Anne de la Pocatiere. Now they are to be found at work in Dominion entomological branches at Belleville, Ont., Hemmingford, Que., Ottawa, where there are four, Indian Head, Sask., Treesbank, Man., Berthierville, Que., and Annapolis Royal, N.S. One is associate professor of zoology at the University of Saskatchewan, one is lecturer in apiculture at the Ontario Agricultural College at Guelph, another has a position with the Olds Agricultural School, at Olds, Alta., while two others have remained at Macdonald College to teach entomology.

Twenty-three students are included in the records of the department of agricultural chemistry, all except four having studied since 1922. These have been attracted to Macdonald from all over the Dominion, McGill, Queen's, U.N.B., Laval, Toronto, Alberta, Montreal, Bishop's, Acadia, and Dalhousie universities, while others have come from Hope College, Holland, Mich., Rhode Island State College, and Prague, Czecho-Slovakia. Of these it is found that sixteen are now placed in chemistry work as chemists, assistant chemists, in-

structors or professors. Others are with the National Research Council branches, the Department of Mines, and the Dominion Experimental Farm at Ottawa.

### ALL OVER CANADA.

Graduate students from McGill, British Columbia, Toronto and Alberta, eight in number, have studied in the bacteriology department since 1924. They are now to be found as follows: three at Macdonald College, one at McGill, one on the board of health at Cape Town, one doing research work in San Francisco, one at the public health laboratories at Lexington, Ky., and one acting as assistant agricultural bacteriologist at Ottawa.

Macdonald College has had 21 graduate students in the agronomy department from 1923-25, these having come from McGill, Toronto, Montreal, B.C., Manitoba, Saskatchewan and Alberta universities, St. Anne de la Pocatiere and Oka colleges. The whereabouts of four of them are uncertain, but others are doing experimental farm work at Charlottetown, Indian Head, Sask., Truro, Hearst, Ont., Nappan, N.S., and Farnham, Que. One is general manager of the Societe d'Expertise Agricole, at Montreal, one is an agrostologist at Ottawa, one assistant professor of agronomy at Macdonald, one plant pathologist in Bermuda, and one cereal chemist at Wooster, Ohio.

Finally in the plant pathology department there have been 24 graduate students doing major work since 1921. These have also come from various Canadian universities and are now located as plant pathologists at the Dominion laboratories at Winnipeg, Kentville, N.S., Fredericton, Saskatoon, Ottawa, Ste. Anne de la Pocatiere, Farnham, Que. There are also listed one potato instructor, Quebec, one tobacco specialist, Ottawa Experimental Farm, one plant pathologist at Trinidad, one Forest Products assistant at Ottawa, one district plant disease inspector, one assistant professor of biology at the University of Saskatchewan, one Quebec provincial forest pathologist, and one plant pathologist with the department of agriculture at Quebec.



MACDONALD COLLEGE

McGILL UNIVERSITY

RAILWAY STATIONS AND EXPRESS:  
STE. ANNE DE BELLEVUE, QUE.

OFFICE OF THE BURSAR

POST OFFICE:  
MACDONALD COLLEGE, QUE., CANADA

July 22, 1931.

Sir Arthur W. Currie, G.C.M.G., K.C.B.,  
Principal and Vice-Chancellor,  
McGill University,  
MONTREAL, P. Que.

Dear Sir Arthur,

In reply to your letter of July 20, addressed to Mr. Ward, in which you request information concerning land being idle, and why the revenue per acre is so small, I beg to advise you that Mr. Ward is away on vacation. He is expected to return on or about Monday the 27th inst.

Dean Barton is also away and is not expected to return until about the middle of August.

Immediately upon Mr. Ward's return I shall place your letter before him, and I have no doubt he will be in a position to give you the information you desire.

Yours faithfully,

*James H. Currie*  
\_\_\_\_\_  
Accountant.

*No reply  
received  
D.H.M.*

JHC/VJ



July 20, 1931.

Fred Ward, Esq.,  
Bursar,  
Macdonald College. P.Q.

Dear Mr. Ward,

In reading over the Macdonald College Survey, Faculty of Agriculture, I note several references to idle land at our farm there. Quoting from Dean Barton's report I read, "There are some sixty acres of land on the college farm not serving any useful purpose at present but which should be cleared." Again, the report of Horticulture contained the following, "Macdonald College possesses many acres, some idle and others producing much less than \$50. per acre per year."

Can you tell me why the land has never been cleared and why so much of it is idle, and why the revenue per acre is so small?

Ever yours faithfully,

Principal



*Quebec Report*

MACDONALD COLLEGE

McGILL UNIVERSITY

RAILWAY STATIONS AND EXPRESS:  
STE. ANNE DE BELLEVUE, QUE.

POST OFFICE:  
MACDONALD COLLEGE, QUE., CANADA

FACULTY OF AGRICULTURE  
OFFICE OF THE DEAN

July 3rd, 1933.

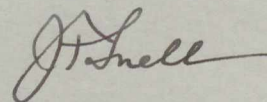
Sir Arthur W. Currie, G.C.M.G., K.C.B.  
Principal,  
McGill University,  
Montreal, Que.

Dear Sir Arthur:

I am sending you herewith a copy of the report of the School of Agriculture to the Provincial Minister of Agriculture, which will place at your disposal some information about the work of the Faculty of Agriculture in addition to that included in my report to you.

In transmitting this report to Mr. Grenier I have called attention to the concluding sentence of the first paragraph of the section on page 31 headed "Specific Researches" and have suggested that the omission of this sentence be given consideration. I doubt the advisability of suggesting to our friends in the United Kingdom the possibility of the introduction of any disease through importation of our cattle, particularly where there is so little evidence of any danger. If you agree with me in this, it might be advisable for you to write the Honourable Mr. Godbout, asking that this sentence be deleted.

Yours faithfully,



Acting Dean.

JFS/Y  
ENCLO/



Dr. J. F. Snell,  
Acting Dean,  
Faculty of Agriculture,  
Macdonald College P.O., P.Q.

Dear Dr. Snell,

I have your communication of July 3rd, to which was attached copy of the report of the School of Agriculture to the Provincial Minister. I thought it was a particularly good report and I should like to congratulate you on its preparation.

I have written to the Hon. Mr Godbout along the lines you suggested. Your observations in this respect I think are wise.

I shall be in town now for the balance of this week. The Board of Governors meets on Friday, and I am particularly busy until after that meeting, but if you have anything urgent about which you must consult me, I shall be glad if you will make an appointment.

Ever yours faithfully,



July 11, 1933.

Hon. Adélard Godbout,  
Minister of Agriculture,  
Quebec, P. Q.

My dear Mr. Godbout,

I have read with much interest the report of the School of Agriculture submitted to you by Dr. Snell, Acting Dean of the Faculty of Agriculture at Macdonald College.

On page 31 of that report, he makes reference to the fact that the prevalence of parasites in cattle in this country may have some adverse effect on the export trade with the United Kingdom, and the question that arises in my mind is whether or not it is advisable to suggest to our friends in the United Kingdom the possibility of the introduction of a parasitic disease through the importation of our cattle.

I would suggest that in any publication of this report, such reference might be eliminated.

I am,  
dear Mr. Godbout,

Ever yours faithfully,

Principal



*Report to Quebec*

June 30th, 1933.

The Honourable J.A. Godbout,  
Minister of Agriculture,  
Quebec, Que.

Sir,

I have the honour to submit the report of the School of Agriculture of Macdonald College for the year ending June 30th, 1933.

The regular and auxiliary grants of the Department of Agriculture have been of extraordinary value in a time when revenue from endowment has been reduced and when demands for instruction and advice have been exceptionally great. The auxiliary grant has rendered possible the completion of the first unit of the building for the Institute of Parasitology and the erection of an extension for the accommodation of experimental animals. The same grant has enabled us to continue such experimental projects as those on pasture improvement and soil fertility which involve work at a distance from the College. A similar enterprise concerning the utilization of muck soils for vegetable production was undertaken in the spring of 1933, the expense of which will be met out of the auxiliary grant.

The selection of Dr. H. Barton to fill the position of Deputy Minister of Agriculture for the Dominion was a well-deserved tribute to the services to Canadian agriculture per-



formed by him as Professor of Animal Husbandry and Dean of the Faculty of Agriculture. The appointment of a permanent Dean is postponed but Prof. Alex. R. Ness has been promoted to the chair of Animal Husbandry, and Prof. Earle W. Crampton has been made Associate Professor of Animal Nutrition. In the Faculty of Graduate Studies and Research a separate department of Parasitology has been created, headed by Dr. T.W.M. Cameron, Director of the Institute of Parasitology, and the name of the Department of Animal Industry has been changed to Animal Nutrition and Breeding, with Dr. R.L. Conklin as Chairman, and Profs. Huskins, Crampton and W.A. Maw and Mr. A.J.G. Maw as staff. Graduate courses in Horticulture have also been established.

As compared with last year, the registration of students in the course for the degree showed an increase of 6 and that of diploma and special students an increase of 4. A notable feature is the increased registration from the Province of Quebec. Out of 20 students in the first year of the diploma course 15, and out of 23 in the first year of the degree course 16, are residents of the Province. This is gratifying as indicating a growing appreciation of the value of agricultural education amongst our people.

In the reports from the various college departments, which follow, frequent references are made to co-operation between members of the staff of the college and officials of the Department of Agriculture. Acknowledgment is also made of interest in our work on the part of the Federal Department of Agriculture and the National Research Council.



AGRICULTURAL ENGINEERING

Teaching:

Four one-term courses in Agricultural Engineering were given the diploma classes and one two-term course in Mathematics. Manual training in wood and mechanical drawing were taught to two grades from the High School one-half day per week throughout the year.

Extension Work:

Owing to the depression there was considerably less activity in tile drainage in Pontiac county, though Prof. Heimpel spent a month in that county making surveys for drainage and for the installation of hydraulic rams and sewage disposal facilities.

Blue Print Service: The demand for Agricultural Engineering information in the form of plans, circulars and letters has increased greatly during the past year. The following is a list of plans and circulars asked for during the year:

<u>Subject</u>	<u>No. of Copies</u>
"Making a Wind Driven Battery Charger" Agr. Engineering Information Stencil No. 9	1420
Farmer's Bulletin No. 5 - "Dairy Barn Ventilation"	490
"Making a Farm Belt Power Plant from Old Auto Engines"	184
"Taking Power from the Rear Wheels of the Automobile"	105
"Single Chamber Septic Tank"	44
Bulletin No. 78 - "The Farm Gas Engine"	15
"Straw Loft Poultry House Plan"	16
"Hitch for Four-wheel Trailer"	10
"Weir for Measuring the Flow of Streams and Ditches"	5
"Building Simple Dams for Hydraulic Ram Installations"	8
Miscellaneous plans	<u>30</u>
Total bulletins, circulars and plans .....	2327 copies



Agricultural Engineering Information Stencil No. 9 describes a home-made battery charger which is wind driven through an aeroplane type propeller six feet long. This machine uses the generator from junked automobiles and other old automobile parts to generate current for radio batteries in rural districts where electric power is not available. The demand for this stencil is due to the publicity given the device by the farm press.

In addition to the above, two hundred and eighty requests for Agricultural Engineering information were answered by letter.

Research:

1. Project to Ascertain the Influence of Tile Drains on the Soil Water Table.

This project, which is being conducted in co-operation with the Department of Physics, is now in its second year. Four plots located in important agricultural sections of the province, where underdrained lands are available for this study, were included in the study during the past year. These are located in the counties of Vaudreuil, Chateauguy, Huntingdon and Bagot.

To measure the depth of the water table below the ground surface, gauge pipes were placed in tile-drained land and in adjacent, undrained land, then measurements are made several times a week during the period of the year during which the water table is high, viz., from November until the end of May.

Data secured to date show that throughout the whole of the saturation period the tile drains exercise a positive control on the water table. During the first week in May of this year, for instance, after several days of heavy rains, the soil water table in three plots was found to be held down to from 16 to 25 inches



from the ground surface while in the adjacent land, which had good surface but no tile drainage, the water level stood at from 2 to 5 inches from the surface.

It is proposed to continue this study at least one more year.

2. Study of Gas Engine Cylinder Oils.

This study is being made to ascertain the extent to which various brands of automobile and tractor lubricating oils conform to the viscosity numbers and specifications established by the Society of Automotive Engineers. Viscosity and copper strip corrosion tests have been made of over sixty samples of oil. The results indicate that the products of all the wellknown refiners conform well to S.A.E. specifications. This study is being continued.

AGRICULTURAL ECONOMICS

Investigation:

Assistance was continued during the past year in the enquiry into the cost of production of fluid milk carried on by the Department of Agriculture.

During the past summer Dr. Lattimer spent some time in Britain, visiting markets and interviewing importers of farm products. This work was facilitated by the introductions and assistance given by Mr. Charles A. Harrison, the commercial agent for Quebec at London.

Additional problems under investigation include:

1. The importance of the Montreal market for the farmers of Quebec.
2. Correlation of volume and value of farm products.
3. Taxation in rural municipalities. (In co-operation with the Federal and Provincial Departments of Agriculture).



Publications:

In Macdonald College Technical Bulletin No. 8, entitled "Broadening the Base of Export Trade", the advantage of removal of the discrepancy between transport rates on domestic feeds and grain for export was stressed. During the past year a move has been made in this direction.

Partly as a result of the investigation into the cost of fluid milk, a pamphlet on the dairy industry was issued as Macdonald College Technical Bulletin No. 10. Subsequent writers have found the information and charts contained in this bulletin useful.

A somewhat detailed study of the present position and potentialities of the British Market for farm products was published during the year under the title "Intra-Empire Trade", Macdonald College Journal Series No. 20.

Extension Work:

Some fifteen special lectures and addresses were given by Dr. Lattimer during the year, the majority of them within the province.

AGRONOMY

Function of Department:

The aim of the Agronomy Department is to improve the production of farm crops by better soil management, better production methods, and by the development of more suitable varieties. These objectives are attained by teaching, investigation, and extension,



Teaching:

In the teaching work four classes of instruction are given as follows:-

- (1) Diploma courses which are essentially practical in character and intended for those going back to the farm but who cannot spend more than the winter months obtaining instruction,
- (2) Degree courses leading to the B.S.A. degree, containing more scientific and basic information, for those who may go back to the farm or into other fields of agriculture,
- (3) Specialists courses leading to the B.S.A. degree in which the student desires to specialize in the study of Agronomy,
- (4) Graduate work in which advanced training in Agronomy is given.

Investigations:

Breeding:

While teaching is a prime object of this department, a great deal of attention is devoted to investigations as well. A considerable part of the investigational work is devoted to the improvement of crops by breeding. Mention has been made of several improved strains in past reports. There remains to be added a number of additional promising strains. Four oat varieties, the result of crossing work, have been added to the provincial comparative tests. Two of these, Martin and Robin, are medium to late maturing varieties, while the other two, Mabel and Lanark, are quite early. All have high quality and have been relatively quite free from disease.

In barley, a large number of smooth-awned strains are in the process of testing from which it is hoped that one or more may be very useful.



Compared with a large number of strains of Red Clover obtained from different breeding stations of the world, the Dollard strain produced here has shown up exceptionally well to date in hardiness, disease resistance and general suitability.

In corn, trial crosses of selfed lines and varietal crosses offer very great promise. Data giving the yields of a select group of the latter are inserted here.







A limited quantity of seed of the best of these hybrids has been produced and sent out to growers with a view to checking up their behaviour under other climatic, soil, and economic conditions in the province.

Rotation Fertilizer Experiment:

Mention was made last year of an experiment in which manure alone was compared with fertilizers alone and with fertilizers and manure combined over a period of twenty years in three rotations as follows:-

- (a) Corn, Oats, Clover Hay, and Timothy Hay,
- (b) Mangels, Barley, Clover Hay, and Timothy Hay,
- (c) Swedes, Oats, Clover Hay, and Timothy Hay.

The fertilizer applications and the average yields to date follow.

Rotation Farm. Fertilizers Applied Per Acre.

Manure Alone

20 tons of barnyard manure applied to Corn, Swedes, and Mangels.

Manure and Fertilizer

10 tons manure, 50 lbs. Nitrate of Soda and 300 lbs. Superphosphate applied to corn.

10 tons manure and 500 lbs. Superphosphate applied to swedes.

10 tons manure, 100 lbs. Nitrate of Soda and 100 lbs. Superphosphate applied to Mangels.

Fertilizers Alone

150 lbs. Nitrate of Soda, 400 lbs. Superphosphate, and 100 lbs. Muriate of Potash applied to corn.

50 lbs. Nitrate of Soda, 500 lbs. Superphosphate and 50 lbs. Muriate of Potash applied to swedes.

250 lbs. Nitrate of Soda, 100 lbs. Superphosphate, and 200 lbs. Muriate of Potash applied to mangels.

200 lbs. Superphosphate and 100 lbs. Muriate of Potash applied to First Year Hay.



Rotation Farm. Summary of Yields, 1912-1931.

	No. Years	Manure - 20 tons	Manure - 10 tons and Fertilizers	Fertilizers Alone
Corn (Fodder)	9	11.4 tons per acre	11.4 tons per acre	10.1 tons per acre
Corn (Ears)	11	2.0 " " "	1.9 " " "	1.6 " " "
Mangels	19	23.7 " " "	21.4 " " "	16.2 " " "
Swedes	17	22.8 " " "	22.4 " " "	19.2 " " "
Oats after Corn	19	50.7 bus. per acre	49.0 bus. per acre	43.3 bus. per acre
Oats after Swedes	19	45.6 " " "	49.8 " " "	39.9 " " "
Barley after Mangels	18	38.0 " " "	36.2 " " "	32.2 " " "
FIRST YEAR HAY:-				
after Corn	20	2.9 tons per acre	2.7 tons per acre	2.5 tons per acre
after Swedes	20	3.0 " " "	2.9 " " "	2.6 " " "
after Mangels	20	2.9 " " "	2.8 " " "	2.5 " " "
SECOND YEAR HAY:-				
after Corn	10	2.2 tons per acre	2.1 tons per acre	1.8 tons per acre
after Swedes	10	2.0 " " "	1.9 " " "	1.7 " " "
after Mangels	10	1.9 " " "	1.7 " " "	1.5 " " "

On account of soil variation it has been determined that differences of less than seven per cent cannot be considered as significant. The differences between manure (20 tons) alone, and manure (10 tons) along with fertilizers are not significant in any case. In all cases fertilizers alone have given lower yields than either manure alone, or manure and fertilizers combined. These differences are, moreover, significant in most cases.



The experiment was carried out on soil that is comparatively light, well drained, and on which clovers grow quite well.

It may be that under different soil and climatic conditions, and with different fertilizer rates and combinations, different results would be obtained.

Certain of the areas receiving fertilizers alone have in recent years shown very striking abnormal growth. The deficiency of these treatments and their effect upon the crops grown are being further studied.

#### Experiment on Fertilizer Practices:

With a view to obtaining information on fertilizer practices, about four acres of land have been devoted to an experiment on this problem. A committee composed of representatives of the departments of Agronomy, Animal Husbandry, Bacteriology, Chemistry, and Plant Pathology has been formed so that the problem can be studied from all angles.

#### Pasture Work:

The pasture work under way has been revised and enlarged. Two graduate assistants in Agronomy are engaged in this work, and a very considerable amount of time of the regular staff of this department is devoted to it. Several other departments are associated in this work which is being carried on through a pasture committee.

#### Seed Board Tests:

In co-operation with the experimental farms in the province, the most promising varieties of farm crops are being tested in replicated comparative tests with a view to obtaining reliable information for varietal recommendations in the different sections.



Seed Farm:

One year ago arrangements were made with the Quebec Department of Agriculture whereby the Ste. Marie Farm, belonging to this College, is to be operated as a seed farm. Twenty acres were in crop last year. The varieties grown were O.A.C. 21 barley, Cartier, and Banner 44 M.C. oats. In 1933, there are 26 acres of Cartier oats, 12.5 acres of Banner 44 M.C., and 6 acres of O.A.C. 21.

The seed produced on this farm is being used by the department for the establishment of seed centers where conditions are suitable therefor.

The farm is being taken over and put into shape for seed production as rapidly as possible. It is being equipped with first class equipment for efficient seed production.

Bulletin on Soil Management:

During the year a bulletin on "Soil Management" was written and widely distributed in the province.

ANIMAL HUSBANDRY

Undergraduate and Extension Work:

During the past year the department has suffered the loss of Dr. Barton. His absence has placed upon the members added teaching and administrative responsibilities. A very satisfactory year, however, can be reported, and the present arrangement of undergraduate courses appears to be meeting anticipated requirements.

The acquisition of a young Clydesdale mare, imported from Scotland, has added strength to the four hundred odd animals representing ten different breeds of live stock maintained as the illustrative, teaching and experimental material of the department.



Although it has not been the policy of the department to exhibit its live stock, this mare was shown at the Royal Agricultural Winter Fair at Toronto as a part of the Provincial Exhibit, where she won her class and was made Reserve Senior and Reserve Grand Champion Clydesdale mare of the Show.

The authorities in charge of the boys and girls club work in this province have for the past two years selected Macdonald College as the place to hold their Stock Judging Contest. The staff and the department live stock have contributed to the success of these events. The attendance on one occasion was three hundred persons including seventy-five juvenile competitors. A similar contest was organized and conducted by the undergraduate students of the Animal Husbandry Department, in which seventy boys from the different schools of the College competed.

Professor Ness has completed his third year as a member of the Committee inspecting the farms of the province entered in the Agricultural Merit Competition.

#### Investigation and Research:

##### Rations for Weanling Pigs:

For several years this department has been studying the problem of rations for young pigs. A complete report of this study to date is now in preparation.

