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EVALUATION OF THE GRAIN PROTEIN CONTENT AND ADAPTABILITY OF COLLECTIVE VARIETIES OF SPRING BARLEY IN THE CONDITIONS OF SOUTHERN FOREST-STEPPE OF THE OMSK REGION

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In this study the grain protein content and adaptive potential of varieties of the collection of the All-Russian Institute of Plant Genetic Resources named after N. I. Vavilov have been evaluated by statistical parameters calculated for the conditions of the southern forest-steppe of the Omsk region. The objects of the study were 28 varieties of spring barley. The selection variety of the Omsk Agrarian Scientific Center Omskyi 95 was used as a standard. As part of this study, the index of environmental conditions was calculated, and also the coefficient of environmental plasticity and stability was defined according to S. A. Eberhard and W. A. Russell, the coefficient of stability – according to E. D. Nettevich, the coefficient of adaptability – according to L. A. Zhivotkov, resistance to stress – according to A. A. Rossielle and J. Hemblin, homeostatic – according to V. V. Hangildin. The grain protein content of spring barley was mainly influenced by growing conditions (92.7%). Varieties Zernogradskyi 581, Sokol, Naran, Getman, Odon, Vityaz, Zadonskyi 8, Ilek and Volgar were characterized by a high level of the grain protein content (+0.6÷+1.3% to the standard). The results of the study allowed to recommend for inclusion in breeding programs, as well as for cultivation in the conditions of the southern forest-steppe of Western Siberia, such spring barley varieties as Getman, Knyazhich, Bezenchukskyi 3, Northerner, Ilek, Tuleyevskyi, Naran, Odon, 2951 hs, Volgar, Volga 65, Kazak, Vityaz, Dvina, Zadel, Sokol, Zernogradskyi 581, Vorsinskyi 2 and Zadonskyi 8, which received high marks for most indicators (Σ rangs = 55÷70). These varieties are characterized by the highest adaptability and high protein content in the grain.

Keywords: barley, adaptability, plasticity, stability, homeostatic.