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ADAPTIVITY IN GRAIN PROTEIN CONTENT OF OAT VARIETIES OF OMSK AGRICULTURAL SCIENTIFIC CENTER SELECTION

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The purpose of the study was to evaluate and analyze the adaptive potential of spring oat varieties of the Omsk agricultural scientific centre (ASC) selection in terms of "grain protein content" using the most widespread statistical parameters. The experimental part of the work was carried out on the experimental fields of the Omsk ASC (southern forest-steppe) during 2011–2016. The objects of the study were 12 varieties of spring oat recommended for cultivation in the region, as well as undergoing state testing. Next parameters were studied: the range of protein content in the grain, ecological plasticity index, homeostaticity, intensity indicator, relative trait stability, an indicator of the level of the variety stability, the relative stability of the variety. Mathematical data processing was carried out. The varieties most adaptive to the conditions of the southern forest-steppe of Western Siberia were identified on the basis of the sum of ranks by the methods used. Varieties with the lowest rank sum received the highest ratings by most parameters. According to the sum of ranks, the varieties Irtysh 23, Pamyati Bogachkova, Tarskyi 2 and Irtysh 13 (sum of ranks = 36÷40) are stable (poorly responsive to changes in environmental conditions) – these varieties are preferable to grow in more severe weather conditions. Skakun, Levsha, Irtysh 21 and Sibirskyi Hercules belong to plastic varieties by the sum of the ranks (sum of ranks = 50÷56) – the change in the grain protein content of these varieties depended to a large extent on the growing conditions.

Keywords: spring oats, protein content, stability, plasticity, environmental factors, adaptability, rank, ecological plasticity coefficients, homeostaticity.