

NUTRITION OF STOCK.

AGRICULTURAL RESEARCH. COMMONWEALTH GOVERNMENT'S PROPOSALS.

CONFERENCE WITH STATES AND UNIVERSITIES.

Adelaide, March 16.

The Vice-President of the Executive Council (Senator Pearce) stated to-day that the Council for Scientific and Industrial Research has been giving a great deal of attention to the possibility of initiating new researches into problems of agriculture, the admirable work as present in progress in the various State departments. A complete report will be made available on the facilities for conducting it, both in State departments and in the universities, and has been prepared by the lecturer T. G. B. Oshorn, of the University of Adelaide, so that the Council was fully aware of the general position.

It is very clear that in the field of agriculture, more almost than in any other, close co-ordination was vital in the overlapping of the work of each part of the various organisations concerned was to be avoided. The Council had already taken steps in this regard, the first step it could take was to invite the State Government to send the head of its Department of Agriculture, a senior officer, and each university with a Faculty of Agriculture to send its professor, to a conference, to discuss fully with the Council the place, which the Commonwealth could most effectively fill in national agriculture research.

It was agreed that the conference would meet in Adelaide on March 23 and 24. In this regard it is hoped that the Council will be able to do much to assist in the arrangements by which the Commonwealth experts will be of a kind which in no way detract from the work of the State departments, but, on the contrary, aims at supplementing and making still more effective their efforts which are carrying on at the present time. It is expected that the State Directors of Agriculture will be able to discuss fully with the Council the place in the shaping of its future plans.

Among other matters to be dealt with will be the question of establishing a tropical school of agriculture in Queensland. The Empire Marketing Board of Great Britain is interested in this project, and invitations had been extended to five schools have already been established, one at Trinidad and one in Kenya. A third school is being started in Australia, but it is recognised that Australia presents problems which are not met by the school of agriculture in Queensland. Work can be fully justified, if further research must be given to the economic position of proposed industries, since it is obvious that to send large sums upon scientific investigations which, even if successful, cannot lead to profitable conditions under existing conditions.

REG. 18 3 27 THE UNIVERSITY OF ADELAIDE

Examination Results, March, 1927.

Examinations for the ordinary degree of LL.B., March, 1927.

(In order of merit.)

- Elements of Law and Legal and Constitutional History (110)—Third Class—Scales, William Arthur.
- Law of Contracts (111)—Second Class—Scales, William Arthur.
- Law of Property, Part I. (112)—Third Class—Gynn, Denis McMahon; De Boer, Cecil Brock; Shepherd, Geoffrey Lincoln.
- Law of Property, Part II. (113a)—Third Class—Forgan, Frederick Robert; McCarthy, Joseph Francis; Ryan, Robert.
- Law of Writs (113b)—None passed.
- Law of Evidence and Procedure (114)—Third Class—McCarthy, Joseph Francis.
- Constitutional Law (115)—Third Class—Ryall, Arthur Campbell.
- Private International Law (118)—Third Class—Forgan, Frederick Robert.

First Year—Botany (112)—Dunston, Reginald Murray; thus completing the first examination.

Second Year—Anatomy (119)—Red, William Lister; thus completing the second examination.

Supplementary Examinations for the Degree of Bachelor of Dental Surgery (119)—None passed.

First Year—Biology (123)—Dunston, Reginald Murray; thus completing the first examination.

Second Year—Anatomy (119)—Red, William Lister; thus completing the second examination.

Geology, Part I. (102)—Allen, Henry Joshua; Booker, Robert Franklin.

Physics (103)—Caldwell, Claude Hampson; Roberts, J. H. (104)—Caldwell, Rex Fitzroy.

ADV. 18 3 27 THE UNIVERSITY OF ADELAIDE.

EXAMINATIONS FOR THE ORDINARY DEGREE OF LL.B., MARCH, 1927.

(In order of merit.)

- Elements of Law and Legal and Constitutional History (110)—Third Class—Scales, William Arthur.
- Law of Contracts (111)—Second Class—Scales, William Arthur.
- Law of Property, Part I. (112)—Third Class—Gynn, Denis McMahon; De Boer, Cecil Brock; Shepherd, Geoffrey Lincoln.
- Law of Property, Part II. (113a)—Third Class—Forgan, Frederick Robert; McCarthy, Joseph Francis; Ryan, Robert.
- Law of Writs (113b)—None passed.
- Law of Evidence and Procedure (114)—Third Class—McCarthy, Joseph Francis.
- Constitutional Law (115)—Third Class—Ryall, Arthur Campbell.
- Private International Law (118)—Third Class—Forgan, Frederick Robert.

SUPPLEMENTARY EXAMINATIONS FOR THE DEGREE OF BACHELOR OF MEDICINE AND BACHELOR OF SURGERY (not classified).

First Year—Biology (123)—Dunston, Reginald Murray; thus completing the first examination.

Second Year—Anatomy (119)—Red, William Lister; thus completing the second examination.

