

THE QUALITY PARAMETERS OF GREEN BIOMASS FROM EASTERN GALEGA – A NEW LEGUMINOUS CROP IN MOLDOVA

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Abstract

The goal of this study was to determine the quality parameters of green biomass from eastern galega (*Galega orientalis* Lam.) which is a new leguminous crop grown under the agroecological conditions of the Republic of Moldova. The research was conducted on the newly developed local cultivar ‘Sofia’, grown in monoculture on the experimental plots of the National Botanical Garden Institute of the Moldova State University (NBGI MSU), Chișinău. The quality parameters of dry matter from the first cut were: 172-200 g/kg crude protein, 114-133 g/kg ash, 333-355 g/kg crude fiber, 335-390 g/kg acid detergent fiber, 542-636 g/kg neutral detergent fiber, 49-58 g/kg acid detergent lignin, 297-341 g/kg cellulose, 187-246 g/kg hemicellulose. Digestibility parameters included 58.5-62.8% DMD, RFV= 90-108, 9.53-10.16 MJ/kg ME and 5.55-6.18 MJ/kg NEL. The biochemical biomethane potential of eastern galega substrates ranged from 324 to 353 L/kg volatile solids.

The quality indices of the green biomass harvested from new local cultivar ‘Sofia’ of *Galega orientalis* indicate that it can be successfully used in livestock feed rations as well as substrates for renewable energy production.

Keywords: biochemical composition, biomethane potential, ‘Sofia’ cultivar, feed value, green mass, *Galega orientalis*
