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Forage potential of alfalfa (*Medicago sativa* L.) for wildlife

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Key words alfalfa, forage yield, inoculation

Introduction Croatia has 724 hunting grounds with demand to increase the potential for hunting opportunities. To increase carrying capacity for wildlife our objective was to determine the influence of cultivar type of alfalfa and *S. meliloti* inocula strains on forage.

Materials and methods An experiment was conducted in northwest Croatia on a silt loam soil (Typic Udifluvents), pH 6.0. Total monthly precipitation was 901 mm and average annual temperature is 11°C. Four cultivars of alfalfa: Mirna, Posavina, OS 88 and OS 66 were seeded in a prepared seedbed in 1.2 by 10 m plots at the seeding rate of 18 kg ha⁻¹. Seeds were inoculated (20 g peat kg⁻¹ seed) with a peat based-commercial *S. meliloti* inoculant (2011) and two isolated indigenous *S. meliloti* strains (OS 6 and C 16). The experimental design was a randomized complete block with treatments in a split-block arrangement, with four replicates (SAS Inst., 1997).

Results and discussions Obtained DM yield was significantly ($P=0.05$) greater with cultivar OS 66, while the effect of inocula strain by cultivars was not significant.

Table 1 Total DM yield (t ha⁻¹) of 4 alfalfa cultivars inoculated by 3 different strains of *Sinorhizobium meliloti*, Maksimir 2005.

Strain/cultivar	DM yield (t ha ⁻¹)				Average strain
	Mirna	Posavina	OS 88	OS 66	
Control	14.24	14.35	13.56	14.93	14.27
OS 6	16.13	15.77	16.01	16.66	16.14
C 16	15.97	15.82	15.41	15.96	15.79
2011	16.14	16.20	15.40	15.28	15.76
Average cultivar	15.62	15.54	15.10	15.71	
LSD 0.05					1.2 t/ha
Strain x cultivar					NS

Conclusions These results are in accordance to Maćešić *et al.* (2007), our results suggests there is some advantage in inoculating alfalfa seed when planting in areas where a legume species has not been grown before and that strain of *S. meliloti* bacteria may be an important factor to consider.

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Reference

Maćešić, D., Uher, D., Sikora, S., Blažinkov, M. and Štafa, Z. (2007) Yield and height of alfalfa (*Medicago sativa* L.) effected by Rhizobial inoculation. *Cereal Research Communications*, Vol. 35, No. 2: 737-740.