

Optimization of the plants nutrition area of the corn hybrid Mashuk 172

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Abstract. In 2019-2021 in the zone of sufficient moistening in the Stavropol region, data were obtained on the effect of plant nutrition area on the duration of the growing season, height, yield of green mass and grain of the early ripening corn hybrid Mashuk 172. It was found that the change in plant nutrition area from 0.143 to 0.125 m² with an increase in their density from 70 to 80 thousand pieces/ha doesn't affect the duration of the growing season of corn. There was no change in plant height due to a decrease in the feeding area, on average over three years it amounted to 203 cm. An increase in the yield of green mass was obtained (an average of 0.62 t/ha or 1.8 %) with an increase in plants amount per 1 hectare from 70 to 80 thousand. The yield of green mass when growing plants on an area of 0.143 m² with a density of 70 thousand pieces/ha was 35.20 t/ha, on an area of 0.125 m² with a density of 80 thousand pieces/ha was 35.82 t/ha. Grain harvest on average for 2019-2021 did not differ significantly and amounted to 5.40 and 5.38 t/ha, respectively, however, over the years, the influence of the feeding area on the yield was noted depending on weather conditions during the growing season. In 2020, a significant decrease in grain yield by 0.31 t/ha (7.2 %) with a decrease in the feeding area from 0.143 to 0.125 m² was noted due to lack of precipitation during the critical period of plant development in June-July. The highest values of yield structure indicators (cob length and weight, number of grains and their weight) by years of research and on average were obtained with a larger plant nutrition area of 0.143 m² and a harvesting density of 70 thousand pieces/ha. Regularities of changes in grain moisture during harvesting from the density of sowing were not revealed.

Keywords: corn, hybrid, feeding area, density, yield

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