##### Protein Requirements of Market Pigs:

This project has also been underway for a considerable length of time but is not yet completed. Thus far all but one of the feeding trials of this experiment have involved full feeding. Preliminary analysis of the data appears to indicate that under full feeding:

1. In the rations of newly weaned pigs a somewhat more liberal



allowance of protein than is called for by most feeding standards is advisable.

2. The proportion of protein to carbohydrate in the hog ration should be reduced as the pig increases in age and weight.
3. The present feeding standard requirements of protein for pigs weighing over 150 pounds and being fattened for market are satisfactory.

This study is being continued, with special attention to the effect of limited, as compared to full, feeding on the required protein level of the ration.

#### Comparison of Protein Supplements for Market Pigs:

Two trials designed to compare the relative efficiency of tankage, fishmeal, linseed oilmeal and a mixture of all three of these protein supplements when fed with a basic ration of corn or hominy resulted in rather definite indications that:

1. Fishmeal and the mixed supplement were about equal in nutritive value as protein supplements and appreciably superior to either tankage or linseed oilmeal.
2. Linseed oilmeal was the least desirable of the four products tested. Growth on the ration using this supplement was slow and unsatisfactory. The ration was also very laxative.

#### Sugared vs. Unsugared Barley for Fattening Hogs:

In view of the results of comparative studies by this department on the relative feeding values of corn and barley in which it was found that the barley appeared to be somewhat unpalatable, a feeding trial was arranged to test the possibility



of improving the palatability of barley rations for hogs by additions of molasses to the barley.

The results of the feeding test led to the conclusions that:

1. The addition of 10% of molasses to common barley in an attempt to increase its palatability and feeding value for fattening market hogs does not appear to be justified. If anything, the sugared feed was less palatable than the check ration.
2. The ration which included the sugared barley, however, did produce a better "bloom" on the pigs than was obtained with the plain barley ration.
3. The sugared barley ration appeared slightly more laxative than the ration using the unsweetened grain.

#### Comparative Feeding Values of Canadian Grains:

A review and analysis of the published data bearing on the feeding values of the common farm grains, undertaken with the financial assistance of the National Research Council of Canada, was completed during the year. It is published as Report No. 28 of the Research Council entitled, "The Comparative Feeding Values for Livestock of Barley, Oats, Wheat, Rye and Corn." In addition to the extensive data and discussion of the feeding values of the grains, a section devoted to a consideration of some of the problems in the conduct and interpretation of comparative feeding trials, and a general summary, the complete report contains a list of some 350 references to literature bearing on this subject. The general summary has been printed separately and is also available for distribution.



ANIMAL PATHOLOGY.

Diagnostic Work:

The laboratory facilities provided by this department have become increasingly popular. During the past year material has been received from the Maritime Provinces, Quebec and Ontario, and has been forwarded by veterinarians, agricultural officials and live stock owners. The materials were taken from all classes of domestic animals, poultry and fur-bearing animals, and have necessitated autopsy, bacteriological, histo-pathological and transmission studies.

The Serological Work as a part of the diagnostic service has increased over 100% during the year. The diagnosis of the diseases known as "Bang's abortion disease" of cattle, "pullorum disease" of fowls, and abortion disease of horses have supplied the bulk of the serological work.

Autopsies:

Post mortem examination of poultry, cattle, horses, pigs, sheep and fur-bearing animals has been conducted for diagnostic purposes.

Preparation of Biological Products:

Fowl pox vaccine has been manufactured and supplied to poultry farmers. During the year over 12,000 doses of the vaccine have been dispensed. Reports received indicate that the use of this vaccine served to protect fowls against the disease and therefore prevented enormous losses among flocks where the disease was known to have existed. Bacterins and vaccines (autogenous) have been prepared for special cases.



Distribution of antigen:

In addition to the diagnostic work conducted in the laboratory, the department has supplied over 30,000 cc. of antigen for use of veterinarians in the province who were testing fowls for "pullorum disease".

Clinical Work:

The various departments in the college housing live stock have been given veterinary assistance. The time required for this work at present averages two hours per day.

Investigation:

Breeding Diseases: As in previous years the field work in connection with the studies of bovine and equine sterility have been continued. The data being accumulated are taken from herds in widely distributed areas of Eastern Canada, consisting of herds of all sizes, breeds and animals under various conditions of housing and management.

Poultry: In co-operation with officials of the Provincial Department of Agriculture and other members of the Macdonald College staff, studies of conditions existing on numerous poultry farms have been conducted.

Sheep: In a survey of 464 sheep farms, 11 species of parasites have been identified in the digestive tract, and two in the lungs. The heaviest digestive tract infestations were of Haemonchus contortus (stomach worm), Oesophagostomum columbianum (nodular worm), Bunostomum trigonocephalum (hook worm), Nematodirus filicollis (small intestine), Moniezia sp. and Coccidia. There were also heavy infestations of the



two lung worms, Dictyocaulus filaria and Synthetocalus rufescens

These findings were diagnosed from faecal samples and post mortem material provided by field veterinarians. No material was obtained from the following counties: Abitibi, Gatineau, Montmorency, Pontiac, Roberval, Temiscamingue, Terrebonne.

Considerable study has been devoted to the occurrence of liver fluke, Fasciola hepatica, in sheep and cattle in the Lower St. Lawrence Valley.

#### Course for Veterinarians:

Special courses of study for veterinarians were provided January 16th to February 3rd, and May 29th to June 10th. These courses were given at the request and at the expense of the Provincial Department of Agriculture. Ten veterinarians attended the first course and 14 the second. The first course included several lectures on feeding practices by Prof. Crampton.

#### BACTERIOLOGY.

Investigations relating to infectious abortion in cattle and undulant fever in man, with a more detailed study of the causal organism, Brucella abortus, were undertaken by Dr. Redvers Thompson during 1931/32 and are being continued. Brucella abortus has been constantly isolated over the entire lactation period from the milk of ten "carrier" cows. The cows were autopsied and the organism was isolated from the supra-mammary glands of animals eliminating Brucella abortus with their milk. It has been shown that the organism is transmissible from infective milk to dairy products such as ice cream,



butter and cheese and that it is viable in these products for considerable periods. Brucella abortus has been isolated for periods of five weeks from ice cream made from "special" milk held at 30° F. It has been isolated daily from butter made from infected raw cream for a period of one month and from cheese for five days. Attempts to infect eggs by feeding infected milk to hens were unsuccessful.

The present outline of work deals with a bacteriological study of organisms isolated from various sections of Quebec and Ontario, and an attempt is being made to establish serological types of the organism. The establishment of definite serological types would promote a more efficient test for the detection of the disease in the bovine or the human and might explain, to some extent, the reason for the discrepancy between the high incidence of bovine infectious abortion and a correspondingly low incidence of undulant fever. An examination is being made of the milk supply used by individuals suffering from undulant fever and an attempt is being made to isolate the organism from both the patient and the milk supply. Brucella abortus has been isolated from both "certified" and "special" milk sold in the City of Montreal.

Further developments in culture media and isolation technique have been made. A liver-pressure-extract medium shows a greater stimulation for Brucella abortus than do other media yet employed, and a new technique for the distribution of inoculum over the surface of agar on poured Petri plates has been developed. Five papers dealing with the different aspects of the subject, have been prepared for publication.

The study of cultivated "podsol" soils has been continued. This work has been reported on by the chairman of the subcommittee on soil fertility studies.



CHEMISTRY.

The Chemistry Department, because of financial support, has been able during the last year to continue its co-operation with other departments of the College and with farmers in performing analytical work. About 2,000 hours of working time of analysts in this department have been devoted to work on projects of the Pasture Committee, the Plant Pathology Department, the Vegetable Crops Committee, the Agronomy Department and other departments. Several hundred other analyses have been made for farmers.

The soil fertility studies have been continued under the direction of Dr. R.R. McKibbin, with Mr. H.J. Atkinson as assistant and with the close co-operation of Prof. P.H.H. Gray of the Bacteriology Department. The previous findings in this work are being subjected to further careful study during the present year. All the results to date have confirmed the previous work. See last year's report under "Soil Fertility Studies".

Biochemical work relative to genital diseases of cattle is in progress under Dr. J.B. McCarthy. Mr. Duckworth is studying the composition of the blood of cattle of a strain in which sporadic infertility occurs. He has made periodic determinations of calcium and inorganic phosphorus in samples of blood taken from (1) a herd of 8 cows, (2) 8 daughters of those cows by one bull suspected as a source of possible infection, (3) 7 daughters of the same cows by a second bull similarly suspected, (4) 12 cows unrelated to the others but constituting a herd in which only 2 cows calved normally. He has found no definite relation between disease and blood composition but has found evidence of seasonal variations in the normal



calcium and inorganic phosphorus content of the blood, ascribable in part to the influence of light, changes taking place in one direction when the animals pass from the comparative darkness of the winter quarters to the full sunlight of the pasture and in the opposite direction when they are again stabled for the winter. Mr. F.R. Forbes has been studying the foetal fluids of cattle, obtaining information about the quantities and composition of the allantoic and amniotic fluids at various stages of gestation.

Further collaborative studies on the methods of analysis of maple syrup have been carried on by 9 chemists in 3 laboratories in Canada and 4 in the United States and the results published as a report of the Associate Referee on Maple Products to the Association of Official Agricultural Chemists. Syrup for the purpose was provided by the Quebec Department.

#### ENTOMOLOGY.

In addition to the students in the general courses in agriculture and household science, seven undergraduate students are enrolled for major work in the department. With all expansion in entomological establishments throughout the world at a standstill, the policy of the department has been to discourage the enrolment of students, except those especially fitted for the type of work.

Progress has been made with the building up of the different collections upon which so much of our work is based. We now have eleven distinct collections requiring unremitting care and attention. Included in this is a collection of larval forms at which a start was made during the past season. In as far as possible the material for the foregoing has been collected and prepared by our own staff.



The partial fitting up of an experimental laboratory in the basement of the Biology Building and the provision of greenhouse space has enabled advanced students to undertake projects in economic entomology and insect biology in addition to taxonomic and morphological problems, to which their activities in the past have necessarily been confined. Provision for "field work" in entomology is an urgent need, but owing to budget difficulties has not been possible.

During the past academic year seven graduate students registered in the department of whom four were in residence. Owing to limitation of funds the greater part of the investigational work carried on was confined to thesis problems. The following are the titles of the main projects upon which active work was carried out, reports of which will be published in due course:

Sense Reactions of Certain Fruit Flies.

A Biological Study of the Apple Maggot and Related Forms.

Biology and Control of the Fern Scale.

A Systematic Study of Alberta Ichneumonidae.

In addition to the foregoing, Dr. DuPorte is making a study of the local mosquito fauna, Mr. Whitehead is continuing with his studies of the ecto-parasites of birds and mammals, and Dr. Brittain has completed his studies of the pollination of the apple, the results of which have been published as Bulletin 162 of the Dominion Department of Agriculture (198 pp.).



### HORTICULTURE

The season of 1932 was not as favourable for crop production as that of 1931, which was one of the most satisfactory on record during a period of 25 years. Although precipitation and mean temperatures were about normal in 1932, there were periods of drouth and excess heat, and the season did not open as early.

The apple crop, although large, the second largest on record, was below normal in colour and size, and insect injury was more prevalent than usual. In the small fruit plantations there was some winter injury to raspberries and strawberries, affecting yields considerably. The grape, currant and gooseberry plantations were below normal in yields.

Vegetables, likewise, were not up to normal in yield or quality. Diseases, in both the celery and potato crop, were serious, resulting in decreased yields. The onion crop was also below normal, due in part to the drouth of the early season.

The College grounds, in spite of short periods of drouth, continued to attract much attention. The flowering shrubs and perennial flowers, particularly the iris, peonies, delphiniums, lilies, and spring bulbs, were notable. During the summer the delegates to the Women's Institute Conference, and clergymen and their wives attending the special Summer School arranged for them, had an opportunity to view the many fine plantings of trees, shrubs, and perennials on the campus.

#### Teaching:

The regular classes in the degree and diploma courses were held. In the second year diploma class 60% of the students specialized in the fruit farming group, which has indicated a trend along these lines.



Graduate Work:

During the year provision was made for graduate work under the Faculty of Graduate Studies and Research of McGill University for two courses, Pomology (fruit growing) and Vegetable Crops, to be given in co-operation with the Department of Botany.

Administration:

Correspondence in answering inquiries; distribution of mimeograph sheets with instructions concerning fruits, vegetables, and ornamental plants; preparation of information on gardening for the Community Garden League of Greater Montreal, which is being distributed to 2,000 members of this organization; the maintenance of the fruit and vegetable plantations of 45 acres, and the College grounds of 60 acres; judging at horticultural exhibitions and lectures before societies and meetings of various kinds, occupied much of the time of the staff and were services gladly rendered.

Thinning Apples:

Again the thinning of apples received considerable attention, thus indicating its value in more satisfactory returns from the crop, improved quality in regard to both size and freedom from blemishes and in costs of harvesting, packing and marketing the crop. Following the "June drop" from 25% to 75% of the remaining apples were removed on such varieties as Transparent, Duchess, Wealthy, etc. On the McIntosh the thinning, owing to the more regular bearing habit of this variety, was much lighter and on many trees not done at all.

The thinning consisted of the removal of all defective apples, others not well placed or well spaced on the branches and those on spurs or limbs where they were likely to be rubbed or injured during



their growth. The labour involved was more than offset in the savings in harvesting, grading and packing, and the quality was greatly improved. As rendering a distinct service to the grower, the middleman and the consumer, thinning of apples should be much more generally practiced.

#### Raspberry Pruning:

Experiments in pruning the red raspberry were continued with a view to determining the best technique in thinning out and heading back the fruiting canes and in trellising but in spite of the relatively mild winter, the work was interfered with considerably owing to injury and dying back of canes of the Viking variety. A preliminary report of the results of this work was published in the 1931 annual report of the Pomological and Fruit Growing Society of Quebec.

#### Bush Fruit:

The new bush fruit plantation, including varieties of red, black and white currants and American and English varieties of gooseberries, set out in 1930 and 1931, has come on well and many plants are now in heavy bearing. This plantation replaces the previous one set in 1907.

#### Grape Vineyard:

A new plantation has been commenced to replace the one acre vineyard of thirteen varieties set out in 1907. This new vineyard will only include a few of the older varieties in the previous plantation, but will contain many new varieties introduced in recent years, some of which have given very favourable returns with only two or three vines in a test row.



Asparagus:

A new plantation of Martha Washington asparagus was set out in the spring of 1932. One-year-old plants were taken from a splendid plantation specially grown in 1931 for this new bed. Experiments with depth and distance apart in planting were provided for and a system of recording the respective yields will be followed.

Elite and Registered Vegetable Seed:

Work along this line is being continued in co-operation with the Canadian Seed Growers' Association. Elite stock seed of the following vegetables has been sent to the C.S.G.A.: - Giant Stringless Green Pod Bean, Horal Pea and Livingston Glove Tomato. Other crops are under way including beets, corn, carrots, onions, etc.

Vegetable Crops on Muck Soils:

In co-operation with the Agricultural Engineering, Bacteriology, Chemistry and Plant Pathology departments, the Horticultural Department has taken over a small area of muck soil formerly cropped by the Animal Husbandry Department, and has undertaken a project to develop vegetable crops on muck soils in the province. Already in the province there have been some important developments, mostly with celery, brussels sprouts and a few other vegetables on this type of soil, but there is a large area of muck soils in the province, largely undeveloped, and it is with this view that the work is being undertaken. Three extension plots have been established, one at St. Lazare, and the other two in Huntingdon County, where there is a very large area, through which a drainage canal has been constructed jointly by the Federal and Provincial Governments.



The work under this project will consist of a survey of existing areas of muck soils now under cultivation or prospectively so, chemical and micro-bacteriological analyses, fertilizer tests, cultural practices, disease control, drainage and moisture requirements, and storage in relation to extending the season for marketing the several crops that may prove satisfactory for this purpose. The storage and refrigeration facilities of the Montreal Rail and Water Terminal are available for this project.

#### PARASITOLOGY

The Institute of Parasitology is the outcome of the research work on animal parasites of poultry commenced some years ago under the direction of Professor Raymond L. Conklin. In September, Dr. T.W.M. Cameron, M.A., Ph.D., D.Sc., M.R.C.V.S., was appointed Director of the Institute and Research Professor of Animal Parasitology at McGill University. W.E. Swales, B.V.Sc. (Toronto), V.S. (Ontario), and I.W. Parnell, B.A. (Cantab), Ph.D. (Edinburgh), have since been appointed Research Assistants and H.J. Griffiths, B.S.A. has served as part-time assistant during the year.

A building erected at the expense of the Quebec Department of Agriculture, was occupied in October and a new wing providing accommodation for laboratory and experimental animals as well as post-mortem and aquarium facilities will be ready for occupation in the summer.

#### Policy:

The importance of Parasitology to the agricultural and fur-farming industries is obvious. Sheep and horses suffer more from parasitic infestations than from any other cause, while pigs and dogs



suffer, at least, as much. One of the major problems in fur-farming is the control of animal parasites - as it must be when animals are kept in a circumscribed space. Agriculture, as it progresses, is continually increasing this danger and the losses which are thereby produced amount to very large figures. Many of these conditions are readily preventable; more will become so when the bionomics of the parasites are better understood. Economically, the diagnosis, control and treatment of these pests is one of the major problems now confronting all concerned with the animal industries.

Accordingly, the main policy of the Institute is a two-fold one - the training of post-graduate students and the development of parasitological research, especially in temperate regions.

Regulations have been drawn up by the Faculty of Graduate Studies of the University for degrees of M.Sc., and Ph.D., and already one student has been registered for each. As the importance of this science in connection with agricultural, fur and other economic animals is realized, the demand for workers is bound to increase; even now the greatest difficulty is found in filling research appointments in this subject. Accommodation has accordingly been set aside for this purpose and complete teaching collections and literature arranged: unfortunately, however, owing to the size of the building, accommodation is at present limited to three students.

The research policy of the Institute has been arranged to enable the Dominion to take advantage of what is already known about animal parasites and to conduct investigations along lines which will, it is hoped, soonest produce results of both economic and scientific importance. The parasitic fauna of Canada is largely unknown and the first steps taken were to inaugurate surveys of the parasites of domesticated



animals, fur animals and wild, economic, food animals. Geographically, the Province of Quebec forms the starting point of this survey. It will be extended gradually throughout the Dominion and from the animals of economic importance to related wild species. Many parasites of wild animals are transmissible to domesticated ones and the farming of wild animals or their movement across the continent, make it important that the Institute should be in possession of as much information on their parasites and their bionomics as is possible.

The survey, is of course, merely the first step in the programme. It should disclose what species are present, which are common and which are important. Information on their bionomics already available is being collated as far as possible, gaps are being filled in. Where information is not available, research is being undertaken to provide it.

A first step in this has been the organization of the literature. The departmental library contains a large number of the Director's reprints, as well as the more common text-books, and complete series of the commoner and more important periodicals on Parasitology. In addition, an abstract card-index is being kept of all the literature from the commencement of 1932 and classified under subjects; this is prepared from Helminthological Abstracts (edited by Professor R.T. Leiper and with which the Director is associated). Arrangements have been made by the Imperial Bureau of Agricultural Parasitology whereby the Institute receives, monthly, a list of all papers searched by the Bureau. In this way, the Institute is able to depend on speedy information on all the recent developments in Parasitology elsewhere.

While the survey will necessarily take many years to complete, the more important species should be discovered early, and researches



into Nodular Disease and Liver Fluke in sheep, scherostomes in horses and parasites which might affect the export trade of cattle are already in progress. With the advent of the animal wing, research should be considerably accelerated on biological problems and continued throughout the year.

Specific Researches:

Dr. Swales is studying the life-cycle and bionomics of Fascioloides magna, the large liver fluke of ruminants. In addition to being a problem of considerably scientific importance and economic significance, it is desirable that the Institute should be able to advise on the safety or otherwise of transferring carriers of this fluke from one part of the Dominion to another, or from the Dominion to countries abroad. Of purely American origin, this fluke was probably a parasite of wild ruminants before the introduction of domestic cattle and the available evidence points to the elk as the original host. It is still absent from the eastern provinces, but it was introduced some years ago into Italy. In view of the importance of our cattle export trade to the United Kingdom, it is important to be able to state either that the essential snail vector is not present in that country and that infection, even if introduced would not continue, or that all our exported cattle are free from the fluke.

He is also investigating the problem of nodular disease of sheep in Quebec. This is one of the most serious of ovine diseases in Eastern Canada and is responsible for great economic loss due to the formation of worm nodules on the intestine. It is a well known fact that the intestines of all sheep over one year old and also of a large percentage of younger ones, are useless for making sausage casings. This factor in Eastern Canada is the apparent cause of



approximately one million dollars worth of casings being imported into this country annually. This parasite is also known to actually cause the death of young sheep in many cases.

The mechanism of this nodule formation is not understood and there is a suspicion that some bacterium is concerned with the worm in the production. The special object of this investigation is to determine the relationship, if any, between worm and bacteria and to determine if a bacterial vaccine would be practicable. When the bionomics of this worm have been determined in Canada we can then recommend scientific control measures.

Dr. Swales has, in addition, described a new genus of trematode causing considerable mortality in wild ducks and a new species of nematode from the proventriculus of ducks in Ottawa.

Dr. Parnell is investigating the possibility of using various forms of bedding as a means of controlling the very common strongyle worms of horses and ruminants. His experiments so far have been on the horse parasites, which are extremely common and important in Quebec, and his preliminary work points to the fact that animal urine may be a very useful agent in killing the free-living larvae. His experiments will require considerable extension, however, before any practical recommendations may be made to farmers.

