

Assessment of introduced species of *Miscanthus* in the conditions of the continental climate of the forest-steppe of Western Siberia

Kapustyanchik S.

Siberian Research Institute of Plant Production and Breeding – Branch of the Institute of Cytology and Genetics, Siberian Branch of Russian Academy of Sciences, Novosibirsk, Russia

E-mail: kapustyanchik@bionet.nsc.ru



Plants were planted in the Novosibirsk region in 2017. They showed resistance to a combination of local ecological factors. They were not affected by diseases and pests during 3 years of introduction. All introduced *Miscanthus* plants were found to be resistant to local winter temperatures during the study period. *M. sinensis*, *M. Sacchariflorus* differed in flowering rhythms (end of August - September), *M. giganteus* did not bloom during the years of observation. The productivity of *M. sinensis* and *M. Sacchariflorus* ranged from 210 to 332 g/m² during biomass harvesting in the fall in the dying phase. The productivity of *M. giganteus* was within 168 g/m² in the growing phase. This confirms the best adaptive function of *M. sinensis* and *M. Sacchariflorus* to growing conditions. Assessing the quality of the obtained raw materials, the following promising samples with the maximum content of cellulose (49-53%) and low content of lignin (17-19%) stand out - *M. sinensis* and *M. Sacchariflorus*. The biomass of *M. giganteus* contains 47% cellulose. *M. sinensis* and *M. sacchariflorus* are among the promising specimens with high productivity and for use in the pulp and paper industry.

This work was supported by the budget project № FVNR- 2022-0018 of the ICG SB RAS.

The main publications of authors on the subject of the abstract:

Kapustyanchik S. Yu., Burmakina N. V., Yakimenko V. N. Assessment of the ecological and agrochemical state of agrocenosis with long-term cultivation of miscanthus in Western Siberia // *Agrochemistry*. - 2020. - No. 9. - P. 65-73.

Yakimenko V. N., Kapustyanchik S. Yu., Galitsyn G. Yu. Cultivation of miscanthus in the continental regions of Russia // *Agriculture*. - 2021. - No. 2. - S. 27