

INFLUENCE OF ELEMENTS OF GROWING TECHNOLOGY ON THE PROCESS OF CHLOROPHYLLES SYNTHESIS IN FEED BEET LEAVES

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The results of research about the influence of fertilizing level and plant density on the chlorophyll content in fodder beet leaves are presented.

The main purpose of feed production, as a branch of agriculture, is to provide livestock by a sufficient amount of high quality feed, rich in carbohydrates and other nutrients. In this case, a significant role is given to fodder beets, which are considered one of the valuable succulent fodders. An additional source of feed in the cultivation of fodder beets is a leaves. It is a valuable vitamin food both fresh and ensiled.

Determination of chlorophyll accumulation during the growing of different hybrids of fodder beets at different densities and levels of fertilizing, and therefore dry matter accumulation, photosynthetic potential, photosynthesis productivity, root and leaves yield formation in recent years has been insufficiently studied by scientists. Therefore, studies to determine the chlorophyll content in the leaves of fodder beet were performed.

The experimental part of the work was performed in the scientific laboratories of the Department of Forage Production, Land Reclamation and Meteorology in the production unit of the National University of Life and Environmental Sciences of Ukraine "Agronomic Research Station". The territory of the research station is located in the Right-Bank Forest-Steppe and is a part of Bila Tserkva agro-soil district. The experimental plots were laid on typical low-humus chernozems, coarse-grained light loam in terms of mechanical composition, which are characterized by a high content of gross and mobile forms of nutrients. The climate of the region is characterized by unstable humidity and moderate temperatures. The average annual

air temperature is 6-8 ° C. The annual amount of precipitation reaches 562 mm, during the growing season - 354-394 mm (63-70% of the annual norm), which fall unevenly throughout the year.

Based on the studies, it was found that fertilizers application and plant density affect the synthesis of chlorophyll in the leaves of fodder beets. The absolute values of total chlorophyll content in the leaves of fodder beet hybrids were generally different. It was highest in the leaves of the hybrid Centaur Poly with an index in July - 1.25-1.56 mg/g, in August - 2.26-3.03, in September - 5.22-6.62 mg/g.

With increasing doses of fertilizers, the chlorophyll content in the leaves of fodder beets increased. Thus, on the plots without fertilizers, the chlorophyll content was: July - 1.12-1.30 mg/g, August - 2.12-2.37, September - 5.07-5.43 mg/g, which was significantly lower than in the case of mineral fertilizers applying. With applying N₁₈₀P₁₈₀K₂₁₀, the chlorophyll content was as follows: July - 1.39-1.56 mg/g, August - 2.73-3.03, September - 6.31-6.62 mg/g.

Plant density also influenced the course of chlorophyll synthesis. With an increase in its rate to 100 thousand units/ha, it occurred less intensively. The highest content of chlorophyll in the leaves of fodder beets was found at a plant density of 60 thousand pieces/ha: July - 1.21-1.56 mg/g, August - 2.18-3.03, September - 5.19-6, 62 mg/g. At a density of 100 thousand units/ha, the chlorophyll content was: July - 1.12-1.49 mg/g, August - 2.12-2.89, September - 5.07-6.49 mg/g.

Based on the conducted researches, the close correlation between the process of chlorophyll synthesis and the yield of the leaves has been established. A strong relationship between the traits was formed in all periods of the growing season. The even correlation coefficient was: in July - 0.805; August - 0.867; September - 0.858.

Thus, research has shown that in the technology of growing fodder beets important elements on which the content of chlorophyll in the leaves depends, are

fertilizers, plant density, and hybrids. The most optimal conditions for the synthesis of chlorophyll are provided on the variants with the introduction of mineral fertilizers in the dose $N_{180}P_{180}K_{210}$. Before harvesting under such conditions, its content was, depending on the hybrid and density 6.31-6.62 mg/g.

Keywords: fertilizer, plant density, root vegetable, leaves, yield.