

EVALUATION OF PERFORMANT HYBRID HYBRIDS IN DIFFERENT YEARS OF VEGETATION

Butnarash Violeta*, Balmush Zinaida, Goncariuc Maria, Cotelea Ludmila

Institute of Genetics, Physiology and Plant Protection,

Chisinau, Republic of Moldova

*E-mail: butnarasvioleta@gmail.com

The creation and evaluation of prospective hybrid genotypes of *L. angustifolia*, the selection of high-performance hybrids with different maturation terms, which would harmoniously combine special indices of the main biological and production characters as well as increased essential oil content, is of major importance. Research includes prospective hybrids, with remarkable quantitative traits for obtaining new lavender clone varieties.

The basic objective of lavender breeding is to create hybrids with high essential oil content in the raw material. This index varies from 4.022% (dry matter) to 6.042% (dry matter) in the hybrids from the early maturation group, from 4.042% - 6.476% the semi-early hybrids are characterized and from 4.019% to 6.012% - the late group. The most promising prospects for essential oil content were studied during the years 2019-2021. From the set of studied hybrid genotypes, with high essential oil content, 2 genotypes from the maternal forms (Fr.1, Fr.5) and 4 descending hybrids from the maternal forms Fr.8 and Cr.13 were manifested. The essential oil content in the fourth year of vegetation (2019) for lavender F1 hybrids is from 3.988% to 6.344%. Values clearly higher than this character were recorded by the hybrids 1Fr.1-3-2-30V- 5.101% (dry matter), 14Fr.8-5-15-18V-5.453% (dry matter), 4Fr.5S-8-54-5 -5.212% (dry matter), 7Cr.13S-6-12-27- 5.226%, 7Cr.13S-6-12-28-6.344% (dry matter). The content of essential oil in inflorescences in the maternal forms is significantly lower and constitutes 2.508%, 2.600% 2.978% and 3.435% (dry matter) respectively at Cr.13; Fr 5; Fr.1; Fr.8. The variation of the essential oil content in the hybrids evaluated in the fourth year (2020), registers values from 3.988% to the hybrid 4Fr.5S-8-54-10 to 6.344% (s.u.) to the hybrid 7Cr.13S -6-12-28. Maternal forms have accumulated a lower essential oil content: Cr.13 (2.508%); Fr.5 (2.600%); Fr.1 (2.978%) and Fr.8 (3.435% dry matter). From the group of hybrids studied in the 5th year of vegetation (2021), six genotypes accumulated essential oil content higher than 5% due to the favorable climatic conditions, which contributed to the synthesis and accumulation of the essential oil.

Acknowledgments: The research was carried out within the project of the State Program 20.80009.5107.07 „Diminishing the consequences of climate change by creating and implementing varieties of medicinal and aromatic plants with high productivity, resistant to drought, wintering, diseases, which ensures sustainable development of agriculture, guarantees high quality products, predestined for the perfumery, cosmetics, pharmaceuticals, food industry” funded by the National Agency for Research and Development.

Keywords: *L. angustifolia*, hybrid, quantitative traits, climatic conditions.