

PHOMOPSIS CONVULVULUS, A POTENTIAL BIOHERBICIDE FOR THE
CONTROL OF FIELD BINDWEED

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Abstract.. Phomopsis convolvulus Ormeno, a fungus producing distinctive foliar damage on field bindweed (*Convolvulus arvensis* L.) plants, is a good candidate to be developed as a bioherbicide. This fungal pathogen required a minimum of 18 h of dew to produce severe disease on plants inoculated with 10^9 conidia/m² (2). Less disease was observed with shorter dew periods and lower inoculum densities. Field bindweed plants of any ages were susceptible to the fungus but the effectiveness of various inoculum densities in controlling the weed was related to plant growth stage (1). Under greenhouse environments, field bindweed seedlings at the 3 to 5 leaf stage (2-wk old) were controlled when inoculated with 10^8 conidia/m² (67% mortality and 95% reduction in foliage). Inoculation of well established seedlings (4-wk old) with 10^9 conidia/m² reduced foliage and root biomass by 67% and 83%, respectively, and suppressed the amount of regrowth.

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RESEARCH ON MYCOHERBICIDES FOR CONTROL OF *XANTHIUM* SPP.

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Abstract.. A research program developing mycoherbicides for control of *Xanthium* spp. has resulted in a patent application for the novel use of the fungus, *Colletotrichum orbiculare*, to control *Xanthium spinosum*, Bathurst burr (1), (2), (3), (4), (5) and an agreement between NSW Agriculture & Fisheries and a commercial partner to develop a product based on our research.

In current work we are 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.

In addition we are exploring the possibility of using other known pathogens of *Xanthium* spp. as well as searching for new pathogens.

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