

SUNFLOWER YIELD DEPENDENCE ON WEATHER CONDITIONS AND FUNCTIONING FEATURES OF THE PIGMENT COMPLEX

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The paper is devoted to the evaluation of the pigment complex functioning in sunflower varieties (Umnik, Master, VNIIMK 100) and hybrids (Grant, Fogor, Gorstar) of domestic breeding under the conditions of Zaporizhzhia region. Agrometeorological conditions of 2023–2024 differed in terms of precipitation and accumulated active temperatures. During the active growing season of the crop (May–July), there were no significant differences in precipitation (94 and 92.3 mm respectively), while the average Hydrothermal Coefficient (HTC) during this period in 2023 was 0.93, and in 2024 – 0.56, associated with different amounts of active temperatures. It should be noted that in sunflower varieties the activity of the light-harvesting complex is higher than in hybrids, which is associated with a higher content of chlorophyll *b* in the leaves. The highest chlorophyll productivity during the «8–9 leaves – flowering» period was observed in the varieties Umnik, VNIIMK 100, and the hybrid Fogor. It was found that the actual yield in 2023 was formed at the level of 1.01–1.40 t ha⁻¹, which for varieties and hybrids was 42,2–72,3% lower compared to the yield of 2024. Sunflower seeds of the varieties Umnik, Master, VNIIMK 100 during the study period were characterized by a higher oil content (44.1–47.0%) compared to the seeds of the hybrids Grant, Fogor, and Gorstar, which amounted to 42.1–44.8% of oil. Thus, the highest oil yield per hectare – within 0.742–0.771 t ha⁻¹ – can be achieved through the cultivation of the varieties Umnik, VNIIMK 100, and the hybrid Fogor.

Keywords: sunflower, variety, hybrid, pigment complex, yield.