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## Cover Crops in the Off-Season in the Weed Management at No-Tillage Area

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## Abstract

One of the main options available within an integrated weed management system, especially those that are difficult to control, is the cultivation of cover crops during the offseason (autumn / winter). These cover crops have a suppressive effect on the weeds and their straw also helps in the control and reduction of weed biomass production at the beginning of cash crop development in the following summer season. The objective of this study was to evaluate the effect of cover crop cultivation during the off-season on weed development in a no-tillage area. The experimental design was in randomised blocks scheme with six treatments and four replications. The treatments were: fallow (control), millet (Pennisetum qlaucum) +crotalaria (Crotalaria spectabilis + C. juncea + C. ochroleuca),millet + pigeon pea (Cajanus cajans), millet + Urochloa ruziziensis, millet + Urochloa ruziziensis + pigeon pea and millet + buckwheat (Fagopyrum esculentum). The identification and determination of weed infestation density and dry matter production of the weed shoots were done at 30, 75 and 225 days after sowing of the cover crops (DAS). The main growth weed species in the area were *Cenchrus echinathus*, *Euphorbia heterophylla* and Digitaria insularis. Fallow treatment showed greater number of weed species with density of 191 plants  $m^{-2}$ , with 502 g  $m^{-2}$  of dry matter mass at 75 DAS. In all treatments with cover crops it was verified reduction in the density and weeds dry matter compared to the control (fallow), with average of 18 plants  $m^{-2}$  and 5.4 g  $m^{-2}$  at 75 DAS, respectively. Therefore, the use of cover crops in the off-season is an efficient strategy in the management of weeds, especially those that are difficult to control.

Keywords: Cultural control, integrated management of weeds, sustainable management

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