

Allelopathic effects of rapeseed residues and Trifluralin on cotton,
Amaranthus retroflexus and *Corchorus olitorius*

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Abstract

Allelopathy means direct or indirect effects of a plant on other plants through production of chemical compounds that consequently leads to the reduction of growth of other plants. In order to reduce weeds growth, especially in cotton farms and consequently reduction of usage of herbicides, effect of rapeseed residue decomposing (0, 5, 10 and 15% volume of soil) in soil combined with utilizing 1.5 & 2 Lit ha⁻¹ Treflan herbicide were investigated on cotton and its dominant weeds growth (*Amaranthus retroflexus* & *Corchorus olitorius*). Result showed that mixing of rapeseed residue or herbicide with soil do not have significant effect on cotton and its agronomic characteristics. The residues at rate of 10 and 15 percent, reduced 17.7 and 25%, respectively boll number in compared with the control (0% residue). Herbicide dosage do not have significant effect on the number of bolls. Germination of pigweed reduced to 21.11, 40.65 and 48.52% in 7 day after planting and 114.64, 51.23 and 64.62 % in 15 day after planting per 5, 10 and 15% residue respectively. Weed dry weight were significantly affected by herbicide rate and a significant reduction in the rate of residue. Comparison of pigweed and nalta jute germination indicated nalta jute was affected by The Residue released material more than pigweed and it showed a greater reduction in germination.

Key words: Allelopathy, Brassica napus, Cotton, Rapeseed.



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