He is also engaged in collating all the available information on the free-living stages of nematodes of stock animals with a view to their application to local problems.

Mr. H.J. Griffiths is engaged on investigations on the bionomics of the common liver fluke of sheep in the Lower St. Lawrence regions, in parts of which it appears to be a very serious parasite.

The greater part of the half year which the Director has spent



with the Institute has been spent in preliminary organization, equipment and administration. During that period he has, in conjunction with Dr. Parnell completed the report on the internal parasites of land mammals in Scotland. This investigation has enabled a cheap, efficient technique to be involved, which is being applied to the survey of the internal parasites of Canadian animals. During this period he has addressed the Quebec Society for the Protection of Plants on Trematodes affecting plants, and the Central Canada Veterinary Association on the pathology of the more important worms of stock in Canada.

During the year six contributions to scientific literature by members of the staff of the Institute have been published, and seven others are in the press. This does not include the publications on parasitology by Dr. Conklin and by Mr. Whitehead, referred to in the reports of the College Departments of Animal Pathology and Entomology.

#### PLANT PATHOLOGY

In connection with pasture investigations which involve several other departments at the College, Dr. D.E. Newton, with the assistance of Mr. F.S. Nowosad, a graduate assistant in Agronomy, conducted a valuable floral survey last summer in pasture lands in three districts. The results of this survey have been published as Macdonald College Technical Bulletin No. 11, entitled, "The Relation of Flora to Soil Types in Three Districts of the Eastern Townships of Quebec." This work is summarized in the bulletin as follows:

1. The relation of the three types of soil, (1) brown earth, slightly acid, over serpentine rocks, (2) podsol soil of highly acid reaction, and (3) brown earth, almost neutral, over limestone (differentiated from the first as "limestone soil"), to the flora, was studied



in the open and woodland permanent pastures of Danville, North Hatley, and Philipsburg.

2. The results in the open pastures indicated that:

- (a) The Philipsburg limestone soils were the most fertile in total number of species and percentage of desirable species;
- (b) The North Hatley podsolized soils were the least fertile in percentage of desirable species, although intermediate in total number of species;
- (c) The Danville brown earth over serpentine rocks was moderately fertile in percentage of desirable species, but lowest in number of species.

3. The woodland association indicated that Danville and North Hatley were in the boreal forest belt, and Philipsburg in the lake forest belt.

4. Groups of indicator plants were suggested for the three different soil types as follows:

- (a) The Philipsburg limestone soils were marked mainly by the bladder fern, Cystopteris bulbifera, the variety of Boraginaceae, the growth of Leguminosae in general and the ever-present Geranium Robertianum;
- (b) The North Hatley podsol soils were marked first by the conspicuous hummocks of Polytrichum commune, and the presence of oxylophiles such as Larix laricina, Linnaea borealis, Streptopus roseus, Oxalis Acetosella, and Mitchella repens;



- (c) The Danville brown earths over serpentine rocks were marked particularly by Dicksonia punctilobula, Acer pennsylvanicum, Spiraea latifolia, Viburnum cassinoides, and Vicia Cracca.

In co-operation with the Agronomy Department an important disease of swede turnips, referred to as brown-heart of swedes, about which very little is known, has been under investigation from several standpoints. The symptoms of brown-heart can be seen only when the turnip is cut open. It shows in the early stages as brownish water-soaked areas giving the flesh a mottled appearance. As it increases, these areas become more general and finally the flesh loses its water-soaked appearance and becomes a greyish brown, dry, punky mass. In extreme cases the turnip becomes hollow-hearted. Affected turnips when cooked are woody. These investigations are as yet preliminary, but it is hoped that they will give some useful leads towards the solution of this problem. It may be stated, however, that very definite evidence has been obtained that application of manure to the soil tends to materially reduce the trouble as compared to the use of commercial fertilizer alone, which seems to have no definite effects.

A blighting of oats characterized by spotting and dying of the leaves, particularly in the early stages of the growth of the plant, which may result in serious damage and loss, has been carefully studied for the past two years. During this time halo blight of oats caused by Bacterium coronafaciens Elliott has been very important in this blighting. Another form of blighting, which we believe from preliminary studies to be of a physiological nature of the type of "grey-speck of oats", developed somewhat later in the season. Greenhouse and field experiments have shown that halo-blight can be defin-



itely reduced by the use of complete fertilizer when applied in the usual recommended rates to the soil of the College Experimental plots. Lime, on the other hand, increased the trouble. Thus it seems that the patchy occurrence of this disease often observed in fields is probably due to variation in the soil fertility. There is considerable variation in the resistance of oat varieties to halo-blight. These investigations are being continued in an effort to determine the relative importance of the two forms of blighting and the best control measures of each.

An important activity of the department has been the testing of the disease resistance of varieties of various crop plants. The varieties tested are those being used in the investigations and breeding work of other departments. Particular attention was given to the resistance of varieties of timothy to stem rust, of oats to halo-blight, of barley to blights caused by Helminthosporium spp., and of beans to bacterial blight of beans. The varieties of the Quebec Seed Board were closely studied in this regard and notes made on disease occurrence on them in the test plots at Macdonald College and the Experimental Farm at Lennoxville and Ste. Anne de la Pocatiere. For the purpose of conducting definite field tests, a plant disease garden was established where the plants could be inoculated artificially. This involved the use of a suitable cloth tent erected over the plants. The tent was equipped with a water sprinkling system with nozzles that gave a very fine spray, which could be used to maintain, as desired, high humidity within the tent and fine drops of free moisture on the leaves and stems. To insure infection the plants were inoculated with the various pathogenic organisms. These conditions providing an abundance of inoculum, high humidity and low light intensities, increased the amount of disease attack. Therefore,



this method was found to constitute a more certain and severe test of plant disease resistance than that of growing the same plants under natural field conditions, where one is dependent upon chance inoculation and occurrence of weather conditions favourable to disease development. This may not be found to be true in all seasons but certainly last year the method was useful. Satisfactory progress has been made in this work, but since the tests are being repeated this year for purposes of checking and extending the results so far obtained, no listing of varieties as to their disease resistance is given at this time.

The study of winter hardiness in plants has been continued under the direction of Dr. G. Scarth. Laboratory studies have indicated that fertilizer treatments may influence hardiness and these investigations are being extended to include field tests on this important point.

#### POULTRY.

The Poultry Department has continued its research activities during the year mainly upon economic problems applying to stock selection. Egg size and body size studies, meat studies and related nutritional problems have been the major projects carried on.

Considerable additional data on the inheritance of body size have been accumulated. A study of pullet growth as affecting egg size at commencement of laying has been initiated.

Preliminary findings of the project on meat studies, with special reference to body type as related to per cent edible meat on the dressed carcass in pure breeds and a number of crossbred types, were reported at the Fact Finding Conference of the American Institute of Poultry Industries, at Chicago in January.



A technical paper on "The Value of Molasses in Poultry Feeding" has been prepared for publication in Scientific Agriculture.

Extension activities have been mainly those of assisting in management problems. In the establishment of the Co-operative Hatchery in Vaudreuil County, assistance was given in flock selection work.

#### Meat Studies:

Generally speaking, the production of poultry meat stock is a side-line to egg production on the general farm as well as on the commercial poultry farm. There is, however, some need for special attention to selection of breeding stock in order that surplus meat stock may be of a body type which will finish as high grade market poultry. The studies under way at present are to determine if there is any relationship between what may be termed "body type", as designating difference in body measurements, and the rate of growth and amount of edible meat on the carcass of the bird. The two classes of market stock, broilers at ten weeks and roasters at twenty-six weeks of age, are being studied. Numerous pure breeds and crossbreeds are being used in the work. Individual bird variation in fattening and the influence of stage growth upon the finishing of market poultry are also being studied.

The grade into which a bird ultimately falls is determined not only by finish in flesh and fat but also to a large extent by body shape. Within breeds there are wide individual variations in the capacity to put on weight in fattening, but superiority of a bird in this respect may be offset by defects of form which will prevent its receiving a high grading.

The efficiency of a given type of stock as market poultry is



determined by the rate of growth, efficiency in feed consumption and the relation between the amounts of edible material and bone and waste in the carcass. Striking differences are to be noted in comparing the different popular pure breeds and various crossbreeds.

Ricemeal as a Substitute for Corn in the Fattening Ration:

Ricemeal, a by-product of table rice production, is offered in commercial quantities as stock feed. The guaranteed crude analysis is: Protein 13.5% (minimum); Fat 13.4% (minimum), and Fibre 5.5% (maximum). The value of ricemeal as a substitute for corn in the poultry fattening ration with a view to getting economical gains and a white finish in fat, has been tested by feeding trials with a series of rations varying in the proportions of corn and rice replacing each other to the extent of 70% of the entire ration. The rations are as follows:-

Number of Ration:	<u>Composition of Different Rations</u>								
	1	2	3	4	5	6	7	8	9
Ricemeal	-	10	20	30	35	40	50	60	70
Cornmeal	70	60	50	40	35	30	20	10	-
Oatmeal	10	10	10	10	10	10	10	10	10
Beefmeal	10	10	10	10	10	10	10	10	10
Middlings	5	5	5	5	5	5	5	5	5
Powdered Buttermilk	5	5	5	5	5	5	5	5	5
<b>TOTAL</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

The stock used were matured Barred Plymouth Rock and S.C. Rhode Island Red cockerels taken from the range at between 6 and 7 months of age. They were placed in ordinary fattening crates and fed for



a period of 10 days, at which time they were killed, dressed, chilled and boned to determine the possible differences. There were 10 birds, 4 Rock and 6 Reds in each group, all birds being selected on a weight and condition basis to ensure uniformity in each group.

The accompanying table illustrates the efficiency of the nine rations. There are no significant differences between the first seven, ranging from no ricemeal up to 50 per cent ricemeal, while the ration carrying 60 per cent rice meal was decidedly inferior. The ration number nine with no cornmeal gave a slight gain in weight, but the cost per pound gain in pounds of feed consumed was excessive. The apparent cause of lack of gains with high ricemeal content rations seems to be lack of palatability in the rations, since the birds hesitated about taking their feed and made small gains or even lost weight.

From the results obtained it is, therefore, apparent that rice-meal may substitute cornmeal to the extent of having a balance of 50 per cent of the entire ration as ricemeal where 20 per cent is cornmeal, the balance being made up as noted in the rations used.



Weights and Feed Consumption for Ten Birds per Ration.

Ration	Initial Wgt.	Final Live	Dressed Wgt.	Feather	Blood	Chilled Wgt.	Feed Con- sumed	Gain	% Gain of Ini- tial Wgt.	Lbs. Feed per lb. Gain	Dressed Wgt. as % of final Live Wgt.	Chilled Wgt. as % of dressed Wgt.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.				
1	58.49	63.87	56.79	4.75	2.60	56.40	33.0	5.38	9.19	6.13	86.91	99.51
2	54.44	61.88	55.12	4.29	2.45	53.93	39.5	7.44	13.66	5.30	89.07	97.84
3	54.37	61.30	54.23	4.37	2.67	53.10	42.5	6.93	12.74	6.13	88.46	97.92
4	56.79	63.29	56.23	4.22	2.88	55.12	40.0	6.50	11.44	6.15	88.84	98.02
5	54.67	60.67	53.99	4.08	2.59	53.86	35.1	6.00	10.97	5.85	88.99	99.75
6	55.18	61.86	54.94	4.21	2.71	53.80	41.2	6.68	12.10	6.17	88.81	97.72
7	60.00	64.81	58.23	3.88	2.66	57.75	36.0	4.81	8.01	7.48	89.84	99.17
8	59.55	59.49	52.93	4.13	2.41	52.50	22.5	.06	.10	--	88.97	99.18
9	59.11	60.55	53.74	3.94	2.87	52.92	56.0	1.44	2.43	18.05	88.75	98.47



### The Value of Molasses in Poultry Feeding:

A few experiments have been carried out in order to test the value of molasses when used to replace part of the cereal grains in the rations of growing chicks and laying hens.

The addition of molasses to the mash fed to chicks in batteries caused an increase in feed consumption without a corresponding increase in body weight.

A lower egg production was secured from hens whose rations contained molasses. Feed consumption and body weight were not affected by the presence of molasses in the feed.

### The Effect of Kamala on Egg Production, Egg Size and Weights of Parts of the Egg:

Kamala, when used successfully in checking losses due to microscopic tapeworm infection, was found to reduce the rate of production and to decrease the size of the eggs. Particular attention was paid to the effect of Kamala on the weights of the various parts of the eggs, the duration of the effect and the variation shown by individual birds. It was found that following the administration of Kamala the separate parts of the egg each decreased in weight. The albumen showed the largest decrease, followed next by the yolk and then the shell.

On the average, the effect extends from the second day after treatment to about the eighteenth day. At this time the majority of the birds have regained their normal rate of production and egg size.

The individual birds showed considerable variation in their reaction to the drug. At least twenty-five per cent of the birds were not affected in so far as rate of production was concerned. However, the weights of the eggs laid by these birds decreased.



It would appear, therefore, that the initial effect of Kamala is to cause a decrease in the amount of egg materials secreted. The maximum decrease in both rate of production and egg size occurs on the ninth day after treatment. The degree to which Kamala affects egg production and egg size is probably determined by the inherent constitution of the individual bird.

In conclusion, it may be said that while the administration of Kamala to a flock which is laying heavily causes a decrease in the rate of production and in the size of eggs, this decrease varies so much with the individual bird and extends over such a short period of time that it cannot be regarded as a serious setback to production.

Bone Char in the Chick Ration and the Possible Control of Slipped Tendons in Battery-Brooded Chicks:

Steamed bone meal has been a common product in all chicken rations, but of late years the practice has been to delete this product from the chick ration because of the appearance of slipped tendons in battery-brooded chickens. Bone Char, a by-product of sugar refining, has been used to ascertain its value in replacing the bone meal in the chick ration.

Five groups of Barred Plymouth Rock chicks were started in battery brooders, being fed on basal rations plus, respectively, 1% bone meal, 1, 2 and 5% bone char, and 1% bone char with fishmeal replacing the beef meal. The results tabulated below are quite clear that steamed bone meal caused more slipped tendons in growing chicks than the equivalent amount of bone char, and that beef meal also, apparently, has too much phosphorus when used in combination with bone meal. Where bone and beef meal were removed from the



ration and replaced by bone char and fishmeal, the leg disturbance was practically absent.

Results - Barred Plymouth Rocks (4 weeks of age)

Lot	1	2	3	4	5
Ration	Bone meal 1%	Bone char 1%	Bone char 2%	Bone char 5%	Bone char & fishmeal
No. of chicks	67	53	68	41	46
% in ration )Ca. )P.	2.98 .948	2.70 .886	2.98 1.018	3.76 1.330	2.71 .910
% in Blood serum )Ca. )P.	14.30 9.40	13.40 9.40	15.40 7.95	5.95 3.20	14.20 7.05
Avg. Wgt. (Gms.) per chick	194.4	178.9	153.5	167.0	177.1
% Slipped Tendons	25.37	3.77	7.35	26.82	0

I have the honour to be, Sir,

Your obedient servant,

Acting Dean of the Faculty of Agriculture  
of McGill University.



*Entomology*

MACDONALD COLLEGE

McGILL UNIVERSITY

RAILWAY STATIONS AND EXPRESS:  
STE. ANNE DE BELLEVUE, QUE.

POST OFFICE:  
MACDONALD COLLEGE, QUE., CANADA

FACULTY OF AGRICULTURE  
DEPARTMENT OF ENTOMOLOGY

July 25, 1933.

Sir Arthur W. Currie, K.C.M.G., K.C.B.L.L.D.,  
Principal, McGill University,  
Montreal, Que.

Dear Sir:

In view of the interest that you displayed in the subject matter of our recent interview and your statement that no one had previously presented the same point of view, it has occurred to me that it might not be amiss to place on record the main points that I attempted to make on that occasion. For the sake of brevity these are stated somewhat dogmatically, but there are on file memoranda covering them in considerable detail.

I. General

- a. During the past twenty-five years there has taken place a notable shift in emphasis, amounting almost to a revolution, with respect to teaching and research in agriculture. This change has not been reflected in the appropriation policy at Macdonald College, which, with only minor adjustments, has remained static.
- b. The present traditional practice of making appropriations is not only grossly unfair to certain departments, but it renders impossible the symmetrical development of institutional work.
- c. The modern trend is towards a pooling of resources for the solving of definite problems, most of which transcend the interests of a single department. Such a method is particularly necessary at a small institution with limited resources, in order to make full use of the funds, equipment and personnel available.
- d. The classification of departments into "inside" and "outside" is archaic. The so-called "inside" departments need land, animals, crops and labour to exactly the same extent as do the so-called "outside" departments.
- e. The main problems of poultry and animal husbandry, or agronomy and horticulture are in very many cases quite outside the field of those departments as now organized. Problems of parasites and diseases, for example, may be of vastly greater importance than the production problems with which those departments are pre-occupied.



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- 2 -

- f. All technical workers require the closest possible contact with the industry with which they are supposed to deal and with the individuals that they are supposed to assist. The almost complete denial of such contacts in the case of certain major departments of work is fatal to the development of such work and in the highest degree discouraging to the workers concerned.
- g. If teaching is the primary function of a university, it might be inferred that appropriations should bear at least some relation to this function, but the percentage cut recently effected was greatest on certain departments that are bearing the heaviest burden of teaching and training the greatest number of students. Every dollar of such reduction strikes directly at the teaching efficiency of such departments, since their appropriation has always been on a purely teaching basis with no special provision for research.
- h. While it is not necessary to equalize appropriations of all departments in order to do justice to all of them, the difference between the relatively liberal allowance for some departments and the entire absence of such provision for others seems neither sound nor equitable.
- i. A certain amount of research is basic to the fundamental needs of teaching.

## II. Specific

- a. Wide recognition of the importance of entomological work is indicated by the rapid development of this field all over the world and particularly by the growth in Canada of the Entomological Branch and of the provincial entomological services. It is further indicated by the fact that the number of entomologists in the British Empire greatly exceed all other workers in technical agriculture.
- b. No corresponding development has taken place at Macdonald College.
- c. The training and experience of the undersigned has been largely in the solution of field problems from which he is entirely cut off at Macdonald College.
- d. In coming to Macdonald College the main inducement was that it was desired to "conduct a vigorous campaign of work from the field end" for which funds would be provided. No such campaign has been initiated and no such financial support has been forthcoming.



# MACDONALD COLLEGE

McGILL UNIVERSITY

RAILWAY STATIONS AND EXPRESS:

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FACULTY OF AGRICULTURE

DEPARTMENT OF ENTOMOLOGY

- 3 -

### III. Conclusion.

Under the policy in vogue at Macdonald College certain departments are denied a share in the funds available for research and extension ~~in~~ work. The present basis of departmental appropriations is archaic, inefficient and unjust. Expansion in certain cases has gone beyond the means of the institution, beyond the fundamental needs of teaching and, in some cases, probably beyond the legitimate function of the university. Other important lines of work remain static.

A new alignment is, therefore, long overdue, whereby a gradual retraction might be effected in certain directions, coincident with a certain development in others.

A "Committee on Policy" working in close conjunction with the Dominion and Provincial Departments and with leaders in technical agriculture, might well work out a long-range policy for Macdonald College, to which, if properly handled, the adhesion of individual departments could be secured, thus assuring the good-will of all concerned.

It is recognized that the last point is the one most difficult of accomplishment. Nevertheless, it is felt that, if the personnel of the committee were made up of men of unquestioned eminence in the field of education and research, together with a knowledge of the peculiar situation of Macdonald College, so that their considered opinion would command the respect of the entire faculty and, if the matter were then threshed out individually with each department head, it would be possible to win over the support of most if not all the departments involved, even though it might mean the temporary curtailment of certain lines of activity.

Finally, I would like to make it clear that I have nothing but gratitude for the sympathetic attitude of the former Dean towards the problems of my department and am of the opinion that had he remained, we would have eventually seen at least some of the suggestions contained in the foregoing put into effect.

Yours very truly,

*W. H. Brittain*  
W.H. Brittain,  
Professor of Entomology.

B/R.



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FACULTY OF AGRICULTURE  
DEPARTMENT OF ENTOMOLOGY

June 26/33

Sir Arthur W. Currie, B.Sc., M.A., R.C.B.  
Principal, McGill University,  
Montreal, Que.

Dear Sir:-

I have long desired to lay before you, as Principal of the University, certain facts regarding the general situation at Macdonald College, affecting the efficiency of my own department. In connection therewith, certain facts were raised in the memorandum drawn up for your attention at the time of the discussion of departmental budgets.

I have, however, postponed further action in order not to appear out of sympathy with the economy programme and because it has quite clear that the main task for the moment was to reduce the total figure, which does not allow time for a too intimate scrutiny of details.

My attitude is not, in any sense, one of complaint, but is motivated by a real desire to



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DEPARTMENT OF ENTOMOLOGY

advance certain constructive suggestions which the writer is convinced are of fundamental significance. If you could arrange for a short interview at some future date entirely convenient to yourself, it would be much appreciated.

Yours faithfully,  
W. H. Brittain  
Professor of Entomology



July 11, 1933.

Professor W. H. Brittain,  
Department of Entomology,  
Macdonald College P.O., P. Que.

Dear Professor Brittain,

Let me acknowledge your letter of June 26th in which you say that you would like to come in for an interview with me. I have just returned to the office and am very busy preparing for the meeting of the Board of Governors on Friday. If the matters about which you wish to consult me can wait, I should prefer to see you next week, any time after Monday, the 17th, and probably we had better make it in the morning, except Tuesday or Friday mornings.

