

LAVENDER HYBRIDS RESISTANT TO ABIOTIC FACTORS

BUTNARAS Violeta*, <https://orcid.org/0009-0003-9747-7568>

COTELEA Ludmila, <https://orcid.org/0009-0006-1395-2440>

BALMUS Zinaida, <https://orcid.org/0000-0002-1164-6435>

*Moldova State University, Institute of Genetics Physiology and Plant Protection,
Chisinau, Republic of Moldova,*

**Corresponding e-mail: violeta.butnaras@sti.usm.md*

Research conducted on the species *Lavandula angustifolia* Mill., aims to create new clone-varieties resistant to frost and overwintering, with a longer productive lifespan of the plantations, increased productivity, and the development of early, medium, and late clone-varieties with staggered harvesting. Proposed aim: to study and select hybrid genotypes for valuable quantitative traits resistant to drought, frost, and overwintering.

The study included 110 F₁ hybrids in their third year of vegetation during 2025, derived from 3 French maternal forms: Fr.1; Fr.5; Fr.8. Resistance to frost and overwintering was assessed by evaluating the number of frozen shoots per plant, scored on a 1–5 points scale. Biomorphological evaluations were carried out (plant height and diameter, number of flower stems per plant). At the full flowering stage of the species, the essential oil content was determined in the fresh raw material, recalculated to dry matter.

The hybrids under study were assessed and classified according to their resistance to overwintering and frost: 77 genotypes showed high resistance (5 points); 25 – above-average resistance (4 points); 8 – medium resistance (3 points). For the hybrid genotypes derived from the maternal form Fr.1, belonging to the early group, the quantitative traits influencing productivity were evaluated. Plant height ranged from 62.0 to 72.0 cm, diameter from 90.0 to 110.0 cm, and the number of flower stems ranged from 740 to 980 units. For essential oil content, 45 hybrids were studied, which accumulated from 3.806% to 6.121% (dry matter).

When evaluating the hybrids descended from the maternal form Fr.8, belonging to the semi-early maturation group, the trait “plant height” ranged from 60.0 cm to 67.0 cm, forming vigorous plants with a diameter of 90.0–107.0 cm. It can be noted that plants with a larger diameter also form a greater number of flower stems, ranging

from 520 to 874 units. Regarding essential oil content in the third year of vegetation, 21 lavender hybrids derived from the maternal form Fr.8 were evaluated, ranging from 4.265% to 5.398%. The hybrids that stood out with high values for the traits mentioned also accumulated a higher essential oil content.

The hybrid genotypes derived from the maternal form Fr.5 belong to the late maturation group. In the third year of vegetation, they showed the following values: plant height from 64.5 cm to 67.0 cm, plant diameter (95.5–100.0 cm), and number of flower stems (563–700). The variation in essential oil content during the drought year (2025) for the late hybrids descended from Fr.5 was 4.03%–5.26% (dry matter).

It was established that the lavender hybrids derived from the French genotypes (Fr.1, Fr.5, and Fr.8) are resistant to the climatic conditions characteristic of the Republic of Moldova during winter. 38 lavender hybrids from the third year were selected, showing an essential oil content higher than 5% (dry matter) and high resistance to abiotic factors.

Keywords: lavender, hybrids, resistance, dry matter.

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