

## **Abstract**

In a bifactorial experience, during March-October 2010, at the Research Station Ezăreni from Iasi, we studied alfalfa in the first year of vegetation, analyzing the effect of seed inoculation with symbiotic bacteria *Rhizobium meliloti* Dangeard and the effect of fertilization on the dry matter (DM) yield, the amount of crude protein per hectare, the leaves/stems ratio and the forage quality indicators (CP - crude protein content, NDF - neutral detergent fiber content, ADF - acid detergent fiber content and RFV - relative feed value). The results showed that under experimental conditions, the interaction of two factors led to DM yields ranging from 5.04 to 7.75 t·ha<sup>-1</sup> and a quantity of crude protein of 1121-1539 kg·ha<sup>-1</sup>. CP content in leaves ranged from 24.04 to 30.29% and 10.51 to 19.80% between the strains, the leaves/stems ratio having the biggest influence on CP content of the whole plant. Analyzing the data, we observed that seed inoculation had an insignificant influence on the forage quality indicators. Fertilization positively influenced DM yield and amount of CP produced and had a negative impact on the leaves/stems ratio, plant content in CP, NDF, ADF and RFV.

**Key words:** alfalfa, inoculation, fertilizer, productivity, quality