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SCIENTIFIC AND INDUSTRIAL RESEARCH.

COUNCIL'S FIRST REPORT.

Canberra, December 9.

The first annual report of the Council for Scientific and Industrial Research, which was tabled in the House of Representatives to-day, covers the period from the inception of its work to June 30 last, and shows a record of substantial achievement.

After an account of the organisation of the council and the preliminary work which had to be carried out, information regarding the investigations in progress is given under the following headings:—Agricultural research, plant problems, irrigation settlement problems, entomological problems, animal pests and diseases, animal nutrition, forest products, cold storage problems, fuel problems, miscellaneous. The report states that a great deal of time had to be devoted initially to matters of organisation and the procedure to be followed in promoting research work. At the first meeting of the council it was decided that efforts should be concentrated largely on the following five groups of problems:—(1) Animal pests and diseases; (2) plant pests and diseases; (3) fuel problems, especially liquid fuels; (4) preservation of foodstuffs, cold storage; (5) forest products.

As a result of an inter-State conference convened by the council, close co-operation has already been established with the State agricultural departments, and for that purpose a standing committee on agriculture, consisting of the heads of the State departments and representatives of the council, has been appointed. The council is acting as a clearing house for information on agricultural research, and is preparing a register of agricultural research in progress throughout the Commonwealth.

Attention is drawn in the report to the highly satisfactory progress made in the control and eradication of prickly pear by the introduction and liberation of insects which attack the pear in other countries, and the view is expressed that the results already obtained indicate that ultimate success will be achieved. Already as a result of the destruction by insects and by chemical methods by the Queensland Prickly Pear Lands Commission the spread of the pear, which is estimated to be 1,000,000 acres a year, has been checked. Taking a value as low as five shillings per acre, this represents a saving of £250,000 per annum.

Fighting Plant Diseases.

The cause of tomato wilt and the means by which it is spread have been discovered as a result of the council's investigations. This disease causes great destruction, and in some localities has been so severe that whole plantations have been destroyed. Now that the cause of the disease is known, it is hoped that it will be possible to take remedial and preventive measures. The cause of "bunchy-top" in bananas has also been discovered, and steps are being taken by the New South Wales and Queensland authorities for its control and eradication.

The council attaches great importance to a systematic attack on scientific problems affecting irrigation settlements. Two research stations have been established, one at Merbein (Victoria), for work on vine problems, the other at Griffith (New South Wales), for the investigation of citrus fruit problems. In addition the investigation of soil problems in these areas is being undertaken in co-operation with the Waite Agricultural Research Institute (South Australia). Already results of very great value have been obtained. For example, it is estimated that the introduction of the "cold-dip" process for drying sultanas represented a gain of £30,000 to the industry during last season alone.

Entomological problems will constitute an important part of the council's work. Investigations are in progress on the buffalo-fly pest (Northern Australia), the underground grass-grub (Tasmania), dried fruit pests, the lucern flea (South Australia), &c. In this work, again, valuable results have been obtained. The council's entomologist (Mr. G. F. Hill) has discovered an insect which is exceedingly destructive to ragwort, a poisonous weed, which has spread rapidly in various parts of Australia. After thorough tests have been carried out it is hoped that by breeding up and liberating large numbers of these insects the weed will be brought under control. A supply of parasitic insects which destroy the larvae of the buffalo-fly is being obtained through the Imperial Bureau of Entomology, and it is hoped that they will assist in the control of the pest, which is a very serious matter in parts of Northern Australia.

Animal Diseases.

Investigations on various animal diseases are being carried out by the council in co-operation with existing veterinary research institutes in Australia. Evidence has already been obtained which indicates strongly that the cause of the Kimberly horse disease has been discovered. Until the confirmatory tests have been completed no definite statement can be made. This disease interferes very seriously with the progress of settlement in the northern parts of Western Australia, where up to 30 per cent. of the horses die from it every year.

Fundamental investigations on animal nutrition problems are being carried out by the council at Adelaide, under Professor T. B. Robertson. At present the work is being limited mainly to sheep, considered both as meat and wool producers. It is linked up with investigations which are being carried out by the council in co-operation with the Waite Institute and the Empire Marketing Board on the problem of mineral deficiencies of pastures, a problem which is exercising the minds of agricultural authorities in many parts of the Empire.

Paper Pulp Manufacture.

