

PRE-SOWING SEED INOCULATION IN THE BIRDSFOOT TREFOIL SEED PRODUCTION

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Abstract

A prerequisite for the improvement of birdsfoot trefoil production is the production of sufficient quantities of good quality seeds. The aim of the study was to analyze the impact of the seed inoculation with mesorhizobial bacteria on yield and yield components of birdsfoot trefoil seed (*Lotus corniculatus* L.). In experiment birdsfoot trefoil cultivars Zora, K-37 and Rocco, and two strains of *Mesorhizobium loti* were used. A trial was carried out in spring 2012 on a private estate in the village of Ivanovci near Ljig (Serbia) and were set up on brown forest soil type, using a randomized block design with three replications and plot size of 5 m² (5x1m). Seed inoculation was performed immediately before sowing. Sowing was carried out at a distance of 20 cm row spacing with the amount of seed of 10 kg ha⁻¹. Irrespective of inoculation, cultivars significantly differed in terms of the number of stems m⁻². Two-factorial experiment showed significant influence of *M. loti* strains as well as interaction between the strains and the cultivars on seed yield and yield components investigated (with exemption on seed number per pod). Generally, both strains of *M. loti* have had a positive impact on yield components and seed yield of the birdsfoot trefoil cultivars. Inoculation of seeds has significantly influenced the increase of thousand seeds weight in the cultivar Rocco, number of stems m⁻² and seed yield of cultivars Zora and Rocco.

Key words: *Birdsfoot trefoil, inoculation, seed yield, Mesorhizobium loti.*