

Research on Mycoherbicides for Control of *Xanthium* spp.

Bruce Auld, Cheryl McRae and Louise Morin

NSW Agriculture & Fisheries, Agricultural Research and Veterinary Centre, ORANGE NSW 2800

A research program developing mycoherbicides for control of *Xanthium* spp. has resulted in a patent (Auld, 1988) for the novel use of the fungus, *Colletotrichum orbiculare*, to control *Xanthium spinosum*, Bathurst burr (Auld *et al.*, 1988; Auld *et al.*, 1990; McRae, 1989; McRae and Auld, 1988; McRae *et al.*, 1988). An agreement between NSW Agriculture & Fisheries and a commercial partner has been negotiated to develop a product based on this research project.

Current work is investigating the possibility of using *C. orbiculare* for control of other *Xanthium* spp., the Noogoora burr (cockleburr) group. This research involves histological studies and enzyme analyses.

The potential of other known pathogens of *Xanthium* as biological control agents is also being investigated, and a search for new pathogens is continuing.

References

- Auld, B.A. (1988). Mycoherbicide. Australian Patent 602223.
- Auld, B.A., McRae, C.F., and Say M.M. (1988). Possible control of *Xanthium spinosum* by a fungus. *Agricultural Ecosystems and the Environment*, **21**:219-223.
- McRae, C.F., Say, M.M. and Millar, G.D. (1990). Influence of potential stress factors on anthracnose development on *Xanthium spinosum*. *Journal of Applied Ecology*, **27**:513-519.
- McRae, C.F. (1989). PhD. Thesis, University of New England, Armidale.
- McRae, C.F. and Auld, B.A. (1988). Influence of environmental factors on anthracnose of *Xanthium spinosum*. *Phytopathology* **78**:1182-1186.
- McRae, C.F., Ridings, H.I., and Auld, B.A. (1988). Anthracnose of *Xanthium spinosum* - quantitative disease assessment and analysis. *Australian Plant Pathology*, **17**:11-13.