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Can triticale be used as a companion crop with red clover?

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Abstract: The purpose of this research, carried out under irrigated conditions, was to determine the effects of sowing rate and harvest stage of triticale, used here as a companion plant, on hay yield of red clover and weed densities. The field studies, which were conducted as 2 separate experiments, continued over the 2004-2008 period. Each experiment continued for 3 years (Experiment I was carried out between 2004 and 2007, and Experiment II was carried out between 2005 and 2008). Red clover and triticale were sown together. Triticale was seeded at 200, 300, 500, and 650 seed m^{-2}. Plots were harvested when either a flag leaf appeared on the plant or the triticale reached the milk dough stage. In addition, pure red clover was sown as control plots and harvested at the 50% flowering stage. In both experiments, triticale increased hay yield in the establishment year. The degree of influence of triticale on weed species as a companion plant varied depending on weed density and species. Matricaria sp., Sinapsis arvensis L., and Veronica sp. were strongly influenced by the companion crop, and an apparent decrease was not noticed in the number of red clover seedlings. In cases where Alopecurus myosuroides Huds. and Vicia sp. densely existed, triticale was not very effective and correspondingly a greater decrease was observed in the number of red clover seedlings. The assessment of total yield obtained at the end of the experiment showed that the highest hay yield was realized at the milk dough stage with 500 or 650 seed m^{-2} of triticale.

Key words: Companion crop, red clover, triticale

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