Ever yours faithfully,

Principal



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DEPARTMENT OF ENTOMOLOGY

July 12/33

Sir Arthur W. Carvie, G.C.M.S., F.L.S.  
Principal, McGill University,  
Montreal.

Dear Sir:-

Acknowledging your letter of the eleventh inst., may I say that the matter which I desired to talk over is one that has been stering up for several years and can very well await your convenience. Some morning next week would suit admirably and I will take the liberty of telephoning your office for a definite appointment before calling.

yours faithfully,

W. G. Dutton  
Professor of Entomology.

WGD



17th July 1933.

Dear Professor Brittain:

I shall be very glad to see you  
any time during the morning of the 19th.

Yours faithfully,

Principal.

Professor W. H. Brittain,  
Department of Entomology,  
MACDONALD COLLEGE, P.Q.



MEMO: Re Entomological Department at Macdonald College.

1. GENERAL-

The personnel of this Department fully appreciate the seriousness of the present financial situation and are prepared to accept loyally and in good part necessary and inevitable re-trenchment. They recognize that, when expenditure exceeds income curtailment of even essential services may be unavoidable.

Under these circumstances it seems only right and proper for each department to present an analysis of their own particular situation, in order that the proper authorities might be in possession of the relevant information upon which necessary curtailments may be made.

2. TEACHING SCHEDULE-

In addition to fundamental courses in zoology taken by all students in Agriculture and Household Science, as well as courses offered mainly to supplement the work of other departments and including also courses for Diploma students, the Department of Entomology is responsible for the professional courses, viz., Entomology and Parasitology. It is doubtful if the number of teaching hours per man offered by this Department will be exceeded in the University. The proportion of laboratory work requiring much time in preparation is notable. Furthermore, the large number of major courses in subjects that are constantly changing, makes heavy demands upon the leisure time of the personnel.



### 3. STUDENTS-

(a) Present- Information as to students taking major work in Entomology is on file and it will be noted that this Department has always had its share of specialist students in both the undergraduate and graduate faculties. This has been brought about without scholarships or similar aids.

(b) Future- With agricultural establishments throughout the world at a standstill, as far as any expansion is concerned, the opportunities for students in all fields are temporarily reduced. Nevertheless, if replacements are to be commensurate with present establishments, it would appear that opportunities in entomology are better than in most fields. The number of official agricultural entomologists in the British Empire is listed at 276; mycologists 92; helminthologists, 16; animal husbandmen (exclusive of breeding and nutrition), 71; animal pathologists, 185; to mention a few at random - entomology heading the list by a large margin.

### 4. TEACHING MATERIAL-

In common with all biological subjects, entomology (together with the courses in zoology, parasitology, etc., for which we are responsible) requires a great amount of time and attention to securing, processing, mounting and arranging specimens and material. In addition, in the case of insects, these must be reared in order to secure material in all stages. The following collections requiring unremitting care and attention must be maintained:



1. Adult systematic collection (pinned specimens) for courses in classification.
2. Economic collection of all stages in vials.
3. Economic slide collection for small orders.
4. Permanent collection (pinned specimens).
5. Permanent slide collection (small orders).
6. Taxonomic collection (slides for course in taxonomy).
7. Larval collection (in vials).
8. Economic collection (in vials) for elementary courses.
9. Parasitological collection.
10. Histological collection.
11. Morphological collection.

Owing to understaffing and absence of suitable containers and equipment, the foregoing collections had either not been started, or were in an advanced state of depletion five years ago. While by no means adequate at present, they have been growing rapidly during the past few years.

#### 5. SUPPLIES-

Three points require mention in connection with this item:

(a) The amount expended under this item is governed entirely by the number of students taking the courses, each of which requires a certain fixed minimum which is uncontrollable. In fact we have usually had to borrow from our "Equipment" vote to get through the session.

(b) The cost of zoological material, increased by the necessity of paying American exchange, probably exceeds that of



any other item bought for teaching purposes under this heading.

(c) Increased numbers of students, especially the large class of Household Science students added three years ago, was not accompanied by a corresponding allowance for supplies, though presumably institutional revenues benefitted.

(d) It is doubtful if any important curtailment of this item would be practicable, though we are willing to make a special effort to secure as much of the necessary material as possible.

#### 6. EQUIPMENT-

Several points require comment here, viz.:

(a) All purchases made during the past six years have been for purpose of furnishing the various laboratories to meet the primary needs of teaching - practically nothing for scientific equipment as such. It has not been possible to make special provision for "research".

(b) We were forced to buy a certain number of microscopes on account of the sudden influx of new students for our advanced courses and have never had a spare microscope around the department. For one class of approximately forty students we had available some twenty microscopes. Many of these were purchased second-hand from McGill in 1907 and lack condensers.

(c) Until last year, we have never had a square foot of space available for setting up any apparatus, nor any apparatus to set up.

(d) Modern instruction in entomology requires facilities for studying living material. Students are not coming to Macdonald



College to qualify for museum positions except in rare cases and, without living material, instruction becomes as dead as the animals used in giving it.

(e) A primary teaching need, therefore, is the gradual equipment of our experimental laboratory, where courses in this aspect of the work and provision for student projects and theses can be made available. At present the little equipment, mostly "home-made", that we have secured ourselves or have been able to borrow from others is being used to its fullest capacity.

(f) We are quite willing, however, to leave in abeyance demands for much needed equipment, At the same time it is only fair to point out that the possession of such equipment is an important factor in attracting the type of students we desire to secure. We believe that graduate students' fees are already sufficient to meet the cost of supplies purchased over and above ordinary needs, and to pay the interest on equipment purchased solely for their use. In making economies on this item, the possibility of having to face diminishing returns thereby, is worthy of consideration.

#### 7. RESEARCH-

As already indicated, we have found it necessary to devote all our energies and all available funds to provide for teaching requirements. Hence, our investigational activities have been confined to projects that did not require funds - though they are not by any means the projects that we would have chosen in all cases had such funds been available.

Since the provision of greenhouse space and our basement laboratory, our advanced students have been able to undertake a



certain amount of investigational work outside of taxonomy and morphology, partly with borrowed equipment. This is entirely confined to thesis work and advanced projects for students.

It is generally admitted that a certain background of work of an investigational character is essential for proper teaching. If this is the case, it would appear that what we are doing must constitute an irreducible minimum. It may be pointed out that where departments have a definite sum allotted for such work, the reduction of their appropriation means a certain curtailment of their activities, but they can still continue on a reduced scale. In our situation, however, any appreciable reduction of an appropriation based fully on teaching needs, or any increase in the burden of teaching, spells extinction as far as any investigational work is concerned, and strikes directly at a vital part of our teaching activities.

#### 8. THE ROLE OF AN ENTOMOLOGICAL DEPARTMENT-

At Macdonald College certain departments are designated "outside" department and others "inside" department. Among the latter is the Entomology Department. This distinction seemed a very surprising one to me on coming to Macdonald College. Having had as much as 75 acres of orchard under experiment in a single season and having had a piece of land devoted to vegetable insect studies under my control for years, I had always regarded entomology as very much of an "outside" subject.

It is true that there are certain fundamental aspects of the subject that must be worked out in the laboratory, just as in plant breeding, but entomological problems vital to the farmers and fruit growers of Canada require the use of crops and the control of land



for their elucidation just as much as agronomic or horticultural problems.

In a very large proportion of cases, the main limiting factors to profitable production are insects and fungus diseases in the case of plants, just as parasites and diseases are among the vital problems of animal production. This is well recognized by the people concerned, i.e., the farmers, fruit growers and stock men.

When approaching the undersigned with a view to coming to Macdonald College, the former principal made a strong point of the need and opportunities for "field work" at this institution, but there is not and never has been any possibility of doing any real "field work" in entomology at Macdonald College. Entomology, therefore, remains perforce an "inside" department. Since, however, our outside activities have been stillborn, there can be no question of curtailing them.

#### 9. BASIS OF APPROPRIATION-

Since the inception of Macdonald College there has been a notable shift in emphasis with respect to teaching and research work in agriculture. While, however, these have been minor adjustments in departmental appropriations, there has been no fundamental revision of the basis upon which funds are allocated, with the result that the present traditional practice is out of line with present realities. May I respectfully suggest that the time is opportune for a re-examination of this whole question? Compelled by grim necessity to make drastic curtailments, might it not be well to consider whether the present structure might not be modernized and improved? In this



connection, would not a study of the relation between net appropriations ~~and~~ the amount of teaching performed or upon the number of specialists trained, be relevant to the situation? If teaching is the main function of the University, is it not fair that these two things should bear some relation to each other?

Still another point that it seems fair to consider is the extent to which certain departments are benefitting from project funds in addition to regular departmental appropriations. Furthermore, is it not pertinent to inquire whether, in some cases, expansion has not gone far beyond the fundamental needs of teaching - certainly beyond the means of the institution to carry? In these circumstances is it not reasonable to suggest that a policy of gradual retraction should be instituted in such cases. This would not only bring expenditures into line with income, but also permit of a more symmetrical development that would permit all department the minimum of investigational activity without which the primary needs of teaching cannot be met?

#### SUMMARY

1. Realizing the imperative necessity of drastic retrenchment, the personnel of the Department of Entomology will be happy to do their share in the necessary and inevitable reduction. They would like to feel, however, that the entire situation will be considered as a unit so that ~~the~~ required curtailment may be carried out with least injury to teaching efficiency.
2. In taking the foregoing attitude they feel it their duty to point a number of relevant facts regarding their own particular



situation, viz.:

- a. The Department of Entomology carries one of the heaviest teaching schedules in the University, offering, in addition to general courses taken by all students, special courses for other departments as well as two major professional courses.
- b. The character of the work done makes exceptionally heavy demands for laboratory material, its collection, preparation and care. This has been added to by the advanced state of depletion, which, due to uncontrollable factors had been suffered in all times during recent years.
- c. In the immediate past the Department has had its share of specialist students, and future prospects are as good as in other lines of work.
- d. In spite of the foregoing they have never had, either from institutional funds or from outside sources, any funds for research work as such. Our facilities have been based entirely on the needs of undergraduate teaching.
- e. Both graduate and undergraduate students have been compelled, in nearly all cases, to select problems that could be carried out without special expenditure.
- f. Where departments have large sums available for so-called research work a relatively heavy curtailment would still enable them to maintain a considerable body of work, but the smallest curtailment in our case directly affects the efficiency of undergraduate teaching.



3. The Department of Entomology has been classified as an "inside" department. The subject matter of entomology, however, makes it an "outside" department to exactly the same extent as any other.
4. During the past few years there has occurred a complete reversal in emphasis with respect to teaching in agriculture, in view of which the following suggestions are made:
  - a. That net appropriations should bear some relation to teaching schedules and the number of students specializing in certain fields.
  - b. That, in the allocation of funds, consideration should be given to the extent to which departments benefit from outside sources.
  - c. That research programmes should be based primarily on teaching needs, including the provision of problems for advanced students.
  - d. That duplication of the type of work carried out by other organizations should be avoided, since the first duty of a University is to teach.
  - e. That the present situation might well be taken advantage of to effect a realignment and revision of the whole basis of granting appropriations, and thus bring about a more sound, more symmetrical and healthier development of all departments, that would permit all to provide for minimum teaching requirements.



Department of Agriculture,  
Entomological Branch

OTTAWA, May 3, 1929.

Dr. C. F. Martin,  
Acting Principal,  
McGill University,  
Montreal, Que.

Dear Doctor Martin:

I am taking the liberty of writing you on a matter which seems to me of very great importance and in which MacDonal College appears now to be in a position to render effective service.

There is, at the present time in this country, a disquieting lack of young men properly trained for entomological investigation. There are few schools in Canada giving a proper undergraduate training in entomology and very few students in their laboratories specializing in that subject.

We have, in the Dominion Entomological Branch, a staff of about 60 undergraduates, many of them with higher degrees, engaged for the most part in the investigation of economic problems in entomology, some of them of the greatest national importance, and a smaller number concerned, chiefly or wholly, with taxonomic or morphologic studies. Each year, we have a few vacancies and a few new positions to fill. We see little hope of obtaining suitable applicants from the universities in this country during the next few years.

There will apparently be few graduates in entomology of any sort in the near future, and we are not very optimistic about the quality of that few. Those who have come to us recently from agricultural colleges in this country, where the entomological training is usually given, have been, in too many cases, poorly grounded in the sciences and of little use to us for investigational work until they received further training.

If our colleges are to serve the needs of this country in training men for entomological investigation and research, it appears to me essential that the standard for the course they receive shall be kept just as high as that for any other science.

We need men for the future with a broad and thorough training in the sciences, a moderate specialization in entomology in their last two years, a subsequent further training in entomology and an introduction to research methods through postgraduate courses. For our higher positions, such as entomologist, we should be able to require three years of postgraduate study in addition to professional experience.

During the last few years, we have been encouraging promising young men with their first degree to go to various universities in the United States to obtain graduate training in entomology; and they have rarely come back. There are ten there now. It is quite time that we had thoroughly good undergraduate training in entomology available in this country, supplemented by postgraduate courses leading to the doctor's and master's degrees.

I feel that MacDonal College has, in Dr. Brittain and Dr. Du Porte and their two assistants, the nucleus of a competent entomological staff, and I am sure that my colleagues here join me in expressing the hope that they will be given the assistance, support and encouragement they need to enable them to develop a thoroughly efficient school in entomology and parasitology, with a high standard of scholarship.

I have written this to you because we, in this organization, feel so keenly the need of a first-class training school in entomology in this country, and knowing Brittain and Du Porte well-- I taught them both at MacDonal -- I am confident that they have the ability and the scholarship to turn out the men we shall need.



(2)

Expressing my great personal interest in the progress of  
MacDonald College, I am

Yours very truly,

(Signed) J. M. SWAINE,

Associate Dominion Entomologist.



MACDONALD COLLEGE

McGILL UNIVERSITY

FACULTY OF AGRICULTURE

OFFICE OF THE DEAN

*Soil Fertility  
McKibbin*

POST OFFICE:

MACDONALD COLLEGE, QUE., CANADA

RAILWAY STATIONS AND EXPRESS:  
STE. ANNE DE BELLEVUE, QUE.

January 9th, 1933.

Sir Arthur W. Currie, G.C.M.G., K.C.B.  
Principal,  
McGill University,  
Montreal, Que.

Dear Sir Arthur:

As intimated to you by me in conversation this afternoon, Dr. McKibbin, Chairman, is calling a meeting of the Soil Fertility Committee in Room 174, Chemistry Building, Macdonald College, on Saturday, February 4th, at 9.30 a.m. At this meeting a report on results so far obtained will be presented and plans for further work discussed. I am inviting the National Research Council and the Quebec Department of Agriculture, who have contributed generously to this work, to send representatives and should be very glad if you could be present or send someone to represent you.

Yours faithfully,

*J. D. Bell*

Acting Dean.

*not to  
and say yes*  
JFS/Y



# MACDONALD COLLEGE

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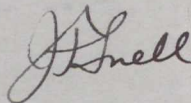
January 28th, 1933.

Sir Arthur W. Currie, G.C.M.G., K.C.B.  
Principal,  
McGill University,  
Montreal, Que.

Dear Sir Arthur:

Dr. Robert Newton of the National Research Council has accepted our invitation to attend the meeting of the Soil Fertility Committee on Saturday, February 4th. You have also signified your intention of attending this meeting. Dr. McKibbin and I should like to take advantage of your presence here to consult with you and Dr. Newton regarding a project which is rather the business of the Department of Chemistry than of the Soil Fertility Committee. I hope we may be able to arrange for a conference independently of the meeting of the Committee.

Yours faithfully,



Acting Dean.  
Professor of Chemistry.

JFS/Y



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DEPARTMENT OF CHEMISTRY

POST OFFICE:  
MACDONALD COLLEGE, QUE., CANADA

February 11, 1933.

Dr. J.F. Snell,  
Macdonald College.

Dear Doctor Snell:

Acting in accordance with the request of the Principal I have today sent the following telegram to Mr. Alex. McRae, Patent Solicitor, Ottawa: (56 Sparks St.)

"Please stop all investigation peat patent possibilities per my letter February eighth STOP Letter follows. R.R. McKibbin"

I have also written to Mr. McRae advising him that because of certain circumstances we do not wish him to proceed with his study of the patent literature.

In connection with this question of ammoniated peat I believe that it is fair to point out that more than a year ago at Dean Barton's request I started work for Messrs. Stinson & Reeb of Montreal, analyzing samples of Alfred peat. At that time I completed the analyses they wanted and discharged my obligation to them. It was then that the idea of reinforcing this acid carex peat with ammonia, potash and phosphoric acid occurred to me. However, it so happens that since the question of peat work for the provincial government has arisen (that is to say, since Christmas, 1932) I have used some material from another acid carex peat bog (the Large Tea Field bog, Huntingdon) for some further studies. When I saw the note about the U.S. Dept. of Agriculture work with peat it occurred to me that some action might be taken about the findings that I had made.

I am quite content to drop the whole question at this point as I realize that there may be some complications that would be troublesome to the University. I should like to ask, however, if it may not be wise for someone to mention to some Canadian manufacturers the possibilities inherent in this process, as otherwise we will continue importation as at present of untreated peat, and very ~~soon~~, of the ammoniated product?

*start importation,*  
Yours very truly,

*R.R. McKibbin*  
R.R. McKibbin,

Asst. Professor of Agricultural Chemistry.

RRM/M



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FACULTY OF AGRICULTURE  
OFFICE OF THE DEAN

February 13th, 1933.

Sir Arthur W. Currie, G.C.M.G., K.C.B.  
Principal,  
McGill University,  
Montreal, Que.

Dear Sir Arthur:

The enclosed is a letter from Dr. McKibbin referring to the application for a patent on the enrichment of peat by treatment with ammonia.

There is very little connection between the work we are doing on soils and that on peat.

Our Horticulture Department was asked to inquire into the possibilities of peat areas as soils for truck gardening and last fall Dr. McKibbin went to Huntingdon with Professor Murray and took some samples of peat from the Tea Field bog. Later, Mr. L.C. Roy of the Canadian National Railways sent some samples of peat from other districts in the province and Dr. McKibbin has made some comparison of these peats and some imported peat, as regards their absorptive capacity for ammonia. He finds that of the Huntingdon peat highest. He is experimenting on the absorption of stable odours by peat but this work has not progressed far enough to yield any results.

We have permission from the Quebec Government to use one hundred dollars (\$100) of their grant for chemical research on the peat. This is more particularly for its use in stables and this is, as far as I can learn, the only connection between the Quebec Government and Dr. McKibbin's peat work.

Peat ordinarily contains only about 1% of nitrogen and this in a form resistant to decomposition and therefore of little value to plant life. We have every reason to believe that the absorbed ammonia would be readily available to plants and it would be a pity if, in view of the extraordinary absorptive capacity of the Huntingdon peat, its possibilities as a fertilizer carrier should not be further investigated. Canadian Industries



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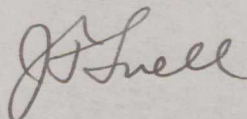
FACULTY OF AGRICULTURE  
OFFICE OF THE DEAN

Sir Arthur W. Currie

- 2 -

Limited, who manufacture pure ammonia and fertilizers, would perhaps be interested. What means of co-operation between them and the University could be arranged I of course do not know.

Yours faithfully,



Acting Dean.

JFS/Y



*Inter-department Correspondence*



PRINCIPAL AND VICE-CHANCELLOR;  
SIR ARTHUR W. CURRIE, G.C.M.G., K.C.B.

FROM

THE PRINCIPAL AND VICE-CHANCELLOR,  
MCGILL UNIVERSITY,  
MONTREAL.

February 18th, 1933.

With reference to the application of Professor McKibbin for a patent on the enrichment of peat by treatment with ammonia, I discussed the matter with Professor McKibbin this morning, and found him of the opinion that because it would be impossible to get a basic patent, the matter of securing a patent might just as well be dropped.

Apparently there is a great deal of ammonia made in Canada which is now thrown away, and this particular Huntington peat has great absorbent capacity. Professor McKibbin thinks that the product which results from bringing these two things together by a process which he has in mind would be a valuable treatment for golf courses and other places where that particular kind of fertilizer would be used.

I shall try to bring him and Mr. Purvis (Canadian Industries) together.

AWC:DM



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DEPARTMENT OF CHEMISTRY

POST OFFICE:  
MACDONALD COLLEGE, QUE., CANADA

February 22nd, 1933.

Sir Arthur Currie,  
Principal, McGill University,  
Montreal, Que.

Dear Sir Arthur:-

In accordance with the arrangements kindly made by you I visited Mr. Purvis yesterday afternoon at 4 o'clock. He was very courteous to me and referred me to Mr. Grubb, Chief of the Fertilizers Division, Canadian Industries Limited, to discuss with him "ammoniated peat".

Mr. Grubb does not believe that at present there would be any profit for Canadian Industries Limited in manufacturing and selling "ammoniated peat." I am not convinced of this, however, provided our method is followed, and have stated so in a letter of even date to Mr. Purvis. Because of your kind interest in this connection I shall advise you of the final result of our negotiations.

Yours very truly,

*R. R. McKibbin*

R. R. McKibbin,

Assistant Professor of Chemistry.

JFS/MB



CHEMISTRY DEPARTMENT

## MACDONALD COLLEGE

RAILWAY STATIONS, EXPRESS AND TELEGRAPH OFFICES:  
STE. ANNE DE BELLEVUE, QUE.

POST OFFICE:  
MACDONALD COLLEGE, QUE., CANADA.

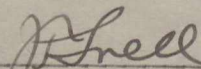
April 6th, 1929;

Dr. C. F. Martin,  
Dean of the Medical Faculty,  
McGill University,  
Montreal, Que.

