

LITERATURE

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UDC 636.085.52

ESTIMATION OF THE PRODUCTIVITY OF CORN HYBRID FOR THE PRODUCTION OF QUALITY FEED

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The role of corn in modern feed production is difficult to overestimate. Manufacturers like it for its high productivity, stability, adaptability, good energy content of feed [2]. This crop occupies a leading position in terms of productivity among other grain and forage crops, which prompted agricultural producers to expand its crops to 1 million ha. On average for 2016-2018. the grain yield of corn in our country amounted to 6 t/ha, silage – 7,4 thousand units from 1 ha [3].

Thanks to climate warming and the cultivation of more early-growing hybrids, corn is now being harvested with a higher dry matter content in plants and, consequently, energy. For this reason, the nutritional value of green mass increased from 0,2 ced/kg in 1986-1990. up to 0,3 units/kg in 2016-2018 and their collection increased from 61,3 to 76,4 kg/ha or from 5,48 million tons to 6,42 million tons. This had a positive effect on milk yield. The correlation between the production of corn and milk in the country is high ($r=0,95$ for green mass and 0,93 for feed units) [1, 4].

The purpose of this study was a comparative assessment of maize hybrids by production and economic characteristics in the conditions of the central part of Belarus.

The studies were conducted in 2017-2019. in the conditions of the central part of Belarus at the experimental site of the RUE «Scientific and Practical Center of the NAS of Belarus for Agriculture». The object of the research was maize hybrids of various origin cultivated for grain and silage: Polessky 212CB, Porumben 176MB, Dneprovsky 181CB, DN Pivikha,

Daryan, Berezina, Krasnodarsky 194MB and Ricardinio. A widespread hybrid of domestic selection Polessky 212CB served as a standard.

In the course of the research, maize hybrids were evaluated by the dry matter content in grain, ears and leaf-stalk mass.

On average, over 3 years, the largest collection of green mass was obtained from hybrids Ricardinio, DN Pivikha, Daryan, Krasnodarsky 194MB and Berezina (498-530 kg/ha). It was significantly smaller among the Porumben 176MV, Dneprovsky 181CB and Polessky 212CB hybrids (421-436 kg/ha).

By the collection of dry matter, only Krasnodar 194MB was not included in the top five, showing even lower yields than early ripening hybrids with low green mass yields (147,7 and 156,1-160,9 c/ha, respectively). Pivikha BF ensured a 3-year average harvest of NE 175,4 t/ha, Daryan – 178,4 t/ha, Ricardinio – 182,6 t/ha and Berezina – 186,0 t/ha. Only the last two hybrids each year showed the best result. According to Daryan and DN Pivikha, this was noted 2 years out of 3, Krasnodarsky 194MV – 1 year out of 3.

On average, over 3 years, Ricardinio showed 109,1 c/ha of grain with grain productivity of grain of 14% moisture, Berezina – 101,0 c/ha, Daryan – 99,0 c/ha, Dneprovsky 181CB and Pivikha – 94,4-96,8 kg/ha, Porumben 176MV – 86,0 kg/ha, Polessky 212CB – 75,9 kg/ha and Krasnodarsky 194MV – 68,4 kg/ha.

An important indicator characterizing the quality of corn silage is the proportion of the grain portion in the dry matter yield. The higher it is, the higher the nutritional value of the feed. For example, it can vary between 0,95-1,05 ced units. in 1 kg of SV with a grain fraction of 40-50% in the yield of dry matter. Studies have shown that for the Krasnodarsky 194MB and Polessky 212CB for the grain portion of the dry matter crop, it was only 39,8-41,8%, while for the Dnieper 181CB and Ricardinio it reached 50,5-51,4%. Porumben 176MV, DN Pivikha, Daryan and Berezina occupied an intermediate position (46,7-47,7%).

Thus, according to our data, as a result of the studies, it was found that the hybrids of corn Krasnodarsky 194MB, Berezina, Daryan and Pivikha are the most suitable for cultivation in silage in the climatic conditions of the Minsk region according to a set of production and economic features.

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