

THE QUALITY OF THE GREEN MASS AND HAY FROM *VICIA TENUIFOLIA* IN THE REPUBLIC OF MOLDOVA

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Abstract

The goal of this research was to determine the quality indices of harvested green mass and hay from the local ecotype of the perennial leguminous species, fine-leaf vetch (*Vicia tenuifolia*), maintained in monoculture in the experimental plot of the NBGI MSU Chișinău. The biochemical composition and nutritive value of the dry matter of the harvested green mass were as follows: 200 g/kg CP, 118 g/kg ash, 305 g/kg CF, 313 g/kg ADF, 488 g/kg NDF, 44 g/kg ADL, and 95 g/kg TSS, with 65.1% DMD, 12.79 MJ/kg DE, 10.50 MJ/kg ME, and 6.52 MJ/kg NEI. The studied fine-leaf vetch hay contained: 195 g/kg CP, 121 g/kg ash, 309 g/kg CF, 331 g/kg ADF, 505 g/kg NDF, 48 g/kg ADL, and 78 g/kg TSS, with 63.1% DMD, 12.43 MJ/kg DE, 10.21 MJ/kg ME, and 6.22 MJ/kg NEI. The studied substrates for biogas production had a favourable carbon-to-nitrogen ratio ($C/N = 14-18$), and the estimated biomethane potential varied from 343 to 350 l/kg organic dry matter. The results indicate the potential use of the harvested green mass and prepared hay from the local ecotype of *Vicia tenuifolia* as feed for livestock, as well as substrates in biogas reactors for biomethane production as a renewable energy source.

Keywords: biochemical composition, biomethane potential, feed value, green mass, hay, *Vicia tenuifolia*
