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The Effect of Root Fertilization on the Wheat in the Central Zone of Orenburg Region

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Abstract. Thanks to the achievements of domestic scientists, grain production of agricultural crops can be increased due to many factors.One of the factors is foliar dressing with liquid micro- and macro-fertilizers. Therefore,we studied various combinations of liquid micro-, macrofertilizers, as well as the bio-logical product Albit, in order to identify the best option and recommend it for production.

Agriculture continues to move forward confidently. Before our eyes, the agrarian industry is reviving, becoming stronger, taking a strong position at the forefront of the Russian economy. The most important achievement of 2017 was a record grain harvest of 130 million tons. This result was achieved not only by increasing the culti-vated areas, which increased by 620 thousand hectares in 2017, but also thanks to the record yield, which amounted to 28 kg / ha, which is 80% higher than in 2000. The maximum harvest in the history of new and Soviet Russia, which will ensure our country a strong leadership in the world wheat market. Russian agriculture remains a driver of the country's economic development. For the second year in a row, we get a record harvest of not only grain, but also sugar beets and sunflowers, the production of soy-beans, rapeseed and greenhouse vegetables is growing. In the new season, grain exports will reach 45 million tons, including more than 35 million tons of wheat. Russia is ex-panding the geography of its presence, having mastered new directions for the supply of agricultural products. At the end of 10 months of 2017, grain exports increased by 22% compared to the same period in 2016 and amounted to 32 million tons. During the same time, the export of Russian wheat exceeded 24 million tons, which is 23% more than a year earlier. ... In Russia, over 17 years, the volume of grain production increased 2 times, sugar beet and sunflower - 2-3 times, soybeans and rapeseed - 10, greenhouse vegetables - 1.8, poultry meat - 6, pork - 2. Fish - 2 times. Greenhouse vegetable grow-ing and horticulture are developing intensively. Progress is being made in the develop-ment of animal husbandry and aquaculture. The dairy industry is undergoing a signifi-cant transformation, and production volumes on farms are growing.

Scientific research carried out in 2019 in the conditions of the educational and experimental farm of the Orenburg State Agrarian University made it possible to draw the following preliminary conclusions and recommendations [1,2].

1. Field germination of winter wheat was high and amounted to 96.0%. Foliar dressing with fertilizers on the Carb-N-Humik and Carb-N-Humik + Albit + Amino Zn variants increased the number

of plants to harvest by 2 pcs/m2, and on the Carb-N-Humik + Albit variant, on the contrary, decreased by 3 pcs/m2 relative to the control variant.

2. The highest productive tillering was observed in the control variant and on the Carb-N-Humik + Albit variant, where it was 1.56 and 1.57 units. respectively. The smallest productive bushiness is 1.49 units. marked on the variant Carb-N-Humik + Albit + Amino Zn.

4. The studied foliar dressing in the heading phase increased the yield of winter wheat by 1.2 - 1.6 c/ha relative to the control variant. Top dressing also contributed to an increase in the structural param-eters of plants.

5. The content of wet gluten on average in the experience was low and amounted to 23.7%. Foliar dressing during the earing phase of wheat did not affect the amount of gluten in the grain. According to the variants of the experiment, it varied from 23.6 to 23.8%. The quality of gluten in all variants was the first group. The natural weight of winter wheat grain corresponded to high quality wheat and was above 750 g/l.

6. The largest profit is 1,641,744.46 rubles, the profitability level of 178.2% was provided by the option with feeding with liquid nitrogen fertilizer Carb-N-Humik.

References

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