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GROWING OF MISCANTHUS FOR PLANTING MATERIAL IN DRIP IRRIGATION

Specially grown bioenergetic cultures, among them, miscanthus, are used for the production of solid biofuel. The plants of miscanthus need approximately 600 – 700 mm of precipitations per year. Taking into consideration the strict requirements of those plants to moisture, the influence of drop irrigation and MaxiMarin absorbent on the biological peculiarities of miscanthus by its growing for receiving the planting material (rhizomes) under field conditions, was investigated at the Uman experimental plant selective station in the years 2013 – 2014.

The best results were observed by irrigation and MaxiMarin application. The quantity of stems in the bush at the end of vegetation increased from 40,6 units (without irrigation) to 67,8 units by irrigation only, and 68,2 units when both irrigation and 1 g of MaxiMarin were applied. The leaf-area duration also increased from 325,9 cm² to 432,9 cm² and 334,2 cm², the height of the plants was 183,2 cm, 208,5 cm and 210,8 cm respectively. By the moisture content of soil 60 – 70% HB the content of general water in the leaves is higher then in the plants grown by the lack of soil moisture, the percentage of bound water is higher and the percentage of free water is lower. Weight percentage of chlorophyll increases from 1,53 to 1,71% on dry basis. Depending on the kind of miscanthus, formation of rhizomes makes 48,9 – 38,2 units without irrigation and 76,0 – 68,6 units with the drop irrigation. Provided the maintenance of soil moisture 60 – 70% HB, the plants of miscanthus develop better and give qualitative planting material (rhizomes) on the second year after transplanting into soil.

Key words: miscanthus, rhezomes, MaxiMarin, drop irrigation, soil moisture.