1-1-1971

Director of Agriculture retires

Department of Agriculture, Western Australia

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In the June, 1934, issue of the Journal of Agriculture appeared an article entitled “A modified rotation for the wheat belt”, by T. C. Dunne and F. L. Shier, which advocated a new rotation of pasture, fallow and cereals to replace the crop-fallow rotation generally used at that time.

The significance of this article may not have been realised at the time but in fact it was the first recommendation for the practice now known as ley farming, which has since become the basis of a stable agriculture in most of Australia’s cereal farming areas.

The research which led up to this recommendation, with other work on pastures and soil fertility carried out at the same time, was probably the most important contribution of Thomas Charles Dunne to Western Australian Agriculture.

Dr. Dunne made many other valuable contributions to practical farming and to scientific agriculture, most of which were reported in the Journal of Agriculture from 1932 until 1956, when he was appointed Deputy Director of Agriculture.

Dr. Dunne retired on May 8 after 45 years’ service to the Department of Agriculture. He had been Director of Agriculture for more than 10 years, during a period of rapid expansion of Western Australian agriculture, and during one of the worst periods yet faced by farmers in this State.

During the early and mid 1960’s the Department’s resources were strained by the rapid expansion of farming associated with the development of light land, and during the past several years it has been faced with a series of crises caused by drought, wheat quotas and low wool prices.

Dr. Dunne completed the degree of B.Sc. (Agric.) at the University of W.A. in 1925 after a brilliant academic career. He joined the Department of Agriculture and worked in the Wheat Branch during 1926.

In 1927 he went to the University of California for post graduate studies, supported by an Amy Saw Scholarship and a Hackett Studentship. He was awarded a Ph.D. degree by the University of California for research in plant physiology, plant nutrition and plant pathology in 1931, then spent 4 months at the Welsh Plant Breeding Station, Aberystwyth, studying the techniques of pasture research.

Research Worker

On his return to Western Australia he was appointed Agrostologist in the Department of Agriculture, based at Muresk Agricultural College. Here he worked on a range of research projects which represented the first serious attempt in W.A. to develop and maintain pastures for relatively intensive grazing.
His work on selection of pasture species, fertiliser needs and management of pastures for the wheat and sheep areas, the high rainfall areas and irrigated pastures led to the development of techniques which are still the basis of pasture establishment and management in many parts of the State.

He recognised the potential value of Dwallganup subterranean clover for inner cereal and sheep areas, and developed methods for its establishment.

In 1937 he turned to horticultural research, and for the next 10 years worked on the mineral nutrition of fruit trees and vines, pollination and storage problems of grapes and a variety of vegetable production problems.

His studies on “wither tip” of apple trees produced the world’s first real proof of copper deficiency in fruit trees and another die-back condition was shown to be caused by manganese deficiency. Methods of overcoming these deficiencies were developed.

Other important projects in which he was involved led to the development of pollen suspension sprays to improve the setting of Ohanze grapes, the improvement of vegetable crop varieties and methods of processing crops for dehydration and canning.

In 1947 Dr. Dunne was appointed Chief Plant Research Officer (later Chief of the Plant Research Division) in which he directed, and took part in, a wide range of plant nutrition, pasture and horticultural research.

At about this time began an important period of research by the Department of Agriculture which led to methods for the successful development of about six million acres of light land in Western Australia. Dr. Dunne was closely involved in many experiments throughout the agricultural areas which demonstrated widespread phosphate, copper and zinc deficiencies and evolved a simple procedure for pasture establishment on light land.

His discovery of zinc deficiency of wheat, oats and barley, and of copper-zinc antagonism affecting the growth of cereals were the world’s first reports of these occurrences, and represented important contributions to the science of plant nutrition.

Much of his work at this time was done in collaboration with Mr. F. L. Shier, and their productive partnership gave great impetus to the early development of the Esperance plains. Their partnership was later continued when Dr. Dunne was Director and Mr. Shier Deputy Director of Agriculture.

Throughout his research career Dr. Dunne was closely associated with farmers in all parts of the State, relying heavily on their assistance in carrying out his research programmes. He credits much of the success of the resulting work to co-operating farmers, as well as to colleagues in the Department of Agriculture—many of them now senior officers in the Department.

But a vital factor in the success of the projects in which he was concerned in many fields of scientific agriculture was, as one colleague said, “the incisive mind of Dr. Dunne.”

Administrator

Dr. Dunne was appointed Deputy Director of Agriculture in 1956, and Director in September, 1960.

Although as Director of Agriculture he was mainly occupied with administration, he found time to take a close personal interest in the Ord River project, in particular the development of the cotton industry.

As Director of Agriculture Dr. Dunne was the Department’s representative on many major State and National agricultural committees, including Standing Committee on Agriculture, and was Chairman of the Agriculture Protection Board. He was Chairman of the W.A. Dairy Produce Marketing Board, and a member of the State Committee of C.S.I.R.O., the Pastoral Appraisal Board and the North-West Planning Committee. He was Australian delegate to the F.A.O. Biennial Conference in Rome in 1961, and to the F.A.O. Codex Committee on Pesticide residues at Arnhem in 1969.

A Committee which gave him particular satisfaction was the Commonwealth Coordinating Committee on Pesticides, of which he was Chairman from 1963 to 1971. Although little is generally known of the work of this Committee, which directs the control of the use of pesticides, it is credited with having played an important part in the reduction of pesticide residues in foods from sometimes unduly high levels to the present levels which are fully acceptable to international trade. It has developed into a permanent Commonwealth establishment for investigation and, where necessary, rejection of new pesticides or animal feed additives.