

**COMPARATIVE ASSESSMENT OF OAT VARIETIES STABILITY BASED ON GRAIN OIL CONTENT  
IN CONDITIONS OF FOREST-STEPPE ZONE OF WESTERN SIBERIA**O. A. Yusova<sup>1</sup>, P. N. Nikolaev<sup>1</sup>, S. V. Vasyukevich<sup>1</sup>, I. V. Safonova<sup>2</sup>, N. I. Aniskov<sup>2</sup><sup>1</sup> Omsk Agrarian Scientific Center

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The oil content of oat grain, which mainly varies from 6 to 8%, determines the nutritional value of this crop. The aim of the research was to determine the adaptive ability of oats based on the grain oil content. The study was carried out from 2011 to 2019 in the forest-steppe zone of Western Siberia. On average, over the period of study, the content of crude fat in oat grain was 4.6%. The oil content in the group of filmy varieties varied from 2.2% (Pamyati Bogachkova) to 7.0% (Irtysh 13), in the group of naked varieties - from 4.9% (Progress) to 7.6% (Sibirskiy Golozernyy). An increased oil content was noted in 2011 (5.6%), a decreased - in 2019 (3.9%). On average, over the period of study, the filmy varieties Irtysh 13, Fakel and Sibirskiy Gerkules significantly exceeded the standard for this indicator (+ 0.2 – 0.4% to st.). According to the results of the rank assessment, the naked varieties Sibirskiy Golozernyy and Progress were the most adaptive in terms of the studied trait (the sum of ranks = 23 and 31). They were characterized by increased values of the following indicators: homeostaticity (Hom = 82.1 and 76.2) and stability index (SI = 106.7 and 105.8) – according to V. V. Hangildin, adaptability coefficient – according to S. A. Eberhart (KA = 150.6 and 135.6%), stability factor – according to D. Lewis (S.F. = 1.2 and 1.6), breeding value – according to N. A. Orlyanskiy (Sc = 39.8 and 25.2), stress resistance coefficient – according to A.V. Bykov (Kst. = 0.9 and 0.8). In the group of naked varieties, Fakel and Sibirskiy Gerkules turned out to be the most adaptive (sum of ranks = 33 and 44). These varieties stood out according to the following indicators: homeostaticity – according to V. V. Hangildin (Hom = 18.3 and 8.6), stability factor – according to D. Lewis (SF = 1.5), plasticity ecovalent – according to C. Wricke (Wi = 1.2 and 1.5), breeding value – according to N. A. Orlyanskiy (Sc = 12.6 and 11.2), stress resistance coefficient – according to A. V. Bykov (Kst. = 0.8 and 0.7).

**Key words:** spring oats, homeostaticity, stability, stress resistance, plasticity, adaptability.