Dear Dr. Martin:-

In connection with work he has been doing on deficiencies of the soils of this province and of feeding stuffs grown thereon, Dr. R. R. McKibbin, of my department, has conceived the idea that both the live stock and the human population of our province suffers as a result of such deficiencies. He thinks that the life insurance companies might be induced to contribute towards the expense of an investigation of this question, which would involve the cooperation of medical men, veterinarians, and agriculturists. Dr. McKibbin would appreciate an opportunity of discussing this matter with you.

Yours very truly,



J. H. Snell,  
Professor of Chemistry.



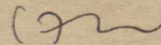
17th April, 1929.

Professor J. F. Snell,  
Chemistry Department,  
Macdonald College,  
Ste. Anne - de - Bellevue, P.Q.

Dear Professor Snell,

In reply to your note of the 6th instant,  
I shall be very glad indeed to see Dr. R. R. McKibbin  
with respect to the investigation on the deficiencies  
of the soils of this Province any time next week. Let  
us say Tuesday at eleven o'clock, unless I hear to the  
contrary.

Yours sincerely,



Acting Principal.

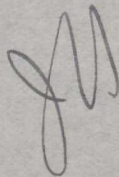


8th April, 1929.

Dear Professor Snell,

Your letter of the 6th inst.,  
has been received during Dr. Martin's  
absence, and will be placed before him  
immediately upon his return from Boston  
on the 14th inst.

Yours sincerely,



Professor J. F. Snell,  
Dept. of Chemistry,  
Macdonald College,  
Ste. Anne - de - Bellevue, P.Q.



CHEMISTRY DEPARTMENT

# MACDONALD COLLEGE

RAILWAY STATIONS, EXPRESS AND TELEGRAPH OFFICES:

STE. ANNE DE BELLEVUE, QUE.

POST OFFICE:

MACDONALD COLLEGE, QUE., CANADA.

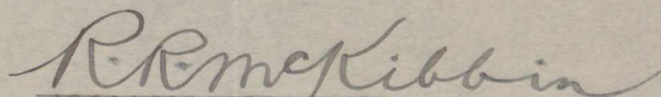
April 18th, 1929.

Dr. C. F. Martin,  
Acting Principal,  
McGill University,  
Montreal, Que.

Dear Dr. Martin:-

Dr. J. F. Snell has handed me your letter of the 17th inst. in which you very kindly agree to give me an interview with respect to the investigation on the deficiencies of the soils of this Province, some time next week. You mention Tuesday at eleven o'clock. Unfortunately I have already two appointments for that day which I cannot disregard. Any other day of next week, morning or afternoon, would be very suitable to me.

Yours respectfully,



R. R. McKibbin.

RRM/MB



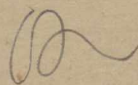
22nd April, 1929.

Professor R. R. McKibbin,  
Chemistry Department,  
Macdonald College,  
Ste. Anne - de - Bellevue, P.Q.

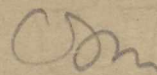
Dear Professor McKibbin

By all means come in on Thursday, at eleven  
o'clock, if that time is more suitable for you. I shall  
be in the office here, and will look for you then.

Yours sincerely,



*Came - Referred to Collip & Mackenzie -*





*no answer*

*Agricultural Economics*

June 18th, 1930.

E. W. Beatty, Esq., K. C.,  
Canadian Pacific Railway Company,  
Montreal, P. Q.

Will you give consideration to the suggestion I now make that you approach Lady Meredith with a view to her making immediately available the income from Sir Vincent's legacy to the Department of Economics, Macdonald College?

I feel that now is the psychological time for that Department to make its greatest contribution to the welfare of the agricultural industry in this country. There is no doubt that if the income were made available immediately far greater beneficial results would accrue than if it were delayed until Lady Meredith's death.

We have on our staff at Macdonald in Dr. Latimer the outstanding farm economist in this Dominion, but he needs help, and needs it badly. Graduates of other agricultural colleges are writing to us to take their post-graduate work at Macdonald, but we cannot accommodate them, or, rather, we cannot give them what they are asking for, with our present means. Latimer is universally regarded as the leader in his profession in this country, and has been the first of farm economists in Canada to be recognized by



Guelph has fallen down rather badly, having allowed Leach, the head of their Department, to get away from them to take a position in the tobacco industry; his successor is of such indifferent ability that Booth, the second man in the Department, was glad to take a position in Ottawa.

As I said above, now is the time that we should strengthen our Department, and the time when Sir Vincent's legacy could do the most good.

Principal.



July 20, 1931.

Dr. Stephen Leacock,  
Old Brewery Bay,  
Orillia, Ontario.

*No answer  
received*

Dear Stephen,

In reading over the report of the Department of Farm Economics at Macdonald College, I noted there the suggestion contained in the following paragraph regarding graduate training:-

"There is some enquiry for the opportunity for graduate training of students in economics who intend to specialize in the problems of agriculture. It is obvious that this work cannot be provided by a small department unless by some arrangement whereby the major portion of the work could be secured at McGill. The Department at Macdonald College might get in touch with the students and provide the problems for investigation. In regard to possible investigational work on the problems of agriculture, the lack of, need for and advantages from statistical investigation and analysis warrants special emphasis.

The potentialities of McGill University and Macdonald College as a graduate school for workers in agriculture would indicate that this development might be given some consideration."

Will you please consider, if there is anything in the suggestion made here, how far can the Department of Economics at McGill concern itself with Agriculture? I know that the members of your staff give a great deal of attention to economics of manufacturing industries. Can it help in any way with the economics of the agricultural industry?

I hope you are enjoying your vacation.

Ever yours faithfully,



*Research in Progress*

MACDONALD COLLEGE

FACULTY OF AGRICULTURE  
OFFICE OF THE DEAN

RAILWAY STATIONS, EXPRESS AND TELEGRAPH OFFICES:  
STE. ANNE DE BELLEVUE, QUE.

POST OFFICE:  
MACDONALD COLLEGE, QUE., CANADA.

February 25th, 1930.

Sir Arthur W. Currie, G.C.M.G., K.C.B.,  
Principal & Vice-Chancellor,  
McGill University,  
Montreal, Que.

Dear Sir Arthur:

I am enclosing the memorandum  
on Research in Agriculture. I trust it will  
give you the information you desire.

Yours faithfully,

*H. Darton*  
DEAN.

HB/Y  
ENCL/



26th February, 1930.

Dean H. Barton,  
Macdonald College.

Dear Dean Barton,

Thank you for the  
memorandum on Research in Agriculture.  
It is just what I wanted.

Yours faithfully,

Principal



## RESEARCH IN AGRICULTURE AT MACDONALD COLLEGE.

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The Agronomy Department of Macdonald College has an area of 75 acres of land devoted entirely to the investigation of problems that have to do with the production of farm crops alone, and not including fruits and vegetables. Exclusive of salaries this involves an expenditure of some \$20,000 a year. It requires a high form of technique, the application of science, and years of the most painstaking work to secure reliable results. But when it is realized that the production of a variety of oats that will increase the yield per acre by a single bushel means an increase of nearly 2,000,000 bushels in the most important grain crop in Quebec, the value of the work becomes apparent.

Macdonald College has produced an improved oat known as Banner 44 M.C. with a production record of three bushels per acre better than ordinary Banner, the prevailing oat in the province. It has been grown extensively in the province for some years one company selling over 100,000 bushels of seed in a single year.

The College has also introduced, tested and put into seed distribution the Alaska Oat, a hardy oat of special quality and of early maturity. This oat is now a favorite in Eastern Quebec and in many other parts where earliness is a distinct advantage.

Other oats superior in merit to both Banner 44 and Alaska have been produced and are now being tested out for adaptability in different parts of the province.

The best fall wheat yet produced in Canada was developed at Macdonald College. It is being used largely in Southern Alberta, where a world's record for yield is claimed for it. It is also



grown in Eastern Ontario and to a limited extent in Quebec, there being little fall wheat production in Quebec.

A number of varieties in Barley, Corn, grasses and clovers developed at Macdonald College and all suitable for Quebec and other Eastern Canada conditions have already given promise of outstanding merit.

Superior barley without beards, and oats without hulls, are interesting objectives of economic importance in plant breeding. Toward both of these the College has made substantial progress. No other institution in the province or east of Quebec is doing this type of work.

In addition to plant breeding the Agronomy Department has investigated a wide range of cultural problems and a large amount of information has been made available to the farmers in the province.

In the Animal Husbandry Department, information has been obtained and distributed in regard to live stock feeds, feeding problems and breeding practice. Dried Brewers' Grains was practically unknown as a feed in the province until Macdonald College reported results obtained with this feed. The same is true of Rice Meal, for which now the demand is said to exceed the supply.

In fruit growing, the College plantations were planned and have been operated with a view to studying variety, suitability and related factors under Quebec conditions. As a result of over 20 years records, much valuable information has been obtained on hundreds of varieties of apples, small fruits, vegetables, ornamental plants and flowers. Various practices have been investigated. Superior strains of table corn, peas and beans have



been produced. An improved variety of rhubarb has been developed and is now grown extensively throughout Western Canada as well as in the East.

Research work with maple sugar by the Chemistry Department is of special interest to Quebec. The determination of purity in maple products and its protection through legislation have been matters of much concern to those connected with the maple sugar industry. A rapid method of testing maple syrup and sugar for purity has been originated at Macdonald College, an electrical conductivity test, which gives values of a narrower range in genuine syrups than any of the current methods. A discovery in connection with decolorising agents promises to be of great advantage to the "manufacturer" of maple products, enabling him to make a product of uniform color and good flavor from the stock of various qualities received from numerous farmers. Other interesting and promising work having to do with flavor and keeping quality is under way.

In conjunction with others, very important research work in soils has been undertaken by the Chemistry Department. It is generally known that the productivity of Quebec soil in many parts is low. Very little definite knowledge of these soils is available. Macdonald College has done the only definite research work reported to date. Limited though it has been because of lack of funds, some surprising things have been discovered. In soils generally considered to be poor in organic matter, research has revealed an abundance and the problem instead of being one of organic matter deficiency has been found to be one of organic matter excess, or as it has been termed, a "constipated" condition, brought about



through gradual stagnation of the soil processes because of our climatic conditions. This condition presents a more vital and perplexing problem and yet very few people in Quebec know that it exists.

Plant protection problems in both growth and preservation arising from disease and insect attack have been studied in so far as funds would permit. Work on the apple scab, perhaps the greatest enemy of the apple in the province, was undertaken with a view to gaining data for apple spraying. This last year a spray service was inaugurated in the province under the direction of the Plant Pathology Department in co-operation with Quebec officials. The spray service work has been enthusiastically received and supported by the fruit growers in the province. Experiences with it has revealed the need for still further information that only research can secure.

Quebec is a live stock province. The health of its live stock is a matter of extreme importance to both producers and consumers. Macdonald College is not a Veterinary School nor does it presume to undertake work provided for in the Federal Service. It is concerned with certain phases of health problems that are closely identified with other branches of agricultural college work and with which it is equipped to deal. Animal parasites have become a serious menace to sheep, swine, poultry and fur-bearing animals in Quebec and elsewhere in Canada. Our knowledge of animal parasites is much too limited to enable us to stop or even effectively reduce the enormous losses suffered through these pests. No research work was done in Canada on sheep, swine and poultry parasites until Macdonald College began it four years ago. A



survey of poultry parasite infestation in Quebec has just been completed. Some important new knowledge has been gained and the character of some of the problems definitely established. A liver fluke in sheep and which also attacks human beings was discovered for the first time in North America in a flock of sheep near St. Johns, Quebec.

Worth while work has also been done on genital diseases of cattle, another source of great loss, particularly to the dairymen of this province. The College has not been able to eliminate the loss but despite the fact that only a portion of one man's time could be devoted to the work, certain findings have made helpful service possible to a large number of dairymen who were in serious difficulty.

The problems in agriculture are multitudinous. Many of them are extremely complex. They involve the expenditure of much time and money, and the services of well-equipped men. The College has been endeavoring to contribute to the solution of a few of the most pressing.

In many of the projects such as the crop work, the soil and the parasite work, more assistance is urgently needed to press promising phases of research to satisfactory completion, and to give effect to results already obtained.

There are other conditions in agriculture facing this province and other parts of Eastern Canada, toward the improvement of which the College would like to contribute and is in a position to do so if given opportunity.

The climate in this province is favourable for the growing of grass. Much of the land cannot very well be put to any other use. There are large pasture areas. Through years of neglect



the pastures have deteriorated until a great deal of this land is now practically unproductive, the live stock on the farms is underfed and not infrequently a large amount of feed has to be purchased. Conditions vary greatly as between district and district and between farm and farm. We do not know the botanical character of plant growth on these pastures; we do not know the soil peculiarities; we do not know the economic considerations involved in their improvement. Consequently, while we may make suggestions, and we must try what we can to better things for the time being, we cannot hope to establish intelligent practice until we have a better understanding of what should be done. This means research.

The lack of productivity in soil is leading farmers to what might be called fertilizer practice. There has been tremendous development in the fertilizer business in the past few years; a great variety of synthetic as well as material products is being produced and high pressure salesmanship in many forms is being employed to persuade farmers that the solution of their soil and crop problems lies in a particular fertilizer. The purchase of many of these is just about as much of a gamble as the purchase of the average mining stock certificate. Undoubtedly the use of fertilizers is desirable, perhaps necessary, but unless that use is judicious, farmers are likely to lose a great deal of money they can ill afford and may still further impair the value of their soil. Paralleling the growing use of fertilizers there should be a constructive programme of investigation work and since this would be closely related to some of the work the College is now doing, it could with advantage participate in it.



*Bunting*

MACDONALD COLLEGE

McGILL UNIVERSITY

RAILWAY STATIONS AND EXPRESS:  
STE. ANNE DE BELLEVUE, QUE.

POST OFFICE:  
MACDONALD COLLEGE, QUE., CANADA

FACULTY OF AGRICULTURE  
DEPARTMENT OF HORTICULTURE

June 21, 1933.

Sir Arthur Currie,  
Principal, McGill University,  
Montreal, Que.

Dear Sir Arthur:

In reference to my interview with you on June 7th, I am submitting herewith memorandum "A" relating to a plant and seed distribution policy and "B" relating to the purchase of a motion picture camera for use in the Department of Horticulture.

In doing this I realize the necessity of rigid economy during the present situation, and that the department, embracing four distinct lines of educational and research activity, namely fruits, vegetable crops, floriculture and landscape architecture, and including in some minor degree two other important lines, namely apiculture and forestry, has rendered a service during the period of its existence that cannot be fairly gauged by any monetary or numerical value.

Further, I feel that horticulture, particularly in its aesthetic values, has not been rendered under Agriculture at Macdonald College, or in Canada, its full measure of support.

I have added under the attached memoranda "A" and "B" my reasons for recommending for your consideration these two items relating to work at Macdonald College which I believe will in every way measure up to high ideals under your direction at the University.

Yours very sincerely,

*T. J. Bunting*

Professor of Horticulture.

TGB/EH  
ENCL.



June 21, 1933.

Plant and Seed Distribution Policy

1. Object:- To provide for the distribution of seeds, cuttings, divisions and plants of a large number of ornamental and useful trees, shrubs, vines and annual and perennial flowering plants, to worthy residents of the province and elsewhere, particularly through organized channels, including the Women's Institutes and Horticultural Societies.
2. Sources of Material:- The campus and nursery plantations of Macdonald College and the neighbouring estates, among which are some of the fine estates in Canada.
3. Procedure:- Employment of undergraduates in the collecting, gathering, preparation and distribution of such material, including the seeds and other plant material.
4. Publicity:- Through the Women's Institutes, Horticultural Societies, and other organizations through which interest could be created. This would include the publication of one or several leaflets or mimeographed sheets, announcing the policy, listing the material available, terms on which it could be procured, and necessary directions.
5. Expenses:- Student labour at current rates of pay approved by Macdonald College. Cost of leaflets, envelopes, postage and miscellaneous.

Estimated Cost First Year:-

Labour - 1000 hours	\$250.00
Publicity, leaflets and mimeographed sheets	100.00
Packages and supplies, for seeds and plants	75.00
Postage	75.00
	<u>\$500.00</u>

6. Returns:- The seeds and plants will be charged for at a rate that should net the costs of harvesting, cleaning and packeting, plus a reasonable overhead, but would not include any remuneration or profit for the production of the seeds and plants which are now available. This should not in any way be designed to compete with the seed and nursery trade.
7. In view of the previous provision that the proceeds of the sale of seeds, plants and flowers should be set aside for the purchase of new varieties, kinds and species of plants for the purposes of the Department of Horticulture, and the reduction in the appropriation for seeds and plants for the College Grounds from \$200.00 to \$100.00, dating from the previous provision, it is recommended that part of the proceeds of the sale of this material be continued as a special allowance to provide for the additions of plant material.



Memorandum "B"

June 21, 1933.

Purchase of Motion Picture Camera and Films

1. The Department of Horticulture has already had prepared an apple film of some 1000 feet in co-operation with Mr. Alan Johnson, who has furnished the film, taken the pictures and developed and printed them gratis. In addition, in co-operation with the Eastman Kodak Co., some 200 feet of general views of fruit and vegetable scenes have been taken. Also, in co-operation with the Associated Screen News Co. of Montreal, motion picture scenes of orchard views and of grading and packing were produced.

2. It is believed that a motion picture camera would be of inestimable value to the Horticultural Department in the production of pictures, including fruit, vegetables, flowers and ornamental plant and tree scenes. The department at present has some 2000 5 x 7 and 3½ x 5 still pictures.

In the horticultural subjects the educational, lecture and demonstration work is largely done during the winter season, (the dormant period of plants) and often at meetings during the evening, and as the various aspects of the production of amateur or commercial crops of fruits, vegetables, flowers or plants is very seasonable and of short duration, motion pictures portraying plant life in its various aspects and in the technique of the numerous operations of seeding, planting, cultivating, spraying, harvesting, grading, etc., appears to be a necessary aid in effective educational work.

3. It is recommended that the following provision be made for a beginning in motion picture work by the Horticultural Department:

Cost of Camera, and Supplies:

1-70 DA, Filmo, B. & H. camera, Lens 3.5	\$286.00	
1 Critical focuser	3.29	
1 Tripod - B. & H. all metal	36.00	\$325.29
1000' Panchromatic film 16 mm. at 6.75	67.50	
500 Super sensation film 16 mm. at 8.50	42.50	110.00

The price of the film includes the cost of developing and printing complete for projection.



A projection machine may be borrowed, or rented, at a low rate, as previously arranged for the projection of films, but in time it would be desirable that the College have a portable projection machine for the 16 mm. films. (the size generally used by Educational Institutions.

The 1500 feet of film at a cost of \$110.00 should be sufficient for the year 1933-34 but in time and as conditions become more favourable additional expenditures along these lines of educational motion pictures would be very desirable.

There is at present an amount of \$417.63 in the special fund for the purchase of plants and seeds for the College Grounds under the direction of the Horticultural Department, and it is recommended that this amount be authorized to apply to the purchase of the camera and equipment not exceeding \$400.00 and that the costs of the films be charged in item 52 under Material and Supplies, Horticultural Department.

The Bell & Howell camera and supplies are distributed by the Associated Screen News Limited, Montreal.



# MACDONALD COLLEGE

McGILL UNIVERSITY

RAILWAY STATIONS AND EXPRESS:  
STE. ANNE DE BELLEVUE, QUE.

POST OFFICE:  
MACDONALD COLLEGE, QUE., CANADA

FACULTY OF AGRICULTURE  
OFFICE OF THE DEAN

October 18th, 1933.

Sir Arthur W. Currie, G.C.M.G., K.C.B.  
Principal,  
McGill University,  
Montreal, Que.

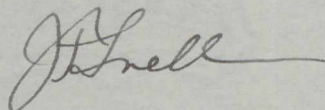
Dear Sir Arthur:

I am enclosing copy of a letter received from Professor Bunting referring to proposals made to you in a letter dated June 21st and accompanying memoranda.

As this matter was discussed between you, Mr. Ward and Professor Bunting in my absence and I have not been asked to take any action in connection therewith, I have done nothing in regard to it except to mention to you once that these communications were sent to you directly and copies sent to me.

I had not noticed the item in the Journal of Agriculture and Horticulture, to which Professor Bunting refers, and regret the publication of a notice involving an obligation which we have not been able to fulfil.

Yours faithfully,



Acting Dean,

JFS/Y  
ENCLO/



C  
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Macdonald College, Que.  
October 18th, 1933.

Dr. J.F. Snell,  
Acting Dean,  
College.

Dear Dr. Snell:

In reference to my letter of June 21st and Memorandum "A" addressed to the Principal, Sir Arthur Currie, at his request, and copies of which were sent to you and Mr. Ward, I may say that I have had no reply, although I have made verbal inquiry four, or possibly five, times concerning the matter to Mr. Ward without any result.

In view of the suggestion and the expectation that it would be acted upon I had published in the Journal of Agriculture and Horticulture, August issue, page 2, the following notice:

Seed and Plant Distribution.

The Horticulture Department is arranging to adopt a policy to provide for a distribution of seeds and plants which will be available from the College grounds and nurseries and the adjoining estates which are prepared to co-operate in this distribution.

This policy is now being adopted, and provision will be made for a distribution of some plants this fall and seeds in the spring of 1934.

Further particulars as to what will be available and terms of this distribution will be supplied on application, and remittance of postage 3¢, to the Horticultural Department, Macdonald College, P.Q.

To this notice I have received 107 inquiries and in view of the present date and the impracticability of acting on the suggestion now I am sending to all the inquiries a copy of the attached statement of letter.

