

FORMAL TRAINING IN WEED SCIENCE IN AUSTRALIA

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Few of the people presently employed in weed science in Australia will have undergone extensive formal training in that branch of agricultural science.

Based upon replies to a questionnaire completed by 15 colleges, colleges of advanced education and universities, the following is the present situation with regard to formal training in weed science in Australia.

About 1320 undergraduate tertiary students studied weed science as part of wider agricultural, horticultural, rural science and forestry courses during 1975. For most of these students weed science would have been a relatively minor strand in broader courses leading to diplomas, associate diplomas or degrees in agriculture or related fields.

They would have had a preliminary 2-8 hours of theory and 3-20 hours of practical work as part of some introductory course subject such as biology, botany or principles of agronomy. Later, some of them would have taken an additional 2-15 hours of theory and 2-27 hours of practical work as part of more specific but still general courses such as crop agronomy or pasture management. Those who studied plant or crop protection would have spent about one third of the time devoted to the whole subject in the study of weeds.

During 1975, about 50 students studied weed science at an advanced undergraduate level in their final degree or diploma year. Time allotted for theoretical and practical study ranged from 40 hours to 100 hours depending upon the institution.

Post-graduate courses involving weed science at graduate diploma or M.Sc. level attracted a total of 11 students in 1975 at the Universities of Sydney, New England, La Trobe and Melbourne and at Roseworthy Agricultural College.

THE FUTURE

Respondents were asked to hazard an opinion as to possible future developments in their own institutions during the next few years. None foresaw decreasing importance for weed science, ten expected it to remain at its present level, and five anticipated an increasing level of commitment to the subject in the near future. One institution is planning a full-time staff appointment in the subject and another the appointment of external staff.

The survey also sought to define areas in which formal Australian weed science education could be improved from the point of view of the graduate and employer, realizing that such improvements may not be immediately feasible.

Areas for improvement suggested were the continuing development of integrated management and control systems to achieve the most efficient results, improvement in the ability of graduates to identify weeds, more emphasis on relationships between herbicide structure and function and plant structure and function, further provision of specialist post-graduate courses for those going into plant protection or weed science as a career and the development of short courses in weed science for extension officers and for local council weeds officers.

Also mentioned were the need for the provision of more information about noxious and other weeds to the general public, for greater opportunities to practise and gain experience with herbicides in formal courses, for the production of adequate textbooks containing illustrations of the principal weeds and their control and for standardization of chemicals and their nomenclature.

For the more distant future, it was suggested that weed science education could well begin at lower high school level, primarily through students' collections, and that educational administrators could be made more aware of the enormous importance of weed science in agricultural and horticultural production and of the fact that weed science is inadequately represented in university teaching and research.

It was envisaged that weed science would become increasingly important as a study area and that this subject could provide useful projects by which students could learn problem-solving approaches and skills. It was considered that emphasis in teaching should be on weed science as an integral part of agronomy and that increasing emphasis needed to be placed on biological, ecological and managerial methods of control rather than on increasing the emphasis on chemical weed control.