

# Allelopathic Effects of *Chenopodium album*, *Amaranthus retroflexus* and *Cinodon dactylon* on Germination and Growth of Soybean

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## Abstract

Nowadays, weed control is the most valuable program in efficient agro management to receive higher yields. Suitable weed control in Iran led to yield increase about 30% to 50%. Allelopathic substances produced by weeds led to decreasing metabolic activity and yield in adjacent plant. Although soybean is an important oil crop, toxic effect of *Chenopodium album*, *Amaranthus retroflexus* and *Cinodon dactylon* root and shoot extract in germination and growth stage of soybean were studied in a factorial in three replicates in 2005. Results showed that weed extract influenced on rootlet and shoot length, seedling dry weight, root/shoot ratio, germination percentage, and germination duration. *Amaranthus* root extract, *Chenopodium* shoot extract and root and shoot extract of *Cinodon* inhibit Soybean germination at all. Extract of weeds other parts inhibit 13.31% in germination and 82.44% in rootlet length in laboratory. In greenhouse, weeds extracts effect on root and shoot dry weight, leaf area, and biomass was significant. Weed extracts decreased biomass, 6.65% and leaf area as 70.2%. So, it can be said that studied weeds can disturb Soybean germination and growth by producing allelopathic substances and leading to UNuniform emergence and plant growth.

Key words: weed extracts, toxic effect, germination, growth

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