Yours very truly,

(Sgd) T.G. BUNTING.

Professor of Horticulture.

TGB/EH



C  
O  
P  
Y

October 18th, 1933.

Dear Sir:

In reply to your inquiry concerning the notice that appeared in the Journal of Agriculture and Horticulture, August issue, under the heading "Seed and Plant Distribution", I regret to have to inform you that no action has been taken, or policy adopted, providing for the seed and plant distribution indicated in the notice appearing in the August Journal.

I am returning herewith the postage (3¢) sent with your inquiry.

Yours very truly,

(Sgd) T.G. BUNTING.

Professor of Horticulture.

TGB/EH



October 25th,

1 9 3 3

Dear Professor Snell,

I have your letter of October 18th, to which was attached copy of a letter received by you from Professor Bunting, and also copy of the reply which Professor Bunting sent to those who enquired about the seed and plant distribution. I shall take the matter up with Mr. Ward, and beg to give you the assurance that he did not mention the matter to me. I had some conversation with Professor Bunting in the summer and was quite agreeable to the policy he suggested being adopted.

It is to me strange that Professor Bunting did not take the matter up with you, and if Mr. Ward failed to get in touch with me I am quite sure you would have brought it to my attention. Nevertheless, I think Professor Bunting might have couched his reply in somewhat different terms, and in answering his correspondents said that he regretted he was unable to comply with the notice that had appeared in the Journal of Agriculture and Horticulture. His statement that "no action has been taken or policy adopted" implies a reflection which, however true, loyalty to the College should have prevented him from advertising.

Ever yours faithfully,

Principal

Professor J.F. Snell,  
Acting Dean,  
Faculty of Agriculture



October 25th,  
1933

Dear Mr. Ward,

Dean Snell has brought to my attention certain correspondence which has passed between him and Professor Bunting of the Department of Horticulture. He also sends me copy of a letter which Professor Bunting sent in reply to correspondents who enquired of him with reference to the notice that appeared in the Journal of Agriculture and Horticulture in the August issue, under the heading, "Seed and Plant Distribution".

I remember very well Professor Bunting speaking to me once regarding this matter and that I intimated to him that I felt in full sympathy with what he suggested. In his letter to Dr. Snell Professor Bunting states that he made enquiry on four, or possibly five occasions from you and would get no definite information from you regarding policy. The fault may have been altogether mine, but I think between you, Professor Bunting and Dean Snell the matter might have been brought to my attention, - and so deprived Professor Bunting of the pleasure of informing his correspondents that he was unable to comply with the request because "no action has been taken or policy adopted". This latter statement constitutes a reflection which may be true, but which loyalty should have prevented him from advertising.

Ever yours faithfully,

Principal

Mr. T. Fred Ward,  
Bursar,  
Macdonald College P.O., P. Que.



# MACDONALD COLLEGE

McGILL UNIVERSITY

RAILWAY STATIONS AND EXPRESS:

STE. ANNE DE BELLEVUE, QUE.

POST OFFICE:

MACDONALD COLLEGE, QUE., CANADA

FACULTY OF AGRICULTURE

OFFICE OF THE DEAN

October 26th, 1933.

Sir Arthur W. Currie, G.C.M.G., K.C.B.  
Principal,  
McGill University,  
Montreal, Que.

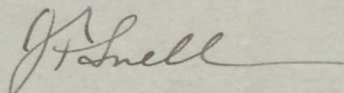
Dear Sir Arthur:

I have your letter of October 26th and will communicate with Professor Bunting accordingly.

The matter was first brought to my attention by a letter from Professor Bunting dated June 22nd, enclosing copy of a letter addressed to you and two memoranda dated June 21st. As I had had no previous contact with the question I assumed that you would either ask me to advise regarding the matter or deal with it directly yourself. In my letter of July 10th I referred to the question in general terms asking whether in such instances I should go into the matter without waiting for instructions from you.

Professor Bunting has told me that he had mentioned this matter to Mr. Ward several times during the summer and that Mr. Ward had always promised to discuss it with you. I think Professor Bunting should have been sure of his ground before making any public announcement and I agree with you that it is unfortunate that in his answer to inquirers he should have cast reflection upon the administration of the College.

Yours faithfully,



Acting Dean.

JFS/Y

P.S.

I am enclosing copy of my letter to Prof. Bunting.  
J.F.S.



C  
O  
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Y

Macdonald College, Que.  
October 26th, 1933.

Professor T.G. Bunting,  
College.

Dear Professor Bunting:

I have had a letter from the Principal in answer to the one sent to him with copy of your letter of October 18th. He tells me that he was quite agreeable to the policy you suggested being adopted but that he expected it to be brought to his attention again. He does not remember Mr. Ward mentioning it to him and thinks you should have taken it up with me. Probably you assumed that you had done so in your letter of June 22nd but I did not think it in order for me to take any action on a matter with which I had had no contact, unless asked to do so by the Principal.

The Principal also expresses regret that you should have couched your reply to inquirers in such terms as to imply a reflection on the College administration. He says "a statement that 'no action had been taken or policy adopted' implies a reflection which, however true, loyalty to the College should have prevented him from advertising".

Yours faithfully,

Acting Dean.

JFS/Y



# MACDONALD COLLEGE

RAILWAY STATIONS AND EXPRESS:  
STE. ANNE DE BELLEVUE, QUE.

McGILL UNIVERSITY

POST OFFICE:  
MACDONALD COLLEGE, QUE., CANADA

October 26, 1933.

Sir Arthur Currie, G.C.M.G., K.C.B., LL.D.,  
Principal,  
McGill University,  
MONTREAL, P. Que.

Dear Sir Arthur,

I have read with interest your letter of October 25, with reference to "Seed and Plant Distribution".

I was present when Prof. Bunting took this matter up with you in Dean Snell's office. At the time he made the proposition you expressed yourself as being in full sympathy with the plan and stated that you were prepared to make it possible, but before doing so you asked Prof. Bunting to submit to you, in writing, an outline of the scheme. Prof. Bunting did so in June and sent me a copy at the time.

Inasmuch as Prof. Bunting had sent this report to you direct I took it for granted that you would communicate your reply direct to him, probably sending me a copy.

The next time I heard of this matter was in September when Prof. Bunting called on me with a request that I obtain from you a reply to his communication of June last. I undertook to do this but subsequently Prof. Bunting came to my office and stated that he had an appointment with you to discuss the question of his applying for the position in the Trade Commissioner's service; I then suggested to him that he had better ask you for a decision with regard to his letter of June last.

A few days after this interview I asked Prof. Bunting had he brought the matter to your attention and he replied that he did not have an opportunity to do so.

I had a note to take up this matter on the Wednesday preceding the laying of the corner-stone

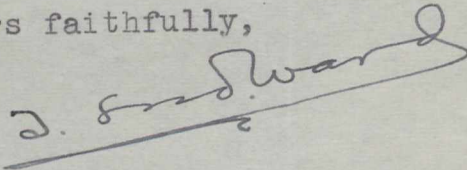


of the Neurological Building but, as you will remember, your time was fully occupied and inasmuch as Prof. Bunting had stated to me that it was almost too late to do anything this year I did not consider the matter urgent; last Wednesday when I was in town I called at your office with this particular item on my list but as you were attending a Committee Meeting I was unable to see you, and Mrs. McMurray stated that you would not be in the office that afternoon as you were not well.

In passing I might state that I told Prof. Bunting when he first broached the subject that I thought it would be quite all right for him to proceed with the scheme in a small way until we got an idea as to how it was going to function. His answer was that he preferred to wait until he had a reply from you to his letter, although he had already advertised in the Journal of Agriculture giving the public the impression that the scheme was in operation.

Had Prof. Bunting submitted his proposition through the proper channel, i.e. through my office, I should have seen to it that the matter was brought to a definite issue.

Yours faithfully,

A handwritten signature in cursive script, appearing to read "T. Fred Ward", written over a horizontal line.

T. FRED. WARD,  
Bursar.

TFW/VJ



MACDONALD COLLEGE

McGILL UNIVERSITY

RAILWAY STATIONS AND EXPRESS:  
STE. ANNE DE BELLEVUE, QUE.

FACULTY OF AGRICULTURE  
OFFICE OF THE DEAN

POST OFFICE:  
MACDONALD COLLEGE, QUE., CANADA

October 31st, 1933.

Sir Arthur W. Currie, G.C.M.G., K.C.B.  
Principal,  
McGill University,  
Montreal, Que.

Dear Sir Arthur:

I am enclosing copy of a letter received from Professor Bunting in answer to mine of October 26th, a copy of which was forwarded to you.

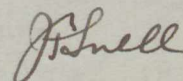
I have suggested to Professor Bunting that his letter to inquirers should be modified so as to express regret that it was found impossible to fulfil the obligation undertaken in the announcement made in the Journal of Agriculture. It would be better if he could at the same time express hope that it might be possible next year to undertake the distribution of the plant material planned for this year, but this would scarcely be advisable unless he could have assurance from you that this policy was to be put into effect.

In any case, he should have a definite decision before next summer, so that he may be able to formulate his procedure in time to make any necessary public announcement.

I have not yet received the draft of his letter referred to in his last paragraph.

Mr. Ward and I both feel that Professor Bunting, having addressed you directly in the first place, might have followed up his original letter with another asking for a decision. Mr. Ward tells me that he suggested to Professor Bunting that he mention this matter to you himself on the occasion of our interview with you referring to his proposed application for an appointment with the Department of Trade and Commerce. Professor Bunting tells me that he would have done so had he not intimated that you had some other matters to discuss with me, which intimation he interpreted as a dismissal from the interview.

Yours faithfully,



Acting Dean.



C O P Y

Macdonald College, Que.  
October 28th, 1933.

Dr. J.F. Snell,  
College.

Dear Dr. Snell:

This will acknowledge your letter of October 26th in reference to my letter of October 18th, a copy of which was sent to the Principal.

I regret that there may have been some misunderstanding concerning this matter, and I am sorry that the term 'loyalty' was used by the Principal. I did not intend to imply any reflection on the College administration, and did not think that any had been implied in my letter. However, it may be fortunate that the letter was not forwarded, owing to the receipt of your letter of the same date.

I have at all times endeavoured to act in the interests of the Department, and of the College and the University, and trust you will convey this statement to the Principal.

In this particular case, the suggestion concerning the seed and plant distribution, we have, from the Department, sent out from time to time a considerable quantity of plant material, and believed that it has been of value to many Quebec and other institutions and people, and a distinct contact for the Department. I desired to extend these operations at the present time, believing that they could be made largely self-sustaining during a period of years; but owing to the appropriations under the College Grounds and the Horticultural Department I did not think that it would be practicable to do much along these lines without special provision for it.

You will remember that I sent you and Mr. Ward a copy of my communication addressed to the Principal, and frequently followed it up through Mr. Ward.

I also regret that the note in the August issue of the Journal was worded and placed as it was, but I acted in good faith in doing so.

I have redrafted a letter to cover the matter and am submitting a copy herewith for your approval.

Yours sincerely,

(Sgd) T.G. BUNTING.

Professor of Horticulture.



Expenditures - Horticultural Department

	<u>Salaries</u>	<u>Other Expenditures</u>	<u>Total Expenditures</u>	<u>Revenue</u>	<u>Net Expenditure</u>
1929-30	\$10,018.04	\$23,215.98	\$33,234.02	\$15,659.72	\$17,533.32
31	10,250.48	21,924.50	32,174.98	12,094.73	20,080.25
32	10,068.84	23,201.16	33,270.00	16,216.89	17,053.11
33 <sup>a</sup>	9,122.84	20,880.21 <sup>b</sup>	30,033.05		

Expenditures

	<u>Faculty of Agriculture<sup>c</sup></u>	<u>Dept. of Hort.</u>	<u>% Hort. Dept.</u>
1929-30	\$151,301.28	\$33,234.02	21.96
31	152,921.44	32,174.98	21.04
32	150,991.06	33,270.00	22.03

Five Departments<sup>c</sup>

1929-30	\$ 47,761.18
31	49,819.53
32	49,746.65

Income

	<u>Faculty of Agriculture<sup>c</sup></u>	<u>Dept. of Hort.</u>	<u>% Hort. Dept.</u>
1929-30	\$ 49,812.93	\$15,659.72	31.43
31	39,151.93	12,094.73	30.88
32	45,579.01	16,216.89	35.

Expenditures<sup>c</sup> - Macdonald College

	<u>1932</u>	<u>1931</u>	<u>1930</u>
Bacteriology Dept.	\$ 7,865.42	\$ 7,716.58	\$ 6,658.63
Botanical "	10,333.69	9,120.84	9,683.39
Chemistry "	12,360.20	12,502.01	11,985.14
Entomology & Zoo Dept.	12,862.61	13,707.58	12,813.77
Physics Dept.	6,324.73	6,771.52	6,620.25
Horticultural Dept. <sup>d</sup>	10,068.84	10,250.48	10,018.04

Expenditures - College Grounds

	<u>Hort. Dept.</u>	<u>Total<sup>c</sup></u>
1929-30	\$3,549.71	\$9,146.22
31	4,083.30	8,798.98
32	3,563.57 <sup>b</sup>	9,022.53
33	3,542.30	

(a) Estimated

(b) Appropriation

(c) Annual Report, McGill University

(d) Horticultural Department salaries



DEPARTMENT OF PLANT PATHOLOGY.

Summarized Statement on Appropriations

1. The present departmental appropriation includes only funds required to maintain and carry on the teaching activities of the Department.
2. The total appropriation has been reduced each year for the past three years. The total reduction is slightly more than 18% of the high in 1929-30.
3. No new equipment, even though some items are badly needed, is asked for at this time. Last year's new equipment appropriation was \$187.50.
4. It is proposed to cut further operating expenses (materials and supplies, etc.) by \$125.
5. This makes a total reduction of \$312.50. This may seem to be a small amount, but out of a small appropriation that has been really inadequate to provide for all the needs of the Department, this amount is felt to be all that can be saved without serious impairment to the essential activity of the Department, namely teaching.
6. If a larger amount than this has to be saved in the departmental appropriations, then we favour the adoption of a uniform cut in salaries and wages.



DEPARTMENT OF PLANT PATHOLOGY APPROPRIATIONS.

In view of the fact that the present financial situation makes it necessary to make whatever cuts are possible in appropriations, the following statement has been prepared relative to the situation in the Department of Plant Pathology. In the first place, it is to be stated that this has been done with a real appreciation of the financial difficulties of the institution and the department is willing and anxious to bear whatever reduction in departmental appropriations represents its fair proportion of the economies to be affected in the College expenditures. However, it is felt that a brief outline of the work and needs of each department should prove to be a helpful guide in the allocating of money at this time.

Teaching is the main endeavour of this Department. This includes two elementary courses given to the Diploma Class and one to the Household Science Students. General botany is taught to the first year Degree Students in Agriculture and Household Science. Four other courses in botany, fundamental to students in various options are offered. The teaching emphasis is placed on courses in plant pathology, and these include seven undergraduate and seven post graduate courses. The training of undergraduate specialists and more particularly post graduate students, demands particular effort on the part of the staff from several standpoints such as the increased effort required in the teaching of advanced courses, the supervision of projects and thesis work, the isolating and



running of pathogenic organisms in culture and the preparation of laboratory material. So that the teaching and instructional work carried by each staff member is heavy, and leaves very little time during the college term for research activities, which is such an essential background for those engaged in teaching advanced courses in a scientific subject. A measure of relief is afforded through the help of a graduate assistant, half of whose time is available for assisting in the preparation of material, marking of laboratory books and the general routine work of the Department. The money for wages make it possible for the Department to employ the necessary extra help to undertake field work in the summer. A student specializing in the option is always employed. Moreover, it provides occasional help for work to be done in the greenhouse, such as potting and care of plants, and the washing of glassware in the laboratory. Field and greenhouse investigations are an absolute necessity in our work. The appropriations for graduate assistance and wages are, therefore, two very essential parts of the departmental funds, and it is impossible to drop either of them.

The number of students specializing in this Department has been relatively high, since the organization of the Department in 1921. In the 12 years of its existence, 105 students - 56 undergraduates and 49 post graduates - have taken major work. This past year there were 13 registered for major work. The numbers may not seem to be large, but they have been quite in keeping



with the demands for specialists in this field. The students trained in this Department have been favourably received in Canada, and elsewhere, and the Department has established an enviable record in Canada for the training of plant pathology specialists. The Department of Botany at Toronto University, which is the only other institution in Canada that offers special training in plant pathology, has recently moved into a fine new building, which is exceedingly well equipped. We naturally have a good deal of pride in the Department's record, and are somewhat jealous of our position and in view of the expansion in plant pathology teaching in Toronto University, we are anxious not to fall by the wayside through lack of funds, if this can be avoided.

Under the present economic conditions there may be a decrease in the numbers of students selecting this option, but the opportunities seem as bright in this branch as any other line of scientific agriculture. As far as can be determined the prospect is that next year's registration will be as high as ever, particularly for post graduate students, which is the type of teaching that makes particular demands for materials and supplies. Money is, therefore, required for the coming year for chemicals, glassware, greenhouse supplies, and renewals to equipment, which represent the basic operating needs of the Department, and such items must be kept up if the teaching effort is not to suffer serious impairment.

In brief the departmental appropriations as they stand at present are merely sufficient to meet the requirements imposed



by the teaching carried on in the Department, and they do not include any money to support investigational or other work excepting that which is necessary in connection with project and thesis work demanded of the students specializing in plant pathology. In the final analysis the fundamental purpose of the College is teaching. I should, therefore, like to respectfully suggest that it appears to me that much greater cuts should be made in funds which are given to the support of testing, demonstration and experimental activities, than in those which are essential to the maintenance of a proper standard of teaching in each department.



**TRAINING FOR PROFESSIONAL AGRICULTURE**

By H. Barton, B.S.A., D.sc.A., Dean of the Faculty of Agriculture,  
Macdonald College (McGill University).

Agriculture as a way of life is as old as civilization, but as a profession requiring university training similar to that required of aspirants to the professions of law, medicine and teaching, it is as yet comparatively young. For this reason, it is frequently overlooked by prospective university students in search of a suitable life work; and it is with a view to acquainting those who may be called upon for advice by such prospective students with the scope of the profession, and the type of training provided for those entering the field, that this short article is presented.

When it is recalled that the practice of agriculture involves not only a knowledge of the principles of breeding and growth of plants and animals, but also an understanding of the chemistry of soils and feeds, of the control of insects and diseases affecting crops and stock, and of the business principles involved in the production and distribution of foodstuffs in accordance with market requirements, it will be seen that the profession is large enough to accommodate, in addition to the general advisor, many specialists in various branches of science, as well as specialists in economics and business administration.

At Macdonald College, the Faculty of Agriculture of McGill University, provision is made for those taking the four year course, leading to the degree of Bachelor of Science in Agriculture, to specialize in agronomy, animal husbandry, general biology, chemistry, entomology, horticulture, plant pathology and poultry husbandry, while, through the Faculty of Graduate Studies and Research of McGill University, courses leading to the degrees of Master of Science and Doctor of Philosophy are available at Macdonald College in agronomy, bacteriology, chemistry, entomology and plant pathology. For those seeking a high school diploma through agriculture rather than through arts, provision is made, as well, for a four year course leading to the degree of B.Sc. in Agr. (the usual degree given at Macdonald College is designated by the abbreviation B.S.A.), the first two years of which are taken in the Faculty of Arts and the last two in the Faculty of Agriculture (see Announcement).

Believing that the teaching, administrative and research posts open to graduates in agriculture require at least as high a standard of training as those open to graduates from other faculties, the Faculty of Agriculture of McGill University have planned their courses of study with a view to giving the candidate for a degree a thorough grounding in the fundamentals as well as specialized training in one or more branches of his chosen science. Entrance is by matriculation, and in the first two years of the college course a general training, similar to that given in the first two years of the arts course, is given. This includes, in the first year, agriculture (history and development of Canadian), botany (elementary), chemistry (inorganic), English (composition and literature), mathematics (mathematical analysis, elementary) and physics (mechanics, heat, sound and molecular physics,) and, in the second, chemistry (organic), economics (elementary principles of), English (literature), mathematics (calculus), physics (light, electricity and magnetism) and zoology (elementary).



Where courses correspond, an attempt is made to have these, as nearly as possible, parallel those given in the Faculty of Arts, the same texts, etc., being used. Then, in the third and fourth years, students specialize in one or more branches of science, as indicated above.

Of the students who have been graduated in agriculture by McGill University since Macdonald College first opened its doors some twenty-five years ago, approximately twenty-five percent have entered the practical field of agriculture and are now managing their own projects in horticulture, poultry husbandry, stock and plant breeding and general farming, while seventy-five percent have entered the professional field. Of these, many occupy staff and faculty position in Canadian and American universities; a few hold posts of high distinction in the administrative offices of departments of agriculture in Canada and other parts of the British Empire, while many others are engaged in experimental and extension work in these departments; a large number are engaged in research work, not only in various phases of agriculture and its cognate industries, but also in such fields as the sugar, textile and pulp and paper industries; business has claimed a fair number, some have entered the field of journalism, agricultural and general, while a few have used their training in agriculture as a stepping stone to the professions of law, medicine, etc. In fact, the record of our graduates is one of which we are justly proud, and is indicative of the potentialities of the profession to those making choice of a life work.

