

**ECOLOGICAL SUITABILITY AND SUSTAINABILITY PARAMETERS OF SPRING BARLEY
VARIETIES OF OMSK BREEDING ACCORDING TO THE INDICATOR «PROTEIN COLLECTION
PER HECTARE»**

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The paper presents the results of a long-term study (2013–2017) of the adaptability of 13 spring barley varieties of Omsk Agrarian Scientific Center breeding according to the indicator «protein collection per hectare» in a competitive varietal test. The following parameters of adaptability were calculated: the range of protein collection per hectare (d) according to V. A. Zykin; environmental plasticity index (Jsp) according to S. A. Eberhart and W. A. Russell; stability factor (S.F.) according to D. Lewis; homeostaticity (Hom) and breeding value of varieties (Sc) according to V. V. Hangildin; relative stability index (St²) and stability criterion (A) according to N.A. Sobolev; intensity indicator (I) according to the method of R. A. Udachin; coefficient of variation (CV) according to B. A. Dospekhov. On average, over the years of testing, the varieties Omskiy 101, Podarok Sibiri, Sasha, Omskiy 100 were characterized by the highest protein collection (539.0 kg ha⁻¹, 534.3 kg ha⁻¹, 517.16 kg ha⁻¹, 512.8 kg ha⁻¹, respectively). The variety Omskiy 100 was characterized by the maximum protein collection (753.2 kg ha⁻¹) in 2015, and the variety Omskiy Golozernyi 1 – by the minimum protein collection (187.7 kg ha⁻¹) in 2013. Favorable weather conditions for obtaining high protein collection were observed in 2015, 2017 and 2018 (Ij = +191.8; +123.9 and +67.6, respectively), unfavorable – in 2013, 2014 and 2016 (Ij = –221.6; –89.6 and –71.7, respectively). As a result of the experiment, the varieties were ranked according to the parameters of ecological suitability and sustainability, calculated according to the indicator «protein collection per hectare». It was found that the varieties Podarok Sibiri, Omskiy 100, Omskiy 101, Sasha and Omskiy Golozernyi 2 had high ecological adaptability. The data obtained make it possible to recommend a wider introduction of the selected varieties into production.

Keywords: barley, variety, protein collection, plasticity, homeostaticity, stability, intensity.