

## SOME BIOLOGICAL FEATURES AND BIOCHEMICAL COMPOSITION OF CROWN VETCH (*CORONILLA VARIA* L.) IN MOLDOVA

Victor ȚÎȚEI<sup>1</sup>, Alexandru TELEUȚĂ<sup>1</sup>, Valentina COȘMAN<sup>2</sup>, Sergiu COȘMAN<sup>2</sup>

e-mail: vtitei@mail.ru

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### Abstract

Forage legumes are an essential component of agricultural systems in temperate regions of the world, providing high quality animal feed, suitable ground cover, and a valuable source of nitrogen. The crown vetch, *Coronilla varia*, maintained in monoculture, on non irrigated experimental land in the Botanical Garden (I) of the Academy of Sciences of Moldova, served as object of study, the traditional forage legumes: alfalfa, *Medicago sativa* and common sainfoin, *Onobrychis viciifolia* were used as control variants. It has been established that *Coronilla varia* germinates very slowly, in the first year, grows and develops slower than common sainfoin and alfalfa, but in the following years, it starts vegetating 2-3 days earlier. The 3-year-old *Coronilla varia* plants have moderate growth and development rates that allow mowing them at the end of May the green mass yield reaches 3.92 kg/ m<sup>2</sup>, at the same level as sainfoin and by 25% more than alfalfa, but the forage is characterised by a high content of leaves (63-68%) and a low content of dry matter, in comparison with the traditional crops. The chemical composition of *Coronilla varia* dry matter: 14.72% raw protein, 2.81% raw fat, 35.46% raw cellulose, 39.74% nitrogen-free extractive substances and 7.27% minerals. *Coronilla varia* green mass is characterized by high level of potassium and iron, but lower – of magnesium and sodium. The forage value of 1 kg natural forage accounts 0.20 nutritive units, 2.22 Mj metabolizable energy and digestible protein content – 132.10 g /nutritive unit. The calculated methane yield *Coronilla varia* green mass at the first mowing may reach 2311 m<sup>3</sup>/ha, exceeding *Medicago sativa*. The local ecotype of species *Coronilla varia* could be used for restoring degraded, polluted and eroded land, and also for reseeded and increasing economic value of grasslands.

**Key words:** biochemical composition, biological features, *Coronilla varia*, forage value, methane yield