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Surveys of weeds in Victorian farming systems

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Abstract A new Grains Research and Development Corporation project entitled ‘Management of Weed Problems in Victorian Farming Systems’ started early in 2001. The project aims to improve the understanding of the impacts of changes in farming systems on weed populations and to develop solutions for emerging issues. Past experience has shown that addressing problems only after they have achieved major economic significance is a poor strategy, and a more pro-active approach is needed if our modern farming systems are to be sustainable.

Growers (193) and advisors (95) in Victoria were separately surveyed during 2001 to determine their opinions on the extent of weed problems in Victoria, the effect of changes in farming systems on weeds and farmer’s and adviser’s perspective of emerging weed issues. The surveys investigated the changes in weed problems in the past five years. They also addressed the effects of reduced tillage, continuous cropping, the introduction of pulses and canola in cropping systems, the use of herbicide resistant crops and fallow practices on weeds. Highly problematic weeds as well as weeds persisting in the crop despite all weed management practices were also identified.

Farmers ranked wild radish (*Raphanus raphanistrum* L.), annual ryegrass (*Lolium rigidum* Gaudin), Paterson’s curse (*Echium plantagineum* L.), wild oats (*Avena* spp.), bedstraw (*Galium tricornerutum* Dandy), brome grass (*Bromus* spp.), muskweed (*Myagrum perfoliatum* L.), silver grass (*Vulpia* spp.) and vetch (*Vicia sativa* L.) as the weeds posing the most serious problems in their farms. They expect that these weeds will become more problematic in the future. The agronomist’s ranking of problematic weeds was similar to farmer’s rankings. However, for the majority of weeds, agronomists put more emphasis on the severity of the problem.

Farmers were asked to identify the different weed control methods that they practice. More than 90% of farmers used pre- and post-emergence herbicides while practices such as autumn tickle and green manuring were practised by less than 30% and 20% of farmers respectively. The results of both surveys have been used in formulate experiments and devising solutions for the emerging issues.