Great success has resulted from the council's work on the production of paper from Australian trees. Financial interests are now proceeding to follow up the council's work, and to expend up to £50,000 in testing the practicability of producing newsprint on a one ton per day plant. If the results are satisfactory the establishment of the newsprint industry, involving the expenditure of from £1,500,000 to £2,000,000 in the course of the next five or six years, is probably assured. Similarly, very satisfactory results have been obtained from the council's investigations on the manufacture of wrapping papers from Pinus insignis, an imported pine tree, which has been planted extensively in the southern parts of Australia.

As a result of successful laboratory experiments on tannin problems, the council, in co-operation with the University of Western Australia, is establishing a small semi-commercial scale plant to try out the practicability of manufacturing tannin extracts on a commercial basis. Investigations on cold storage problems are regarded by the council as being of special importance in connection with the production and export of meat, fruit, and other foodstuffs, and with the problem of finding new markets for produce. A comprehensive report on the whole position has been obtained from Dr. F. Kidd, Cambridge, and Dr. W. J. Young, Melbourne University, and the council hopes to proceed actively with the organisation of investigations in this important branch of work at an early date.

Other investigations which are being carried out by the council and which are dealt with in the report are:—(1) Fuel problems; (2) radio wireless problems; (3) geophysical prospecting; (4) pottery; (5) artificial building stones, and (6) dairy problems.

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Mr. John Horner, whose appointment as teacher of organ and pianoforte at the Elder Conservatorium was announced some time ago, is expected to arrive in Adelaide in February. A teacher at the Glasgow Athenæum School of Music, Mr. Horner

MR. JOHN HORNER.

has had considerable experience as organist and in connection with concert work, having been organist with the Scottish Orchetra, and held the conductorship of the Glasgow University Orchestral Society, and other kindred societies. The young musician, who is still in his twenties, was on active service during the war on the Italian front as a member of the Royal Air Force.

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SCIENCE AND INDUSTRY.

The first annual report of the Council for Scientific and Industrial Research, which was laid on the table of the Federal Parliament at Canberra yesterday, encourages the hope that at last a satisfactory plan has been adopted for co-ordinating and expanding scientific research in relation to all subjects affecting primary production in Australia. The principal object of the Science and Industry Research Act of 1926 was to obviate two main difficulties which had existed previously, viz., (1) a form of control which was too centralized, and (2) lack of necessary funds. The direction of the Commonwealth's activities in the field of research was placed in the hands of a Council, consisting of three members nominated by the Commonwealth Government, the Chairman of each State Committee of the Council, and other members co-opted by reason of their scientific knowledge. The Council is supplementary to the research institutions of the several States. The Act specifically sets out that the Council shall, as far as possible, co-operate with these organizations with a view (1) to prevent unnecessary overlapping, and (2) to ensure the fuller utilization of facilities and staffs available. A sum of £250,000 (to be increased to £500,000) was appropriated for the purposes of investigations conducted in pursuance of the Act. The existence of this trust fund frees the work of research from political party influence and possible obstruction. At the early meetings of the Council and the Executive Committee much time was devoted to matters of organization and the procedure to be followed in promoting research work. Hitherto, five main groups of problems have been under examination:—(1) Animal pests and diseases (2) plant pests and diseases; (3) fuel problems, especially liquid fuels; (4) preservation of food stuffs; and (5) forest products. In regard to plant problems the services of Professor T. G. B. Osborn, then Professor of Botany at the Adelaide University, were secured, in order that he might visit each of the States and collect definite information.

To promote researches in animal diseases and pests the services of Professor H. A. Woodruff, of Melbourne University, were engaged; and, similarly, Professor J. F. Prescott, of the Adelaide University, was chosen to be the Council's adviser in respect of soil investigations. Arrangements were made for Dr. Franklin Kidd, of Cambridge, England, to visit Australia and furnish reports on the subject of cold storage and the preservation of perishable foodstuffs; and to assist in forestry investigations the Council arranged for a visit by Mr. A. J. Gibson, an officer of the Indian Forest Service. Partly at the instance of the Council, the Commonwealth was capably represented at the Imperial conference on the co-ordination of agricultural research, held in London during October. From time to time progress reports of the work in hand have appeared in the public press, and achievements have been recorded which afford warrant for large expectations in the future. Effective biological control of the prickly pear pest, which covers an area of about 60 million acres in Queensland and New South Wales; the production of a satisfactory mechanical wood pulp for use, together with chemical pulp, in the manufacture of newsprint; the discovery of methods for the profitable utilization of oil shale; and experiments in the production of power alcohol from the commoner Australian hardwoods, are among the more promising researches. The Council reports that it has derived great assistance from the co-operation which has been established with the Development and Migration Commission. The more attentively and systematically the industrial potentialities of Australia are studied, the wider becomes the vista of possible discoveries which will involve the victorious solution of problems which at present hamper the utilization of the Commonwealth's great resources.

