

VARIATION IN CALCIUM AND PHOSPHORUS CONTENT OF *Medicago sativa* L.

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Abstract

The research conducted during March-October 2011, on Ezăreni farm, studied the influence of inoculation, fertilization and plant growth stage at harvest on calcium (Ca), phosphorus (P) content and calcium/phosphorus ratio at alfalfa crop (*Medicago sativa* L.) in the second year after sowing, at first cut. Factor A - inoculation with two graduations (a₁ without seed inoculation, a₂ with seed inoculation); factor B - fertilization with four graduations (b₁ -unfertilized, b₂ -N₅₀P₅₀, b₃ -N₇₅P₅₀, b₄ -30 t/ha manure); factor C - plant growth stage at harvest with six graduations: early bud (c₁), mid bud (c₂), late bud (c₃); early bloom (c₄), 10% bloom (c₅) and full bloom (c₆). The results showed that each of the three studied factors had a different impact on the Ca and P content in the plants. Following analysis results of the influence of seed inoculation on the Ca and P content in alfalfa it was observed that this factor had not a significant influence. In fact, the differences were as small as 0.03 g·kg⁻¹ DM or there was no difference. Regarding P content in alfalfa plants, fertilization determined positive differences (0.27-0.35 g·kg⁻¹ DM) statistically assured in all studied variants and on Ca content, positive and negative differences, depending on the fertilizer type. The influence of harvest time on Ca content in the entire alfalfa plant, leaves or stems showed that as plants are aging, the concentration of this element increases very significant. Phosphorus content recorded a decrease with alfalfa aging.

Key words: inoculation, fertilization, harvesting growth stage, leaves, stems