Supplementary Examinations for the Degree of Bachelor of Dental Surgery (119)—None passed.

First Year—Biology (123)—Dunston, Reginald Murray; thus completing the first examination.

Second Year—Anatomy (119)—Red, William Lister; thus completing the second examination.

Supplementary Examinations for the Degree of Bachelor of Dental Surgery (119)—None passed.

First Year—Biology (123)—Dunston, Reginald Murray; thus completing the first examination.

Second Year—Anatomy (119)—Red, William Lister; thus completing the second examination.

Supplementary Examinations for the Degree of Bachelor of Dental Surgery (119)—None passed.

First Year—Biology (123)—Dunston, Reginald Murray; thus completing the first examination.

Second Year—Anatomy (119)—Red, William Lister; thus completing the second examination.

Supplementary Examinations for the Degree of Bachelor of Dental Surgery (119)—None passed.

First Year—Biology (123)—Dunston, Reginald Murray; thus completing the first examination.

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Supplementary Examinations for the Degree of Bachelor of Dental Surgery (119)—None passed.

South Australia, and indeed Australia, may look with confidence to the fact that since he took the Chair of Physiology and Biochemistry at Adelaide University in 1920 he has developed it into one of the finest but best in the world.

Proposed Investigations

In a special interview with a representative of "The News" Prof. Robertson outlined the proposed investigation. To men of his calibre and with his wide knowledge the far-reaching possibilities will appeal in all their significance.

Results will be immediate, but Prof. Robertson is confident that they will enable Australia to retain her prestige in the wool world.

"In the past 30 years research work has been conducted in the laboratory of Prof. Robertson regarding the growth of animals and medicine in relation to their food. The great experience gained will be placed at the disposal of the council.

"We propose to try to obtain exact knowledge regarding the precise nature of the limiting factors in the productive wealth of pastoral areas," said Prof. Robertson. "The carrying capacity of an area is to be so many sheep to the acre, we will endeavor to ascertain this figure and its relation to the carrying capacity."

"When the nature of the limiting factors is known it may be possible in some instances to improve the carrying capacity in an economic and practical way, and in such a manner as greatly to increase the carrying capacity of the area. It is to be understood to be true of Australia and the world that the nature of the limiting factors which are most essentially those of the soil, and of the water, are yet understood. We will endeavor to solve this problem with a view to interpreting the alterations in the carrying capacity of a given breed when removed from one pastoral area to another."

Wool With Low Rainfall

"In cases where the rainfall is inadequate in regard to the carrying capacity of the factors of nature involved may lead to the discovery of some means of remedy."

"Australia," continued Prof. Robertson, "is in the somewhat peculiar position that its wool production is not proportionate to its wool country. The area of low rainfall, and in which the varieties of fodder plants are limited."

"For many months past the sheep are dependent upon a limited diet. If there is anything lacking in the pastoral area, such periodical deficiency limits the carrying capacity of the area. If it should chance that one or only a few constituents are missing it may be possible to supplement the natural resources and augment the carrying capacity of pastoral holdings."

"According from experience with other animals it is believed to predict that the most probable deficiency would be either mineral substances or amino-acids. In such a case the building stones derived from other plants which the animal employs to create its own tissues."

Diet of Animals

"It is proposed exhaustively to investigate the mineral composition of Australian pastures. The results will be substituted. This work will be under the direction of Prof. A. E. V. Richardson. Simultaneously we will undertake in the new laboratory at Adelaide the analysis of various mineral constituents of the diet on the requirements of the animal."

"The results of the analysis of potassium salts increases the requirements of sodium, and it is possible that a large intake of magnesium salts may similarly increase the requirements of potassium. Either or both of these conditions may be encountered in many of our pastoral areas where the pastures are rich in potassium and the requirements of sodium are high."

"Having acquired some accurate knowledge regarding the degree to which the various mineral constituents may be supplied by the intake of another, it will be able intelligently to attack the problem of rectifying waters which are unsuitable for stock and replacing deficiencies in pastures by means of fertilizers."

"The problem of the amino-acid composition of Australian pasture plants, particularly those of the legume class, will also be investigated in the new laboratory. The proteins contained in fodder plants are of great value to the animals as their sole source of nitrogen."

"By chemical analyses we will endeavor to ascertain which amino-acid in the protein is deficient. This knowledge will be of great value in the selection of plants to supplement natural pastures."

Iodine Indispensable

Research will include a survey of the iodine content of the thyroid glands of sheep. This has been found in Canada to be deficient. Iodine is essential in determining productivity. Any deficiency of iodine in either pasture or water will be rectified. Iodine can be supplied by deficiency of iodine in the thyroid."

Handled sheep will be maintained at the Waite Institute, under the joint supervision of Prof. Robertson and Dr. Wilson. The dietary requirements of sheep under Australian conditions will be determined in respect to the minimum requirement of food for maintenance, growth, reproduction, and wool production.