Wild oats, annual ryegrass and vulpia

Proceedings of a workshop held at Duntryleague Country Club, Orange on 26–27 March 1996. Organized by Dr. Richard Medd (Convenor), Dr. Bruce Auld, Dr. Peter Dowling and Dr. David Kemp of NSW Agriculture and sponsored by the Co-operative Research Centre for Weed Management Systems.

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Preface

Several exotic annual grass species have proliferated and become serious weeds of cropping and pastoral systems throughout southern Australia. Three genera, *Avena*, *Lolium* and *Vulpia* have been targeted by the recently formed Co-operative Research Centre for Weed Management Systems for intensive study. Wild oats (principally *Avena fatua* L. and *A. ludoviciana* Durieu – synonym *A. sterilis* subsp. *ludoviciana*), annual ryegrass (*Lolium rigidum* Gaudin), and three species of vulpia (squirrel tail fescue, *Vulpia bromoides* (L.) Gray; rat's tail fescue, *V. myuros* (L.) C.C. Gmel.; and sand fescue, *V. fasciculata* (Forssk.) Gray) are the most common species considered as weeds of Australian agriculture.

Collectively the annual grasses cause considerable economic loss, probably in excess of $200 million annually. They are characterized by their aggressive competitiveness, prolific seed production and short lived seed bank. Populations resistant to herbicides have been selected, notably in annual ryegrass and to a lesser extent in wild oats, and these are posing considerable concern in agricultural practice. Further, no selective herbicides are registered for in crop control of vulpia. In recognition of their importance, a national workshop on annual grass weeds in winter crops was initiated by the Australian Weeds Committee in 1986. It is interesting to note that herbicide resistance in annual grasses was at that time a novelty, with only two cases known. Moreover, at that time the indications were that resistant biotypes were less competitive, leading to the recommendation that only minor resources should be allocated to researching the problem. Clearly the workshop failed to predict the storm that was brewing, and is indicative that a review of priorities was long overdue.

This workshop on annual grass weeds was organized by the Co-operative Research Centre for Weed Management Systems and convened by the Cropping Systems and Perennial Pasture Ecosytems Programs within the CRC. It was one of several workshops on priority weeds and techniques planned to improve the targeting of research and development issues, and to encourage dialogue, linkages and collaboration between agencies within the CRC. The specific objectives of these workshops were to review current knowledge, identify gaps and the key players involved, and determine the direction of future research to ensure most effective use of CRC resources.

The staging of this workshop was a team effort led by Dr. Richard Medd and special acknowledgments go to Dr. Bruce Auld for arranging hospitality, transport and accommodation, Dr. Peter Dowling for soliciting, extracting and collating the workshop papers and Dr. David Kemp for his support on the organizing committee. One of the valuable outcomes of the workshop will undoubtedly be these proceedings, and the authors can take credit for their efforts. Thanks go to Tabitha Sole for assistance with checking, proof reading and correcting manuscripts and to Sharon Corey for layout. The willing support of Sue Cox, Belinda Gersbach, Ian Emerson, Geoff Millar, David Pickering, Heather Smith and Jenni Tarleton, who assisted with the many behind the scenes chores that led to the smooth and organized running of the workshop, also warrants special acknowledgment. A vital part of the proceedings, after key reviewers presented their reports, was the development of ideas through discussion groups. These were the engine rooms of the workshop and thanks go to the three facilitators, Prof. Roger Cousens, Mr. John Fisher and A/Prof. Stephen Powles who were responsible for their execution. The final task of compiling the recommendations rested with Dr. Richard Medd and Mr. Brett Nietschke for wild oats, Dr. Gurjeet Gill and Mr. John Matthews for annual ryegrass and Drs. Peter Dowling and David Michalk compiled those for vulpia. Prof. Peter Martin did an excellent job of summarizing the workshop and his thoughtful perceptions are captured as concluding remarks in these proceedings.

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