

Annotation

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Crop capacity and economic efficiency of winter wheat growing depending on applying of different rates of herbicides separately and together with plant growth regulators

Urgent task of science and practice is to obtain a high yield of winter wheat grain with quality indicators that meet the requirements of strong wheat. For this purpose, we sought to develop a biological basis for the integrated applying of herbicides and growth regulators, which became a scientific basis for creation of efficient energy resource compositions of preparations that provide increase of crops productivity and quality of spiked cereals yield.

In field and laboratory experiments, which were done on the experimental field of Uman NUH during 2011-2013 the effect of Lontrim herbicide was studied at the rate of 1.0; 1.5 and 2.0 l/ha, both separately and together with Emistym C growth regulators at the rate of 20 ml/ha to determine the most effective, biologically based, environmentally safe and cost-effective measures of growing of winter wheat of Misia Odeska variety.

It has been established that the use of Lontrim herbicide at the rate of 1.5 l/ha turned out to be the most effective one among all options of the experiment at joint applying of Emistym C at the rate of 20 ml/ha, which indicates a positive effect of preparation on the growth processes of winter wheat.

Applying of Lontrim herbicide to the crops of winter wheat at the optimal rate (1.5 l/ha) and Emistym C growth regulator (20 ml/ha) influenced positively on increasing of crop capacity. In this option of the experiment the highest yield was observed, which was increasing compared to control one to 17.0%. Quality indicators of grain were also raising, namely: protein and gluten content in comparison with the control option were higher by 26.3 and 28.4% respectively. The obtained experimental material gives reason to affirm that in the current economic conditions the most cost-effective is the use of Lontrim at the rate of 1.5 l/ha with joint applying of Emistym C growth regulator at the rate of 20 ml/ha in winter wheat crops, which ensures the formation of the high net income and the highest level of profitability. Joint applying of Lontrim and Emistym C enables to reduce the rate of herbicide by 25% and reduce the pesticide load on soil and plants.

Key words: *crop capacity, quality, protein, gluten, Lontrim, Emistym C, winter wheat, Misia Odeska variety, economic efficiency.*