EFFECT OF LIMING ON GRAIN YIELD OF FIELD PEA

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Growing field pea for grain and forage is an integral part of livestock development strategy, due to the importance of field pea as a good source of protein in improving milk and meat production. This specifically relates to livestock farmers in Central Serbia who experience problems in alfalfa production. Moreover, field pea as a legume plays an important role in the crop rotation system, where it is used as an excellent preceding crop. The frequent occurrence of drought in arid years and, hence, dryland farming, necessitate alternation of crops, along with the use of other cultural practices, in an effort to reduce the effect of water deficiency during the growing season. Under non-irrigated conditions, grain yield of spring pea cvs. NS-Junior and Javor was evaluated in 2011 and 2012 on acid soil subjected to amendments. A field trial was established in Čačak (43°54'39.06" N, 20°19'10.21" E, 246m a.s.l.) on alluvial soil acid in reaction (pHH2O 4.8), having 3.18% organic matter, 0% CaCO3, 22.08 mg P2O5, and 30.0 mg K2O 100 g-1 soil. The experimental field was fertilized with 300 kg ha-1 N15P15K15. The treatments applied included the control and liming at rates of 3t ha-1 and 6t ha-1. The experiment was laid out in a randomized complete block design with four replications and a plot size of 5m2 (1x5m). In 2011, cvs. NS-Junior and Javor produced an average yield of 2.54 t ha-1 and 2.78 t ha-1, respectively. No statistically significant differences were observed between the control and liming treatment. In the rainfall-deficient year 2012, cv. Javor (1.93 t ha-1) statistically significantly outyielded cv. NS-Junior (1.19 t ha-1). In the second year of this research, both liming rates were found to have a highly significant effect on grain yield in cv. NS-Junior, as compared to the control. In both years, the grain yield obtained was significantly below the genetic potential of the cultivars tested, mostly due to deficient rainfall and severe soil and air drought.

Keywords: pea, grain, lime, yield