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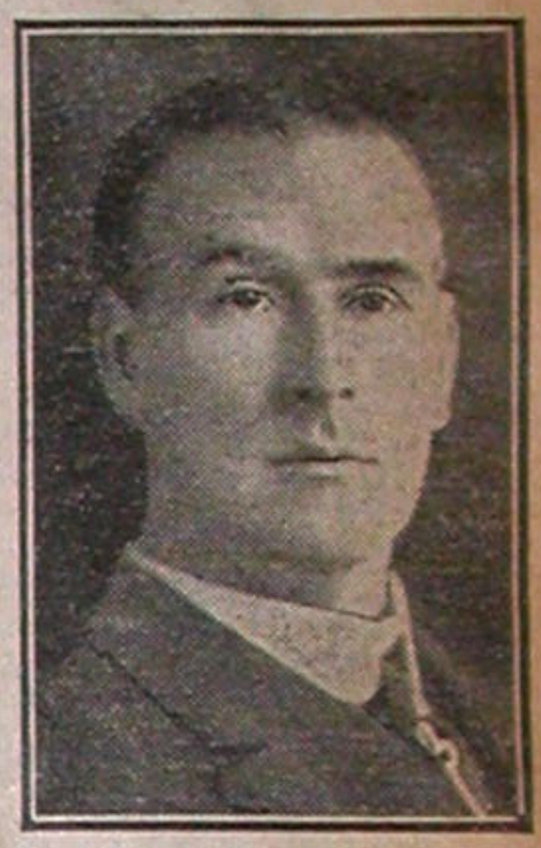
At the conclusion of the Conservatorium opera performances on Friday night the students bade farewell to Mr. Clive Carey, who has directed the class during his three years in Adelaide, and will shortly return to England. Mr. Winsloe Hall,



MR. CLIVE CAREY.

on behalf of the students, made a presentation of a silver cigarette case inlaid with wood and suitably inscribed, to Mr. Carey, and in speaking of the wonderful work achieved by Mr. Carey during his stay in Adelaide expressed the regret that was felt at his departure. In responding Mr. Carey said he was glad that the work which he loved so much had been appreciated.

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UNIVERSITY COMMEMORATION.

Celebration on Wednesday.

Commemoration Day will be celebrated in the Elder Hall of the University on Wednesday, when the proceedings will be opened at 3 p.m. Candidates will be admitted to degrees and prizes will be presented by the Chancellor (His Excellency Sir George Murray). The public will be admitted by ticket, and must be seated by 2.50 p.m. The prizewinners this year are as follow:—

Faculty of Arts.—Roby Fletcher Prize (logic and psychology)—John Qualtrough Ewens. John Howard Clark Prize—Mary Millicent Frost. David Murray Scholarship (philosophy)—Edna Lucy Holmes. Barr Smith Prize (Greek)—Theodor Georg Heinrich Strehlow. Andrew Scott Prize (Latin)—Theodor Georg Heinrich Strehlow. Tormore Prize (for essays in English literature)—Beryl Elvira Mercia Dunstan. James Gartrell Prize (elementary comparative philology)—Nelly Hooper Woods and Juanita Horwood Fordham (equal).

Faculty of Science.—John Bagot Scholarship and Medal—Wallis Verco Ledbrook.

Faculty of Medicine.—Elder Prize, First Examination—Leonard Allen McLean and Richard Joseph O'Connor (equal). Dr. Davies Thomas Prize, Second Examination—Brian Gilmore Macgraith; Third Examination—Philip Cornelius Hogan. Everard Prize, Final Examination—Alan Harding Lendon; prox. acc., Wynne St. Clare Riddle. Dr. Charles Gosse Medal for Opthalmology—Wynne St. Clare Riddle.

Commercial Studies.—Fisher Medal—Greta Ruby Crane and Nell Livermore Jamieson (equal).

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GRADUATES' ASSOCIATION.

At the eighth annual luncheon of the Graduates' Association of the University of Adelaide, to be held in the Botanic Park on Wednesday next, the Minister of Education (Hon. M. McIntosh) will welcome to the ranks of graduates those who are to receive degrees on that day. Replies will be made by Mr. A. H. Lendon for the men, and by Miss M. M. Frost for the women students, while Professor Woollard, the recently appointed Professor of Anatomy, will speak for members of other universities proceeding to ad eundem degrees. The Chairman (Mr. F. W. Holden) will make reference to the departure of Mr. W. Fuller after 47 years' service on the University staff, and the opportunity will be given to graduates to bid him farewell.