Original article

Grain productivity of corn hybrid depending on biological preparations and microfertilizers in the foothill zone of Kabardino-Balkaria

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Annotation. The purpose of the experiment was to study the impact of individual components of the technology of growing corn hybrids on the formation of grain productivity. It was found in the work that when treated with the biological product Baikal EM-1 + microfertilizers, the number of corn cobs per 100 plants increases and approaches the biological potentials of the original form of corn. It was found that the indicators of the elements of the crop structure grew depending on the treatment with a biological product and microfertilizers. So, on the control plants, cobs were obtained on average of 18 cm, and treatment with the biological preparation Baikal EM1 did not affect the length of the cob in any way. Whereas the use of Baikal EM 1 and together with zinc and cobalt on seeds gave a difference of 7,2 and 6,7%, the treatment of vegetative plants in the phase of 3-5 leaves gave a difference of 7,8 and 8,9%, with joint treatment of seeds and plants in the phase of 3-5 leaves gave a difference with the control of 11,7 and 25,6%, respectively. The number of seeds per ear was also modified from 207,5 pcs. under control up to 232,2-233,4 pcs. on the best options Baikal EM1 + zinc and Baikal EM1 + cobalt. The same regularity was seen in the mass of grains from the cob and the mass of 1000 grains. The effectiveness of the use of biopreparations and microfertilizers in increasing the yield of the hybrid Mashuk 175 MB has been proven. Thus, the maximum yield on average for repetitions was obtained in the variant Baikal EM1 + cobalt (seed treatment + spraying in the phase of 3-5 leaves) – 85,8 c/ha, which is higher than the control by 39,2 c/ha, and the background – by 10,4 q/ha. The minimum yield was formed in the control variant without the use of Baikal EM1 and microfertilizers. After analyzing the results obtained, it was found that using the Baikal EM1 biopreparation and microfertilizers of cobalt and zinc together, it is possible to produce corn grain up to 80 centners per hectare annually under KBR conditions.

Key words: corn hybrid, Mashuk 175 MV, number of cobs per 100 plants, number of grains per cob, weight of 1000 grains, cob length, grain weight per cob, yield, biological product, Baikal EM1, microelements

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