

**Study of allelopathic potential of *Trifolium resupinatum* and
T. alexandrium on seed germination of *Convolvulus arvensis*,
Amaranthus retroflexus, *Secale cereale* and *Sinapis arvensis***

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ABSTRACT

In order to determine if Berseem and Persian clovers contained water -and methanol-soluble allelochemicals that affect seed germination of *Amaranthus retroflexus*, *Convolvulus arvensis*, *Secale cereale* and *Sinapis arvensis*, an experiment was conducted. Aboveground tissues of the clovers was collected and dried. Three concentrations of aqueous and methanolic extracts were used: full-concentration (33.3 g/L), half-concentration (16.7 g/L), and quarter-concentration (8.3 g/L). The weed seeds were placed in petri dishes that contained 8 ml of the legume extracts, or distilled water (control). Percent germination was taken after two weeks. In general, seed germination declined progressively with increasing concentrations of both clover extracts. Wild mustard exhibited the greatest sensitivity to both the extracts. Compared with aqueous extracts, methanolic extracts caused more inhibition in seed germination. Compared with Persian clover, berseem clover was stronger inhibitor of seed germination. Therefore, the contents of allelochemicals in these clovers species seems to be different. It seems that field bindweed had probably more tolerance to these allelochemicals.

Key words: allelopathy, weed seed germination, clover, *Trifolium* spp.

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