International Journal of Ecosystems and Ecology Science (IJEES) **Volume 12, issue 4, 2022**
https://doi.org/10.31407/ijees ISSN: 2224-4980 https://doi.org/10.31407/ijees12.4

Vol. 12 (4): 525-534 (2022)

VARIATION OF YIELD IN SPRING SOFT WHEAT VARIETIES IN THE CONDITIONS OF THE NORTHERN TRANS-URALS

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Received September 2022; Accepted October 2022; Published November 2022;

DOI: https://doi.org/10.31407/ijees12.467

ABSTRACT

The study was carried out in two agro-climatic zones of the Tyumen region: the subtaiga and the northern forest steppe. In 2018-2020, the yield and the degree of its variation in spring soft wheat varieties were studied. In the conditions of the subtaiga zone, the variability of yield depending on the year of the study in most varieties of spring soft wheat was significant, namely, the coefficient of variation was more than 20%. The average degree of variability of the trait was characterized only by the KWS Akvilon variety (CV= 18%). In some other varieties, the yields varied to a lesser extent than those of other studied varieties: Tyumenskaya Yubileynaya (CV=21.8%), Melodiya (23.8%), Grenada (25.6%), Novosibirskaya 15 (26.1%), Novosibirskaya 29 (26.4%). In the conditions of the northern forest-steppe, the variability of yield depending on the year of the study in most varieties was average. Some varieties were characterized by slight variability of the trait, namely, Rix (CV=8.5%), Chernyava 13 (CV=9.1%), and Ikar (CV=10%). The degree of reaction of wheat varieties to changes in growing conditions has been determined. The varieties Ekaterina (bi = 1.38) and Tyumenskaya 25 (bi= 1.26) had the greatest responsiveness. The varieties Novosibirskaya 29 and Rix were less responsive. According to the results of the analysis of variance, it was found that the main influence on the variability of the "yield" indicator was exerted by weather conditions and genotypic features of varieties. In the experiment with the use of pesticides produced by Zemlyakoff and August, the yield variability in the varieties of spring soft wheat Omskaya 36 and Rix over the years of the study (2013-2015) was insignificant and average. In the Rix variety, the CV increased in the variants with the use of pesticides: in the control variant, the yield variability was insignificant (CV= 4.9%), while in the studied variants it was average (CV= 12.6%; 11.2%).

Keywords: Coefficient of variation; Ecological plasticity; Varieties; Wheat; Yield.