SOME BIOLOGICAL PECULIARITIES AND BIOCHEMICAL COMPOSITION OF THE SPECIES *Lupinus perennis* L. IN THE REPUBLIC OF MOLDOVA

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Abstract

Forage legumes have been suggested as important components of low input, sustainable systems for livestock production and are the basis of organic agriculture. We have studied some biological peculiarities, chemical composition and nutritional value of the species *Lupinus perennis* L., native to North America, which was cultivated in the experimental land of the Botanical Garden (Institute) of the ASM, the traditional forage crop alfalfa *Medicago sativa* L. and *Onobrychis viciifolia Scop.* served as control variant. It has been established that the species *L. perennis* in the first year of vegetation has a slow growth and development, develops only rosette-like radical leaves, but in the following years, it grows and develops more intensively, this species starts flowering 15-29 days earlier than the traditional forage crops. Chemical composition of dry substances of green mass of the species *Lupinus perennis* is represented as follows: 14.42% raw protein, 3.91 % raw fats, 25.44% raw cellulose, 10.56 % minerals, 45.67% nitrogen free extractive substances, but *Medicago sativa* – 16.16 % raw protein, 1.88 % raw fats, 34.74 % raw cellulose, 10.00 % minerals, 37.22 % nitrogen free extractive substances, respectively, and *Onobrychis viciifolia* – 15.88% raw protein, 3.57 % raw fats, 34.95% raw cellulose, 8.92 % minerals, 36.74% nitrogen free extractive substances. The fodder of *Lupinus perennis* is distinguished by a high content of alanine, histidine, tyrosine, arginine. Due to the earlier first harvest time, stable productivity and quality of fodder, the use of the plantation of the species *Lupinus perennis* for a long period of time can serve as initial breeding material for enriching the range of forage crops, recovery of degraded and polluted lands.

Key words: *Lupinus perennis,* biological peculiarities, chemical composition, nutritional value