

## THE QUALITY INDICES OF BIOMASS FROM *MISCANTHUS GIGANTEUS* 'TITAN'

GUDIMA ANDREI<sup>1</sup>, DARADUDA NICOLAE<sup>1</sup>, ABABII  
ALEXEI<sup>2</sup>, DOROFTEI VEACESLAV<sup>2</sup>, ȚÎȚEI VICTOR<sup>2</sup>,  
COZARI SERGHEI<sup>2</sup>, GADIBADI MIHAI<sup>2</sup>, BANARI  
ALEXANDRU<sup>1</sup>, NAZAR BORIS<sup>1</sup>

<sup>1</sup>Technical University of Moldova, Chișinău, Republic of  
Moldova, andrei.gudima@tran.utm.md,  
nicolae.daraduda@tran.utm.md

<sup>2</sup>“Alexandru Ciubotaru” National Botanical Garden (Institute),  
Chișinău, Republic of Moldova, ababiialexei@gmail.com,  
biocom04@gmail.com, vic.titei@gmail.com,  
csv2007@yahoo.com, mm.gadibadi@gmail.com

The development of plant biomass production and their use as an energy source is currently encouraged at global but also regional level. The local cultivar 'Titan' of *Miscanthus giganteus* created at “Alexandru Ciubotaru” National Botanical Garden (Institute) of Moldova State University served as subject of the research. It has been found that the collected early spring *Miscanthus giganteus* biomass was characterized by 13.4 % moisture content and 2.18 % ash content. The elemental composition of *Miscanthus giganteus* dry biomass was 50.0% carbon, 6.86% hydrogen, 0.47% nitrogen, 0.03% sulphur. The specific density of the briquettes made *Miscanthus giganteus* dry biomass reached 740 kg/m<sup>3</sup>. The gross calorific value of biomass was 19.6 MJ/kg and net calorific value of briquettes at 10% moisture content -16.2MJ/kg. The biomass from local cultivar 'Adela' 'Titan' of *Miscanthus giganteus* can be used for preparing solid fuel - briquettes for a renewable energy production.

**Key words:** biomass, briquettes, cultivar 'Titan', elemental composition of biomass, heating value, *Miscanthus giganteus*