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SUGAR-BEET PRODUCTIVITY FORMATION DEPENDING ON MINERAL NUTRITION LEFT FOREST-STEPPEOF UKRAINE

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In the article the brought results over of the field researches in relation to influence of different level of mineral feed on the productivity and quality of root crops of beets saccharine. It is set that the increase of norm of fertilizers to $N_{150}P_{150}K_{150}$ results in the decline of content of sugar in root crops on the average on hybrids on 3,3-6,4 %.

Beets are saccharine, mineral feed, hybrids, puff surface, productivity, content of sugar.

Growing sugar beet costly energy and resources, resulting in reduced acreage and reduce profitability. Thus, according to the State Statistics Committee of Ukraine, the area sown crops in 2012 amounted to 448 thousand. Ha, which is 13.0% less than last year, and the profitability declined from 35.6 to 15.9% [9]. In addition, the level of sugar beet root crop yield (40.7 t / ha) shows that the efficiency of the genetic potential of new varieties and hybrids and natural resources in Ukraine does not exceed 45 to 50% [5-6].

The emergence of new, more productive varieties and hybrids of sugar beet both domestic and foreign selection requires more detailed study of technology of cultivation, in particular, the establishment of rational norms of fertilizers that meet their biological characteristics [1-4].

Research domestic and foreign scientists found that sugar beet yield by 35-40% predetermined genetic characteristics of the variety (hybrid) 15 20% - weather conditions and growing technology - by 40-50% [2, 3, 6-8]. Therefore, the search and development of alternative technology elements of this culture is an important task at the present stage of the crop.

The aim of research was supposed to optimize the level of sugar beet mineral nutrition and identify performance features of the formation of roots.

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Materials and methods of research. Research on optimization of mineral nutrition of sugar beet was performed on a typical low-humus black soils of left-bank forest-steppe humus content in the topsoil of 3.2% (in Turin) thiness ground - 64 points. Availability lehkohidrolizovanym soil nitrogen - low moving rate of phosphorus and potassium - average. Hydrothermal coefficient - 1.2. The object of research were hybrids of domestic breeding Vorskla, Bilotserkivskiy 90 World Cup and foreign - Alena and Baccarat. Studied are the following options fertilization - without fertilizer (control), N60R60K60, N90R90K90, N120R120K120 and N150R150K150 kg / ha ai Peredzbyralna stand density of plants - 100 thousand / hectare. Field research was conducted in accordance with the recommendations "Methods polevoho Experience" edited by BM Armor [1]. To account for the crop roots and turnip weighed from all areas of accounting calculating the number of roots. Sugar content determination by cold digestion.

Technology of sugar beet for common areas, except investigated elements.

Experiments were laid by split plots. In the first order placed blocks hybrids, second - density stand of plants and third - norm of mineral fertilizers. Area sown area - 100 m2, discount - 50 m2. Repeated - three times.

Weather conditions during the research evolved in different ways, which led to the growth and development of plants and accordingly the productivity of sugar beet. In 2011, during the growing season of sugar beet fell 364 mm of rain, which is 12.8% less than the serednobahatorichnoyi standards, and the average temperature was higher on multi - 1.6 ° C was 0.9 SCC. The combination of optimum temperature and water regimes on the formation of sugar beet productivity was observed in 2012, as evidenced by the value of the SCC - 1.2, and as a result - the plants provide higher yields of root crops.

Results. An important performance parameter beet sugar is to develop optimal Square puff device. Development of assimilation surface in the early stages of organogenesis plants causes root crop productivity and decrease at the

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end of the growing season caused by the accumulation of sugar in them. The best is this area of sugar beet leaf surface, which provides maximum gas exchange in sowing and fluctuates within 45-50 thousand. M2 / ha.

Our studies found that the area of puff device during the growing season predetermined level of mineral nutrition and Morfobiologichesky features investigated hybrids.

In the studied sugar beet hybrids with increasing application rate of fertilizers leaf surface area increased. Thus, the control variant without fertilization leaf area per plant was 3085-4036 cm 2, and in applying it N150P150K150 increased to 3515-4835 cm2 or 15.2%, while hybrids Vorskla - an average of 20.5% Alena - 25.2% and Baccarat - 24.5%.

Longer period of operation of assimilation surface characterized by hybrid beet sugar Alena, which further influenced the formation of the photosynthetic potential of higher value crops, and as a result, higher yields of root crops.

At 1.10., Leaf surface area compared to 1.08., Decreased by 23.5 to 28.2%, due to a gradual withering away and drying of leaves and outflow of nutrients to the root.

The largest area of sugar beet leaf plant formula during maximum experiment in normal fertilization (Table. 2). With investigated stood hybrid hybrids of foreign selection Alena - 51.33 ths. M2 / ha, which is 6.1% more relative hybrid Bilotserkivskiy World Cup 90. Hybrids Vorskla and Baccarat developments puff device during the growing season hardly differed.

Accounting sugar beet root crop yield showed that the highest yield of studied hybrids formed by making N150P150K150. In the experiment set different hybrids response to the level of mineral nutrition. Thus, the hybrid Bilotserkivskiy 90 World Cup yield compared with the variant without fertilizers increased by 44.1%, Vorskla - by 48.9, Alena - Baccarat and 61.8 - 55.8%. Consequently, sugar beet hybrids of foreign selection and Alain Baccarat

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belong to intensive type and for the implementation of the genetic potential of introducing higher standards require fertilizer.

The highest sugar content found in the roots of hybrids Baccarat and Alena, and the lowest - in hybrid Vorskla. It should be noted that with increasing standards of mineral fertilizers significantly decreased sugar beet and potatoes. With the increase of fertilizer to the rules N150P150K150 average sugar content in hybrids decreased by 3,3-6,4%.

Conclusions. Adding N150P150K150 ensures the formation of a powerful machine with long puff its operation, and as a result, the formation of high yields 65.9 70.9 t / ha. However, this level of mineral nutrition, a decrease of sugar content in the roots to 3,3-6,4%.

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