



RESEARCH PAPER

Evaluation of *Alternaria alternata* as a biological control agent of redroot pigweed (*Amaranthus retroflexus* L.)

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Abstract : Biological control agents, especially some plant pathogenic fungi have the potential of weed control. To evaluate the efficacy of *Alternaria alternata* on the biological control of red root pigweed, an experiment was conducted based on Randomized Complete Block Design with three replications and different concentrations of the isolates *A. alternata* ($10^4, 10^7$ spore ml^{-1} with distilled water and $10^4, 10^7$ spore ml^{-1} with surfactant and tween 40) at three temperature regimes (20/10, 25/15, 30/20 %c) during different growth stages (2, 4, 6 and 8 leaf). The results showed that the disease severity was increased by surfactant and enhanced temperatures. The inoculation of pathogen caused a significant reduction in dry weight at 2, 4 and 8 leaf growth stages and decreased plant height at 2, 4 and 6 leaf stages and also reduced leaf area at 2 leaf stages. The results of this reaserch showed that this fungus has potential effectiveness and mycoherbicidal ability for red root pigweed control.

Key Words : *Amaranthus retroflexus*, Biological control, *Alternaria alternata*

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