



## Influence of Mineral Nutrition and Combined Growth Regulating Chemical on Nutrient Status of Sunflower

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**Abstract:** Fertilizers have a radical impact on the level of providing plants with mineral elements. But the practice shows that not only the fertilizers solve all the issues related to the optimization of nutrient regime. The technological cycle of the sunflower has the most stressful situations in the early growing season, after herbicide application or during a long drought, when moisture deficit occurs due to high level of temperature. In these cases it is necessary to treat plants with growth regulators that minimize the impact of stressful conditions and cause intensive consumption of macro - and micronutrients by plants. The present research is focused our research on all these issues and addressed them this article. Field studies were taking during 2015 – 2016 on ordinary soils with poor humus in the Dry Steppe zone. The experience was based on two-factor scheme, where factor A was the background of mineral nutrition (a test plot without fertilizer; N30P45; N60P90); and factor B was foliar feeding of sunflower plants by the integrated growth regulating growth regulator Khelafit Combi® (produced by the company “Khelafit”, Ukraine). The positive effect of the combined growth regulator is always seen in more favorable weather and in climatic conditions of 2016 when the level of the growth regulator influence grew. A double treatment of plants by the Khelafit Combi® showed significant efficiency. In this case, during the use of the growth regulator, the level of the yield was always higher than the indicator HIP05. On average during two years of field research the double processing plants of the sunflower by the growth regulating growth regulator showed that the increase in yield amount on the non fertilized background , N30P45 , N60P90 was 0.22 t ha<sup>-1</sup> (13.6%), 0.27 t ha<sup>-1</sup> (14%) and 0.23 t/ha (11, percent).

**Keywords:** Sunflower, Fertilizer, Growth regulating, Yield, Nutrient status, Khelafit Combi®

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