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RESEARCH AND DEVELOPMENT WORKS ON SELECTED GREEN FORAGE HARVESTERS FOR HAY AND SILAGE

Key words: harvesting technique, innovation, silage

Summary

Results of long studies of green forage harvesters for hay and silage are presented. Works were carried out at the Department of Agricultural and Forest Machinery of Warsaw Agricultural University and at the Institute for Land Reclamation and Grassland Farming in Falenty. The machines were characterized by innovative constructional solutions, which contributed to the improvement of agricultural and exploitation coefficients and to implementation of modern green forage harvesting techniques in the country. As a result, the proper material and design solutions of the conditioner fingers in the top-drive and bottom-drive mowers were pointed out. Selection of rolling balers equipped with cutting units, balers forming large rectangular bales and trailed forage harvesters with electro-hydraulic control enabled to work out and implement modern technologies for green forage harvesting. Studied machines were implemented to serial production, where most design solutions are protected by local patents and utility patterns. Scientific achievement of the study was the development of empirical formulas connecting the qualitative and energetic operational coefficients with the parameters of working units and harvested plant material.

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