

Symposium Discussion Topic:

Should Agents That Attack Native Or Other Non-Target Plants Be Used for Biological Weed Control?

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The issue of whether agents that attack native or other non-target plants should be used for biological weed control was the theme of a workshop, attended by approximately 100 delegates, held on 4 February 1992 as part of the *VIII International Symposium on Biological Weed Control*, at Lincoln University, Canterbury, New Zealand. This report summarises the discussions and is based mainly on written submissions that were prepared after the workshop by 23 of the participants.

The programme title for the workshop (*Should we use agents that attack native and other non-target plants?*) was interpreted in two ways. Most participants believed that the topic referred to the introduction or release of oligophagous agents, which could, or would, inadvertently damage plants other than the target weed (non-target species or NTS). This interpretation provided the basis for most of the discussion. A few participants were of the opinion that the title addressed the issue of whether exotic insects should be introduced against native plants that have become weeds. This aspect was also discussed, but in less detail, and appropriate comments are included at the end of this report.

There was agreement that in principle agents should not be automatically excluded from consideration for release on the grounds that they might damage native or other non-target plants. However, agents with the potential to damage NTS should only be considered AS A LAST RESORT, when all other agents and other control methods (mechanical, herbicidal and cultural) have been tried and have failed.

Regarding the term "attack" in the title, consensus was reached that this referred to cases where agents could complete their development (or at least a considerable portion of their life cycle) on the NTS and would cause enough damage to routinely reduce the vigour and/or fecundity of the plants. Agents that might cause sporadic damage through infrequent contacts with the NTS or might 'nibble' on non-reproductive or non-meristematic tissues were not considered to be a problem.

A corollary to drawing these distinctions¹ is that we should be able to predict how the agent will behave once it is released in a new habitat. In fact predictions of the amount of damage that an agent might cause, both on the target weed and NTS, are almost always imprecise and usually cannot be extrapolated from cage tests or observations of the agent in its native habitat.

¹ Submissions for this report were received from P.J. Cameron, J.R. Coulson, G.P. Donnelly, P.B. Edwards, R.M. Emberson, R.H. Groves, K.L.S. Harley, P.W. Holder, R.H. Holtkamp, K.L. Lindsay, R.E. McFadyen, H. Müller-Schärer, T. Oikars, D.P. Peschken, M. Redfern, R.G. Shivas, C.W. Smith, N.R. Spencer, S.M. Timmins, C.E. Turner, A.K. Watson, C.G. Wilson and H.G. Zimmermann.

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NOTE: Many citations of original research are omitted here for lack of space; these may be found in DeLoach (1981, 1990), DeLoach et al. (1986), and Charudattan and DeLoach (1988) or may be obtained from the author.