

**The Comparative Study of Anatomical and Morphological  
Characteristics of Broad Beans Leaf  
(*Vicia faba* var. *major*)**

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**Abstract:** The paper describes the findings of the morphological study of stomata and morphological parameters of leaves selected in a phenological period of “budding – flowering” of twenty-three accessions of broad beans from different origins. These beans (*Vicia faba* L.) were grown in conditions of the Belgorod region. The stomata frequency and stomata width, stomata length on both surfaces of the leaf, leaflet length and width, number of leaflet per leaf, leaf area and the correlation between the characteristics of foliage were measured. The density of stomata on the upper epidermis of leaflets of broad beans ranged from 25.4 to 57.4 per mm<sup>2</sup> and on the lower epidermis of leaflets it ranged from 30.6 to 76.8 per mm<sup>2</sup>. The variety “Karmazin” showed the maximum number of stomata per mm<sup>2</sup> on the lower as on the upper epidermis leaflets (76.8 per mm<sup>2</sup> and 57.4 per mm<sup>2</sup> respectively). The lowest number of stomata was found on the upper epidermis of the variety “Black Russian” (25.4 per mm<sup>2</sup>) and on the lower epidermis of the variety “Dachnik” (30.6 per mm<sup>2</sup>). Stomata length ranged from 38.2 to 49.7 μm, stomata width – from 21.1 to 33.3 μm. The stomata length and width on the upper epidermis leaflets of the investigated accessions of broad beans was less than that on the lower surface of the epidermis leaflets. The negative relationships between the number of stomata and the stomata length and width ( $r = -0.676$  and  $r = -0.480$ ) were found on the upper epidermis. On the lower epidermis of leaflets of the compound leaf, the stomata density negatively correlated with the stomata length ( $r = -0.500$ ) and weakly correlated with the stomata width ( $r = -0.195$ ). Positive correlation were found between the leaf area and the leaflet length, width and number of leaflets per leaf ( $r = 0.572$ ,  $r = 0.327$  and  $r = 0.545$ ). No significant corrections were found between the leaf area and the stomata characteristics.

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