To the prospective student, there are a number of features of the life and training at Macdonald College that may be of interest. In the first place, Macdonald is a co-educational and residential college, offering cultural and social advantages that are not found in most university faculties. The buildings are amongst the most beautiful college buildings to be found on the continent and are splendidly situated on a large and well-planted campus running down to the Ottawa river. The college farm comprises 1,000 acres, and, included in the spacious campus, are athletic fields for both girls and boys. Each residence has its own well-equipped gymnasium and swimming pool, while the Main Building houses a well-stocked library, a luxurious reading room and a large assembly hall, with stage, grand piano and pipe organ. Students with athletic, rhetorical, musical or dramatic instincts are given every facility and encouragement to develop their prowess. And the fact that the members of the staff and faculty have their residences on the campus helps make of Macdonald College a community that is unique socially and culturally.

Students' expenses, too, are low at Macdonald College. Under the terms of its foundation, sons and daughters of farmers of the Province of Quebec, of the Ottawa Valley in Ontario, and of the Maritime Provinces, pay no tuition fees for the first two years of their agricultural course, while for the third and fourth years the fee is but \$50 a year; and the Quebec Government grants \$9 per month of attendance to students in agriculture who come from the Province of Quebec. These considerations, taken in conjunction with the low cost of board and rooms, as compared with costs in cities to students following courses in faculties where residences are not available, place the achievement of an agricultural education within the reach of all.



MACDONALD COLLEGE

RAILWAY STATIONS, EXPRESS AND TELEGRAPH OFFICES:  
STE. ANNE DE BELLEVUE, QUE.

POST OFFICE:  
MACDONALD COLLEGE, QUE., CANADA.

*Comparison  
Guelph & Macdonald*

June 12th, 1929.

Sir Arthur W. Currie, G.C.M.G., K.C.B.,  
Principal & Vice-Chancellor,  
McGill University,  
Montreal, Que.

Dear Sir Arthur:

In compliance with your request, I submit herewith some comparative figures as between the Ontario Agricultural College and Macdonald.

The latest figures available for Guelph are for 1927. In the Guelph system of accounting, salaries are grouped and not charged departmentally, and produce may be supplied from some departments to the college without charge so it is difficult to make accurate comparisons in all cases. Apart from salaries, but including wages, the figures given for the largest departments, financially speaking, are as follows:-

	<u>Guelph 1927</u>	<u>Macdonald 1927-28</u>
Animal Husbandry -		
Expenditure	\$39,319.49	\$30,467.76
Revenue	<u>19,860.81</u>	<u>20,825.93</u>
	\$19,458.68	\$ 9,641.83
Agronomy - (non revenue bearing)		
Expenditure	\$24,060.26	\$19,173.91
Revenue	<u>                    </u>	<u>980.16</u>
Net Expendi.	\$24,060.26	\$18,193.75
Horticulture -		
Expenditure	\$30,083.69	\$18,851.56
Revenue	<u>2,505.87</u>	<u>18,965.09</u>
Net Expendi.	\$27,577.82	\$ 113.53



# MACDONALD COLLEGE

RAILWAY STATIONS, EXPRESS AND TELEGRAPH OFFICES:

STE. ANNE DE BELLEVUE, QUE.

POST OFFICE:

MACDONALD COLLEGE, QUE., CANADA.

-2-

	<u>Guelph</u>	<u>Macdonald</u>
Poultry -		
Expenditure	\$44,342.53	\$13,745.11
Revenue	<u>18,195.63</u>	<u>13,470.19</u>
	\$26,146.90	\$ 274.92

The net expenditure for departments, exclusive of salaries, was nearly \$190,000.00 at Guelph, whereas the net appropriation for the Faculty of Agriculture, including salaries, was approximately \$125,000.00 at Macdonald.

The staff at Guelph is of course very much larger and the salary range is somewhat higher than at Macdonald while the qualifications of the staff at Macdonald are, in my judgment, better than those in most of the corresponding departments at Guelph.

The total registration of regular students at Guelph in the general courses for the year 1927 is given as 326. At Macdonald for the corresponding year the registration, including graduate students, was 152. No graduate work was given at Guelph in so far as I know.

I trust this is the information you had in mind.

Yours faithfully,

*A. Barton*  
per Cij.

Dean, Faculty of Agriculture.

HB/Y



*Conventions*

August 15, 1933.

The Honourable Adelard Godbout,  
Minister of Agriculture,  
Parliament Buildings,  
Q u e b e c , P. Que.

My dear Minister,

Acting Dean Snell of Macdonald College has informed me that you as President of the Canadian Society of Technical Agriculturalists have invited the Society to meet in our province next June. Dean Snell informs me further that he has suggested to you that the meeting should be held at Macdonald College.

I am writing to say that I most cordially support Dean Snell's suggestion and I hope that you will find it possible to hold the meeting at the College where we would give all the facilities possible.

Yours faithfully,

Principal



August 15, 1933.

Professor J.F. Snell,  
Acting Dean, Faculty of Agriculture,  
Macdonald College, P. Que.

Dear Dean Snell,

I have your letter of the 11th with reference to your suggestion that the Canadian Society of Technical Agriculturalists should be invited to hold their meeting next year, at Macdonald College. I cordially support your suggestion and will write to Mr. Godbout, but I suggest you write as well and in my letter I will say that I support your invitation.

Yours faithfully,

Principal



# MACDONALD COLLEGE

McGILL UNIVERSITY

RAILWAY STATIONS AND EXPRESS:  
STE. ANNE DE BELLEVUE, QUE.

POST OFFICE:  
MACDONALD COLLEGE, QUE., CANADA

FACULTY OF AGRICULTURE  
OFFICE OF THE DEAN

August 11th, 1933.

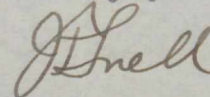
Sir Arthur W. Currie, G.C.M.G.,  
Principal,  
McGill University,  
Montreal, Que.

Dear Sir Arthur:-

The Honourable Mr. Godbout who is President of the Canadian Society of Technical Agriculturists has invited the Society to meet in the Province of Quebec next June and I have suggested to him that with your permission, the meeting should be held at Macdonald College. The Convention of the Women's Institutes will probably be held in the week of June 10th, and the meeting of the Technical Agriculturists could be placed in the following week. Mr. Ward is of the opinion that there would be no difficulty about this.

If you agree, will you forward an invitation to Mr. Godbout, or would you prefer that I should correspond with him?

Faithfully yours,



Acting Dean.

JFS/HB





CABINET DU MINISTRE

MINISTÈRE DE L'AGRICULTURE  
PROVINCE DE QUÉBEC

Quebec, August 25th, 1933.

Sir Arthur-W. Currie, G.C.M.G., K.C.B.,  
Principal and Vice-Chancellor,  
McGill University, Montreal.

Dear Sir Arthur,

I wish to acknowledge the receipt of your letter of the 15th instant, and in the name of the Canadian Society of Technical Agriculturists allow me to thank you most sincerely for your kind invitation to hold our next meeting at MacDonald College.

During the course of our next Executive meeting, this question shall be debated, and I am sure that the idea to have our meeting at MacDonald will be very popular amongst our members who would like to avail themselves of your generous invitation if circumstances permit.

With best personal regards,  
believe me always, dear Sir Arthur,

Yours faithfully,

*Alvin Fedrunt*



*Conventious invited*

MACDONALD COLLEGE

McGILL UNIVERSITY

RAILWAY STATIONS AND EXPRESS:  
STE. ANNE DE BELLEVUE, QUE.

POST OFFICE:  
MACDONALD COLLEGE, QUE., CANADA

FACULTY OF AGRICULTURE  
OFFICE OF THE DEAN

August 28th, 1933.

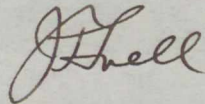
Sir Arthur W. Currie, G.C.M.G., K.C.B.  
Principal,  
McGill University,  
Montreal, Que.

Dear Sir Arthur:

I am enclosing copy of my letter to the Hon. Mr. Godbout, inviting the Canadian Society of Technical Agriculturists to hold its meeting at Macdonald College next June, and one of his answer.

Has Professor Raymond seen you regarding the dedication of the Memorial Clock? He has just gone on his vacation and I am not informed as to whether he saw you or not. He told me that it was his intention to do so. I suggested to him that if he wanted you for November 11th he should approach you as early as possible as you will no doubt have many invitations for that date.

Yours faithfully,



Acting Dean.

JFS/Y  
ENCLO/



August 29, 1933

Professor J. F. Snell,  
Acting Dean,  
Faculty of Agriculture,  
Macdonald College.

Dear Professor Snell,

I have your letter of yesterday, regarding the possible meeting of the Canadian Society of Technical Agriculturists at Macdonald College next June. I have also had a letter from Mr. Godbout, in which he writes in much the same strain as in his to you. While we were dining at the College a couple of weeks ago, I sat next to Father Leopold and told him that we were inviting the Society to Macdonald, when he replied that I would have opposition from him, as he wanted them to meet at Oka. He added that he was one of the Vice Presidents of the Society, and I intimated that I was a strong believer in compromise.

I have not seen Raymond regarding the dedication of the Memorial Clock, but have a letter from him. I regret that as I have an engagement to be in Toronto on Armistice Day next, I cannot be at Macdonald College.

Ever yours faithfully,



C O P Y.

August 18th, 1933.

The Honourable J.A. Godbout,  
Minister of Agriculture, Que.,  
Quebec, Que.

Dear Sir:-

I have consulted with our Bursar and with Sir Arthur Currie and I am now in a position to extend a definite invitation to the Canadian Society of Technical Agriculturists to hold its 1934 Convention at Macdonald College in June. The annual convention of the Women's Institutes of the Province of Quebec will probably be held in the week of June 10th and it would probably be convenient to have the C.S.T.A. here either in the latter days of that week or in the early part of the next week.

Faithfully yours,

(Signed) J.F. SNELL

Acting Dean.

JFS/HB



C O P Y

MINISTER OF AGRICULTURE  
Province of Quebec.

Quebec,  
August 25th, 1933.

Doctor J.F. Snell,  
Acting Dean,  
Macdonald College, P.Q.

Dear Doctor Snell:

I beg to acknowledge the receipt of  
your letter of the 18th instant.

In the name of the Canadian Society  
of Technical Agriculturists, I sincerely thank you for  
your kind invitation to hold our next meeting at  
Macdonald College. This question shall be brought  
up at our next Executive meeting, and I am positive  
that the idea will meet with the approval of all the  
members who will be anxious to accept this invitation,  
circumstances permitting.

We are also invited by the Quebec  
Branch of our Society to hold our convention in the  
City of Quebec, and I am assured that the members of  
the Executive will at least make a trip to the College  
if the reunion should be held here, the same as they  
would like to come to Quebec should the convention take  
place at Macdonald College.

Sincerely yours,

(Signed) J. Adeland Godbout.



*General*

Macdonald College, Que.  
August 31st, 1933.

To Members of the Staff, School of Agriculture:-

The Principal has asked me to advise all members of the staff of the School of Agriculture that all communications to him should be sent through the Dean's Office. This will not preclude subsequent personal interviews with him but may conserve his time by eliminating unnecessary ones.

Upon the same principle, all communications of subordinate members of the staff with the Acting Dean should be made through, or with the knowledge and consent of, the heads of departments.

In making any communication to members of other departments or to me, you are asked to consider whether proposals made will affect still other departments and, in case they do, to advise those other departments at the same time as those more directly concerned. This may often be economically done by sending copies of the main communication to the other departments affected.

The Bursar and I are agreed that all expense accounts should be sent to the Dean's Office for approval before submission to the Bursar. They should have the previous signed approval of the Department Head or Chairman of Project Committee controlling the appropriation.

J.F. SNELL

Acting Dean,  
Faculty of Agriculture.

JFS/Y

*[Handwritten signature]*



# MACDONALD COLLEGE

McGILL UNIVERSITY

RAILWAY STATIONS AND EXPRESS:  
STE. ANNE DE BELLEVUE, QUE.

POST OFFICE:  
MACDONALD COLLEGE, QUE., CANADA

FACULTY OF AGRICULTURE  
OFFICE OF THE DEAN

June 14th, 1933.

Sir Arthur W. Currie, G.C.M.G., K.C.B.  
Principal,  
McGill University,  
Montreal, Que.

Dear Sir Arthur:

Since your visit this morning I have arranged to take lunch with Dr. Rabinovitch at the General Hospital on Friday at twelve-thirty. I could call on you either before that hour or in the afternoon.

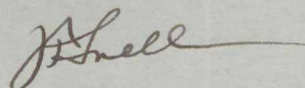
In addition to the business left unfinished this morning, I wish to consult you as to the advisability of my accepting the invitation of the Hon. Mr. Weir to attend the National Agricultural Conference in Regina commencing July 20th.

Dr. Conklin told me over the telephone that he was awaiting a reply from you to a proposal to undertake further work for the Quebec Department of Agriculture. You will probably have heard from him directly regarding this.

My report is almost ready for submission to you; the only outstanding portion is that on Animal Pathology and Dr. Conklin has promised me this for tomorrow.

I will call your office on my arrival in the City on Friday morning to learn whether it will be convenient for you to see me that day, and, if so, at what hour.

Yours faithfully,



Acting Dean.

JFS/Y







March 23, 1933.

Professor J.F. Snell,  
Acting Dean, Faculty of Agriculture,  
Macdonald College, Que.

Dear Professor Snell,

Thank you for your letter and  
the copy of "Science" which you sent me. Do you want  
this back or may I keep it for my files?

I asked Mr. Ward to tell you  
that I would wait to get Mr. Grenier's letter from you  
before I wrote to Quebec about Conklin.

Yours faithfully,

Principal.



MACDONALD COLLEGE

McGILL UNIVERSITY

FACULTY OF AGRICULTURE  
OFFICE OF THE DEAN

RAILWAY STATIONS AND EXPRESS:  
STE. ANNE DE BELLEVUE, QUE.

*Re Announcement  
Printing  
re Interviewing budget  
heads*  
POST OFFICE:  
MACDONALD COLLEGE, QUE., CANADA

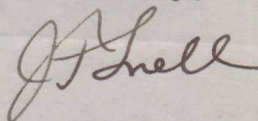
April 7th, 1933.

Sir Arthur W. Currie, G.C.M.G., K.C.B.  
Principal,  
McGill University,  
Montreal, Que.

Dear Sir Arthur:

At my suggestion, Dr. Cameron has prepared the enclosed statement about the Institute of Parasitology to be inserted in the Macdonald College announcement. I have made pencil alterations and should be glad to have your advice as to the desirability of including a statement in the announcement, the question whether the names of the staff of the Institute should not appear, and the position which the statement should occupy. My suggestion would be that it should follow the section on "Material Equipment" which, in the 1932/33 edition, extends from page 31 to below the middle of page 35. The succeeding section, then, "Courses Offered", might well commence a new page.

Yours faithfully,



Acting Dean.

JFS/Y



April 11, 1933.

Professor J. F. Snell,  
Acting Dean,  
Faculty of Agriculture,  
Macdonald College P.O., P. Q.

Dear Professor Snell,

Let me acknowledge your letter of April  
7th.

I approve of the draft enclosed, as revised  
by you, and am returning it herewith.

I would suggest, however, that the names  
of the staff of the Institute appear in the front  
section of the Announcement, where the staff of the  
College in all Departments is gathered together under  
the Faculty and the Schools.

It also seems to me that if you insert  
this on page 35 under the heading of "The Material  
Equipment" you ought to make the sub-headings a  
little more prominent. To put the Institute of  
Parasitology under a small sub-heading such as  
appears at the top of page 35 would hardly do.

I think the printing of the Macdonald  
College Announcement is poor. You might ask Mr.  
Ward to tell me who does it, whether the contract  
has been awarded for the coming year, and if so  
what the figures are. I do not want to interfere  
with these small details of Macdonald College ad-  
ministration, but I think the Announcement might  
well be printed by the same firm who do all the  
University printing.

*Ward made  
no reply.  
— Jm.*

Ever yours faithfully,

Principal



MACDONALD COLLEGE

McGILL UNIVERSITY

RAILWAY STATIONS AND EXPRESS:  
STE. ANNE DE BELLEVUE, QUE.

FACULTY OF AGRICULTURE  
OFFICE OF THE DEAN

POST OFFICE:  
MACDONALD COLLEGE, QUE., CANADA

April 14, 1933.

Sir Arthur W. Currie  
Principal  
McGill University  
Montreal

Dear Sir Arthur:

Your letter of April 11th was received and your suggestion about the printing of the Macdonald College Announcement passed on to Mr. Ward. Your suggestions about the Institute of Parasitology matter for the Announcement will be observed.

In reference to your circular letter to heads of departments expressing your intention to confer with them regarding appropriations, members of our Faculty are of the opinion that it would be of advantage for you to confer with them as a group before dealing with individual departmental appropriations. We are as yet without any definite knowledge of the financial situation and are therefore not in position to make plans for the coming year's work, including that of the growing season now commencing.

Yours respectfully  
J. F. Snell  
Acting Dean





DEPARTMENT OF AGRICULTURE  
PROVINCE OF QUEBEC  
MINISTER'S OFFICE

Quebec, July 28, 1933.

Sir Arthur Currie, Principal,  
McGill University,  
Montreal.

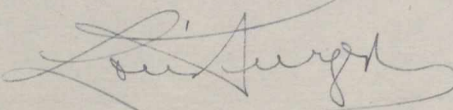
Dear Sir:

In the absence of the Honourable  
Mr. Godbout, I have the honour to acknowledge  
receipt of your letter of July 11th.

As the honourable Minister is not  
expected back to the office until August 15th,  
the kind considerations contained in your letter  
are being submitted to Mr. Adrien Morin, Chief  
of our Livestock Branch, that he may alter the  
report in question so as to avoid any prejudice  
being done to our export trade.

I have the honour to be, Sir, ✓

Yours truly,

  
Asst. Private Secretary.



*General*

July 18th.  
1928.

Dean Barton,  
Macdonald College,  
Ste. Anne de Bellevue.

Dear Dean Barton:

I have heard so frequently complaints from various sources about the inadequacy of the service from your College to those who seek scientific information, that I really think you ought to know about it. The chief complaint that I hear is that when specimens are sent in with a request that they be examined and some opinion offered, the matter is entirely ignored. It seems too bad if this is the case. It has reference both to plant and animal investigation.

The most recent case was rather unfortunate. Mr. W. F. Angus, I understand, wanted some information concerning a cedar hedge and applied at the College for that information. After waiting ten days and hearing nothing whatsoever, he applied to the Davey Tree Expert people, who came within an hour of the time they were summoned, and gave a very valuable opinion which is now being put into effect.

Of course you understand I am not making any official complaint. I am merely telling you this in a friendly way.

With all kind regards,

Sincerely yours,

*Cam*



file

## MACDONALD COLLEGE

FACULTY OF AGRICULTURE  
OFFICE OF THE DEAN

RAILWAY STATIONS, EXPRESS AND TELEGRAPH OFFICES  
STE. ANNE DE BELLEVUE, QUE.

POST OFFICE:  
MACDONALD COLLEGE, QUE., CANADA

July 24th, 1928.

Dr. C.F. Martin,  
McGill University,  
Montreal, P.Q.

Dear Dr. Martin:-

On my return to the College I have your letter of July 18th, and wish to thank you for writing me.

I am always glad to investigate any complaint such as you mention because I am most anxious that the College service shall be as prompt and as efficient as possible. As you can well understand, I am sure, it is just a little difficult at times to have research men appreciate what such service means. At the same time, I have found that there is a lot to be said on the other side. We have a very limited staff here for the work we are trying to do and a great many people of course are not in a position to know what may be expected of us and what may not, and so while I count on some misunderstanding, I do not propose to allow it as any excuse for inattention and carelessness and I am very pleased that you have brought the case of Mr. Angus to my notice. I regret very much that there was some apparent oversight but from what I can gather, the circumstances are as follows:

Mr. Angus' gardener brought down a sample of hedge and gave it to our Mr. Walker, who is in charge of our greenhouse and some of the outside work. Mr. Walker was unable to advise him about it so passed it on to Professor Coulson of our Plant Pathology Department. Professor Coulson examined it and reported to Mr. Walker that he could find no actual disease, although damage was apparent. He in turn passed it on to the Entomology Department and Mr. Baker of that department reported the trouble as being due to Red Spider and recommended spraying. I understand from Mr. Walker that Mr. Angus' gardener again visited the College in the course of a day or two but did not ask about the hedge, nor did Mr. Walker think to tell him about it. As you probably know, these gardeners have negotiations of one kind or another among themselves from time to time and they are in the habit of doing things in a casual manner. Had there been any direct communication with Mr. Angus and our science departments, I feel sure the information would have been forwarded promptly. I asked



MACDONALD COLLEGE

FACULTY OF AGRICULTURE  
OFFICE OF THE DEAN

RAILWAY STATIONS, EXPRESS AND TELEGRAPH OFFICES  
STE. ANNE DE BELLEVUE, QUE.

POST OFFICE:  
MACDONALD COLLEGE, QUE., CANADA

-2-

Mr. Baker to visit Mr. Angus' place yesterday and definitely confirm his findings, which he did, and I understand that arrangements have been made for the use of one of the College sprayers to treat the hedge.

Yours faithfully,

*H. Barton*  
DEAN.

HB/Y



July 25th,  
1928.

Dean Barton,  
Macdonald College,  
Ste. Anne de Bellevue.

Dear Dean Barton:

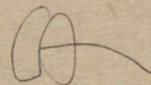
Many thanks for your kind  
letter.

You understand, of course, the  
spirit in which my letter was written, and it was  
only for the purpose of protecting you against such  
criticism that I thought you ought to hear about it.

Your very nice letter is just  
another indication of what an asset you are to the  
College.

With all kind regards,

Sincerely yours,

A handwritten signature, possibly initials, consisting of a large capital letter 'A' followed by a horizontal line that curves upwards at the end.



