



## Dependence of Winter Wheat Yielding Capacity on Mineral Nutrition in Irrigation Conditions of Southern Steppe of Ukraine

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**Abstract:** This article is dedicated to the research of dependence of growth and development of winter wheat varieties Khersonska Awnless and Odeska 267 on conditions of moisture provision and mineral nutrition status, impact of indicated factors yielding capacity and grain quality. Years of research significantly varied in rainfall amount during growing season. According to moisture supply, 2016 was dry, 2017 was average humid and 2018 was subhumid, which had an impact on grain yield. The lowest winter wheat productivity level was f in 2016. Under supplemental watering without fertilizers the yield of the Khersonska Awnless variety was 2.07 t ha<sup>-1</sup>, and of Odeska 267 variety - 1.51 t ha<sup>-1</sup>. Under provision of vegetative watering, the yielding capacity increased to 3.14 and 2.94 t ha<sup>-1</sup>. Fertilizers also had significant impact on production processes of plants, accumulation of over ground biomass, and area of assimilating surface that resulted in the yield increase of winter wheat. On average, the most significant factors were fertilizers (43%), irrigation (32%) and variety of winter wheat (9%).

**Keywords:** Soft winter wheat, Varieties, Calculated fertilizer dose, Yielding capacity, Irrigation, Photosynthetic potential

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