MACDONALD COLLEGE

FACULTY OF AGRICULTURE  
OFFICE OF THE DEAN

RAILWAY STATIONS, EXPRESS AND TELEGRAPH OFFICES  
STE. ANNE DE BELLEVUE, QUE.

POST OFFICE:  
MACDONALD COLLEGE, QUE., CANADA

July 27th, 1928.

Dr. C.F. Martin,  
McGill University,  
Montreal, P.Q.

Dear Dr. Martin:-

I very much appreciate the  
kind remarks in your letter of July 25th.  
You may rest assured that I quite understood  
your purpose in writing me about the criticism  
of the College service.

Yours faithfully,

*H. Barton*

DEAN.

HB/Y



*Bulletins*

MACDONALD COLLEGE

McGILL UNIVERSITY

RAILWAY STATIONS AND EXPRESS:

STE. ANNE DE BELLEVUE, QUE.

POST OFFICE:

MACDONALD COLLEGE, QUE., CANADA

OFFICE OF THE REGISTRAR

June 8th, 1933.

Sir Arthur W. Currie, G.C.M.G.,  
Principal,  
McGill University,  
Montreal, Que.

Dear Sir Arthur:-

In accordance with your request  
of this afternoon, I send you under separate cover  
a copy each of bulletins available published by  
members of the staff of Macdonald College.

If you should desire a further  
supply please let me hear from you.

Believe me,

Respectfully yours,

*L. J. Wright*

Registrar.

WJW/HB



*Cooperation  
with McGill botany.*

McGILL UNIVERSITY  
MONTREAL

DEPARTMENT OF BOTANY

FRANCIS E. LLOYD

Macdonald Professor of Botany

GEORGE W. SCARTH

Associate Professor of Botany

January 20th, 1920.

Sir Arthur Currie, G.C.M.G., KCB., LL.D.,  
Principal of McGill University.

Dear Sir Arthur,

I am sending for your information a memorandum of two concrete offers of co-operation with Macdonald College, which I made (in conversation) to Dean Barton a few days ago. They concern only phases of the work that I personally feel qualified to assist in.

I. Research toward the improvement of hay and pasture in Quebec.

Grass is the principal agricultural crop in this province. The quality of the crop is generally poor to what it might be, largely because no proper seed mixture is laid down to be gin with.

Great improvements at minimum cost have been effected in Britain by attention to this factor.

Before the farmers here can be educated in the matter, local research is required in order that particular seed mixtures suitable for our climate may be recommended. In such research a botanical analysis of the pasture or hay from year to year is essential to find out the success or adaptability of different species. For this, the co-operation of a botanist skilled in identifying grasses and weeds is desirable. I have had experience of such work in Britain, where I have seen its value, and therefore offer to co-operate now. Dean Barton and Professor Summerby seem to favour the scheme and the latter indicates that he may obtain as his new assistant a man qualified to do the botanical work.

In this case my help may not be needed, but at least I should like to go on record as advising this research and offering what assistance I can. I think it is one of the



most practically useful lines of agricultural research that Macdonald could take up.

II. Teaching of plant physiology.

The necessity for more training in plant physiology for the students at Macdonald is admitted. Dean Barton mentioned that he was applying for a physiologist to supply the need. I told him that Mr Gibbs and I give courses in plant physiology and plant biochemistry at McGill, to which, if possible, Macdonald students might be sent or which we might duplicate at Macdonald. As these courses are now given largely in one day per week, travelling would be reduced to a minimum.

It is true we are already overloaded with teaching, but it seems to me, on the principal of avoiding duplication, that other appointments are perhaps more urgent than that of another physiologist -- at least so far as teaching is concerned.

I am,  
Yours respectfully,

*Geo W Scattle*



21st January, 1930.

Professor George W. Scarth,  
Department of Botany,  
McGill University.

My dear Professor Scarth,

I have your letter of January 20th setting forth your offers of co-operation with Macdonald College in connection with the improvement of hay and pasture in Quebec and the teaching of plant physiology at Macdonald College.

I am very glad indeed to have your letter and more particularly to note the desire to co-operate with Macdonald. I have written to Dean Barton of my hope that the two institutions will get together in these matters.

With all good wishes,

I am,

Ever yours faithfully,

Principal.



21st January, 1930.

Dean Barton,  
Macdonald College,  
Macdonald College, P. Q.

My dear Dean Barton,

I have this morning a letter from Professor Scarth, in which he tells me that he has spoken to you of a way in which the Botany Department here can co-operate with Macdonald College in the matter of the study of grasses and the productivity of the soil to grow hay. I have written to Scarth and told him that I am very grateful to him and that I hope much good will come of this co-operation between the two institutions.

His second suggestion is with regard to the teaching of plant physiology to Macdonald students, either at McGill or by having the McGill professors spend one day at Macdonald per week. What do you think of this.

Ever yours faithfully,

Principal.



# MACDONALD COLLEGE

FACULTY OF AGRICULTURE  
OFFICE OF THE DEAN

RAILWAY STATIONS, EXPRESS AND TELEGRAPH OFFICES:  
STE. ANNE DE BELLEVUE, QUE.

POST OFFICE:  
MACDONALD COLLEGE, QUE., CANADA.

January 25th, 1930.

Sir Arthur W. Currie, G.C.M.G., K.C.B.,  
Principal & Vice-Chancellor,  
McGill University,  
Montreal, Que.

Dear Sir Arthur:

In reply to yours of January 21st, in regard to Professor Scarth's letter concerning co-operation between his department and Macdonald College, I may say Professor Scarth and I agreed that some work having to do with one phase of the pasture problem in Quebec might very well be undertaken as a joint project between his department and our Agronomy Department. We discussed other possibilities, including the teaching of Plant Physiology, to which you refer. I pointed out that I was anxious to stress Plant Physiology somewhat more here and particularly in the field of research as it concerns agriculture. As to teaching work, I do not think there is any need for extending it in undergraduate work at present.

If the instruction were given by men from the Botany Department at McGill, our staff of course would be relieved to that extent and enabled to devote their time to other aspects of the work. I am very doubtful that satisfactory arrangements could be made to have undergraduate students at Macdonald take this work in Montreal. I think the other arrangement of having McGill Professors spend one day at Macdonald would be more likely to work out satisfactorily. There is one difficulty in such a plan which I mentioned to Professor Scarth, but which no doubt could be overcome. A great deal of this work is lab work and involves preparation, materials, etc., which those who are putting it on have to plan and arrange before the periods. Then there is also one question in regard to it which I think should not be overlooked. The kind of work given at McGill would not be entirely satisfactory for Macdonald. Doubtless there is a certain amount of basic work similar in character given in both places at present, but the development of the work based on this is given an agricultural slant and relationship at Macdonald, and this can best be done, it seems to me, through contact here and by arrangement with us.

Yours faithfully,

*W. Bartou*  
DEAN.



For Finance Committee.

Dean Barton suggests that we remit the fees at Macdonald College to the best graduate from Truro each year. These boys would take their third and fourth year at Macdonald and the amount involved would only be \$100 per annum. By this action we make certain of getting all the Truro students who are of good class. It is interesting to note that while formerly all these students went to Guelph, they are now coming to Macdonald.

March 12, 1930.



*File  
under Macdonald  
College*

In addition to the regular undergraduate and postgraduate work, Macdonald College should strongly emphasize two other features, namely, research and assistance to farm boys who intend to farm.

In the case of research, facilities are available and considerable work is always under way but if some additional help could be supplied specially for research work, relatively more could be accomplished in a given time for a given expenditure. A great deal could be done very economically and at the same time graduate work still further encouraged by creating Research Assistantships. Two or three of these might be arranged on a basis of one thousand dollars per year each, the holder to spend two years instead of one in the case of the scholarship, in taking the master's degree or Ph.D., work might be pursued, one half of the time during the session to be devoted to degree work and the other half, together with all the time between sessions, to be given to the department to do research work. Under such a plan special projects, pressing for attention, could be selected and continuity of work would be insured.

If the positions were open to candidates throughout the Dominion and advertised from time to time as vacancies occurred, in all probability there would be keen competition for them. This would make careful selection possible, emphasize the place of research at Macdonald and command much public notice.

To the farm boy Macdonald now offers through the two year diploma course, a type of instruction designed to equip him to farm intelligently and to take his place as a citizen. Every farm boy should have such a course before undertaking his own farm enterprise. No tuition is charged, the cost including board and lodging and incidentals is moderate, the Quebec Government grants an allowance of \$9.00 per month to each boy so that the course for one year can be had for approximately \$150.00. Many farm boys, however, cannot take advantage of it because the money is not available and in some cases their places would have to be filled by substitutes who would have to be paid. Others are not yet in a position to appreciate the value of such training and since, unlike most other education it is not a requirement for practice the problem of popularizing it is difficult notwithstanding the urgent need for it and the sound value of it. With the object, therefore, of placing it prominently and widely before farm boys and the parents of farm boys, it is suggested that, if possible, a system of small scholarships be arranged. It so happens that in the English speaking districts of the province there are now some fifteen boys' calf clubs with a total membership



of five hundred, operating under Government auspices. These clubs are serving a very useful purpose in interesting farm boys in better live stock but if in conjunction with their club work the more progressive representatives could be given some college training the level of the work would be raised to a much higher plane, the boys individually would be greatly helped and in time the whole community would benefit. Through the club organizations it would be a simple matter to arrange for the selection of the boys and scholarships of \$150.00 each would cover the cost of the course.



# MACDONALD COLLEGE

CHEMISTRY DEPARTMENT

RAILWAY STATIONS, EXPRESS AND TELEGRAPH OFFICES:  
STE. ANNE DE BELLEVUE, QUE.

POST OFFICE:  
MACDONALD COLLEGE, QUE., CANADA.

Dean Barton,  
College.

May 4th, 1929.

Dear Dean Barton:-

In view of the proposed campaign for funds about to be undertaken by the University, in which this college must share if we are to maintain the work we are now doing, to say nothing of necessary expansion, the time seems opportune to call attention to the situation that exists with respect to the scientific departments.

With the traditional policy of the institution in the allotment of funds between departments scarcely providing for the adequate maintenance of the ordinary teaching requirements, the members of the scientific staff have been compelled, except where outside support could be secured, to confine their research activities to problems that could be investigated without funds. These were not always such as were of most importance to agriculture, nor such as the workers themselves would have chosen under other and more favourable conditions. It is evident, also, that the changes that have been made in the curriculum involve a shifting of emphasis that will necessitate important readjustments, if the present disproportionate allotment of teaching hours to the members of the scientific staff is not still further accentuated.

We desire to express the view that a more adequate provision for the scientific departments should be a first charge upon any allotment received by Macdonald College and, further, through you, to call the attention of the Acting Principal to the foregoing, with the request that it be forwarded to the Survey Committee for necessary consideration.

Yours faithfully,

*R. L. Conklin*

Assistant Professor of Animal Pathology

*J. Hall*

Professor of Chemistry.

*M. H. Britton*

Professor of Entomology

*W. Duval*

Assistant Professor of Physics,

*A. H. Gilbert*

Professor of Plant Pathology.



MACDONALD COLLEGE

FACULTY OF AGRICULTURE  
OFFICE OF THE DEAN

RAILWAY STATIONS, EXPRESS AND TELEGRAPH OFFICES:  
STE. ANNE DE BELLEVUE, QUE.

POST OFFICE:  
MACDONALD COLLEGE, QUE., CANADA.

May 9th, 1929.

Dr. C.F. Martin,  
Acting Principal,  
McGill University,  
Montreal, Que.

Dear Dr. Martin:-

I am enclosing a letter signed  
by a number of members of the staff and by request  
am forwarding it to you. I have no comments to  
make at present but shall be glad to discuss it  
with you when the time seems opportune.

Yours faithfully,

*H. Barbois*

DEAN.

HB/Y  
Encl/



September 26th, 1929.

MEMORANDUM BY THE PRINCIPAL.

Dean Barton was in to see me today and we discussed the following points:

- 1.) Barton recommends McTaggart's resignation be accepted as from October 21st next, Summerby and Barton to make recommendations as to McTaggart's successor.
- 2.) Brittain has informed Dean Barton that he will not make application for the position raised by Lord Passfield for work on the Mealy-bug investigation in Kenya.
- 3.) Hamilton, who has just come to Macdonald College, to take a position under Hempel in Field Engineering at \$2,000 per annum, has been offered \$2,600. per annum to go to Dakota. He wishes to accept and I have told Barton to notify him tonight that he may leave tomorrow without pay.
- 4.) Lockhart has taken the Gilbert house and Hempel has asked to move into the Lockhart house, and this request has been granted, Gray, who is coming from England, to have the Hempel house. (Mr. Glasco to notify Mr. Ward regarding the last two changes.)
- 5.) Barton spoke to me with reference to the research project in Animal Husbandry and has promised to send the correspondence from the Dominion Research Council.
- 6.) Barton raised the question of the dispute which the Agricultural College has with the Graduate Faculty, who contend that,-

B.S.A.	A.	M.S.A.	
B.Sc.	A.	M.Sc.	
B.A.	A.	M.A.	A being constant in all 3

Formerly B.S.A. A. M.Sc.

The Graduate Faculty contend that a man who had a B.S.A. , took A. in addition and received an entirely new degree - M.Sc. It seems to me there would be no objection to this if the work in B.S.A., B.Sc. and B.A. were equivalent in value. The Graduate Faculty contend they are not. It is our business to make them so.



Barton points out that

B.Sc. in Arts	A.	M.Sc.
B.Sc. in Science	A.	M.Sc.

This presupposes that B.Sc. in Arts equals B.Sc. in Science. He questions whether this is correct.

Copy to Mr. Glassco.



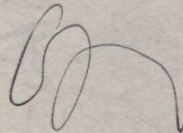
17th December, 1928.

Dear Mr. Grove,

Many thanks for your good note.  
It was quite illuminating, and I appreciate  
very much the trouble you took to write it.

With all good wishes, believe me

Sincerely yours,

A handwritten signature in dark ink, consisting of several loops and a long horizontal stroke extending to the right.

Mr. Patrick M. Grove,  
Macdonald College,  
Ste. Anne-de-Bellevue,  
P. Q.





Macdonald College.

3/12/28.

Dear Sir,

I was sorry not to have been able to say more when I met you on the Station at Ste Anne's on Saturday last.

We were talking about the two year Course in Agriculture and you were asking me what



The trouble was.

I think really the trouble lies in the boys. I find in some cases a boy was on a farm last year and enjoyed it, staying there all the summer. Another boy would be sent there this year and left immediately saying that it was not fit to live there.



Some boys of course can adapt themselves to the new way of living but others can not. — These are the boys who cause the trouble. They are used to living in comparative luxury and perhaps the change is too sudden. I think you will agree that a jump from the drawing<sup>room</sup> to the cattle bars is a big one.

I, of course, do not consider myself in any position to make suggestions, but my opinion is that if some way could be



thought of, which would enable a more gradual change, more success would result. For instance, send the boys onto fruit farms the first year and leave dairying to the second year. Working among fruit trees and vegetables is not such a change as working among pigs and cows.

As far as the selection of farms is concerned I know that some were not really selected, my own case being an example.

Hoping that Mrs Martin is well  
yours very sincerely,  
Patrick M. Grove.



*Agriculture*

September 14th, 1927.

E.A.(?) Fox, Esq.,  
C/o. Jackson Dobbs, Esc.,  
Assistant General Manager,  
Bank of Montreal,  
Winnipeg, Man.

My dear Mr. Fox:-

I am returning herewith the  
copy of your letter to Mr. Ross and the Essay on  
Agriculture by "A. Pyanear".

I am sorry that I have not  
sent this back to you before this, but I carried  
it away with me to Honolulu and neglected to do  
so. I have taken the liberty of making a copy  
of the Essay for my own private use.

With all kind wishes, I am,

Yours faithfully,



## AGRICULTURE

By A. Pyanear.

Last week I was to the Bank in town and read near through your book the Journal wile waitin for the Manager. He was busy lending fifty dollars to a garlic eatin foriner at 9% down and the rest mebbly. He says bankin is getting more intricket all the time, and that to make good on the prairy a man's gotta have a strong mind and stumick.

Farmin in the West aint what it usta be either- too many things to tend to, new fangled power machines, trips to town for gas and parts, motor car bust, meals late with the misses gettin corns on her ears lissenin on the party line; meetins here and there of thisanthat co-operative, readin papers to see what them eastern politicians is after, votin again it, losin sleep with that cussed radio, and etc. Us farmers is almos wore out with one thing and another. My boy give up the farm, it was too strenyus, and got him a job in the city in a grain bisness. He aint seen no grain sence he's been there but he sure is gettin smarted up. He says a lotta people make their livin by guessin whether theys goin to be a crop or whether they aint. It works like this.

These guessers is divided into two sides called bears and bulls. The bears start early in the spring by saying the farmers plowed a lotta land last fall and that



theys plenty moisture. Then they say the seed is better'n usual and put in under ideal conditions. If it snows on top of it, that's more moisture. If it don't that's a good thing because theys plenty moisture anyway. If it rains nawthing could be better and if it dont it's better still because if the wheat dont come up it must go down and a good root is certain. And what good is a plant without a root? If it comes up and gets froze off the farmer is sure in luck because it will stool good. If floods, cutworms, sawflies, grassoppers, hot dry winds, rust, hail and frost kills it, the bear spends no end of money on telegrams tellin the world its a fake, that he has drove over the hull districk where these things is sed to be goin on, and saw the purtiest stand of wheat he ever seen in the twenty-five years he's give to promotin the welfare of the farmer, who is the backbone of the country, and etc. If cuttin is held up by rain, the late grains will benefit. He tells the railroads that not half enough men is coming out to help with the harvest; and its a caution how quick the railroads gets busy to bring out another few thousand outa-work dudes from the east or the old country, at so much per head each trustin somebody'll give them enough to pay their way back or that they'll be stranded out here and help populate the wide open spaces.



Every now and then private messages is published by bears saying as how the crops in other parts of the world is heavier than expected.

The bulls all the time keep shouting the opposite word for word to make the price go up, and think nawthin' of killin off a good crop complete half a dozen times in one season, or sendin themselves hartbraken cables about thousens starvin to death in grain groan parts of Europe and that to make things worse the missionarys is larnin the heathen chinese to eat wheat - four hundered millunes of them.

If the sides is divided up even enough all theit talk and tricks dont cut no ice, and the farmer just goes along about his work and gets whatever the demand makes wheat wuth. But if the bears is the best liars and make the gamblin public and others think theys a bumper crop, then the price goes down and the farmer gets less, stalls off his creditors, and renews his note at the Bank until next year. If the bulls - more power to them - is the smartest and the gamblers and such like thinks theys a bum crop then the price goes up and the farmer pays his creditors, and renews his note at the Bank until next year.

No wonder the Banks make money, holdin all them notes and gettin more notes for interest, stamps, and so on, for years mebbly. When the Wheat Pool gets to goin rite and can hold all the wheat like Joseph done in the Bible, the Grain Exchange will quit. Then we are goin



to start up a Bank for to hold all them notes. Us farmers  
may come into our own yet.

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Dont take all this serious, because between  
you'n me and the gate post what town folks calls grousin is  
only conversashun among us farmers. My crop was middlin  
good and I dont owe no body a dollar - but its a shame to  
see all that strength took outa the land.



The General Manager,

Montreal, Canada.

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12th December, 1932.

An International firm of accountants has completed an analysis of the farm mortgage situation. One of the interesting facts brought to light is that American farms are mortgaged for more than \$9,000,000,000., or almost as much as the bonded indebtedness of American railroads. Half of these mortgages were placed around 1918-22, a period of peak values, and since then farm commodity prices have dropped more than 70%, while land values have dropped approximately 40%, thereby wiping out equities of thousands of farmers in their land. It is estimated that about 40% of the 6,000,000 farms in the United States are mortgaged, of which 14% are mortgaged for more than half their value, 6% for more than 3/4ths of their value, and 2% for more than their current value. The average mortgage is roughly \$3,600. Individuals hold almost \$3,000,000,000. of farm mortgages, insurance companies slightly more than \$2,000,000,000., banks and mortgage companies \$2,000,000,000., and Federal and Joint Stock Land Banks slightly less than \$2,000,000,000. The lower price for farm products makes it difficult for the farmer to meet his obligations, and unfortunately he has no alternative under present conditions but to increase the production of commodities, of which there is already an over-supply. In doing so, he depreciates prices still further, and decreases both his own income and that of the debt free farmer. To illustrate this point, it is pointed out that 1929 farm income was \$11,900,000,000., and the average



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share of this amount going to the individual farmer with a mortgage was \$1,900. His average fixed obligation (interest on mortgage and taxes) was \$400., leaving an income for the farmer with the mortgage in 1929 of \$1,500. The 1932 farm income is estimated around \$5,200,000,000., and the average gross income of the farmer with the mortgage in 1932 will be about \$832.; deducting \$400. for fixed obligations, there remains a cash return for 1932 of only \$432. Lending policies vary in different geographic divisions and about 1/6th of all farm mortgages must be renewed or otherwise refinanced each year, but some mortgages have a life of 35 years. Interest rates run from 5.4 per cent. to 7.3 per cent.

The stock markets displayed a firm tone throughout the week, although the volume was moderate only. There appears to be some good buying going on, and while prophets on the Street consider the technical position healthy, they expect the market to be more or less irregular until such problems as war debts, budget, beer legislation, etc., are solved.

Dealings in bonds were light last week, but the trend of high grade domestic issues was steadily, although fractionally, upward. United States Government obligations were in good demand, while foreign bonds were irregular.

To the surprise of many, the Government offered \$600,000,000. new securities only, consisting of \$350,000,000. Four Year Notes on a 2 3/4 per cent. basis, and \$250,000,000. One Year Certificates on a 3/4 per cent. basis, both of which