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### MORPHOLOGICAL VARIATION OF BLUEBERRY FLOWERS AND POLLINATION

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#### ABSTRACT

Blueberry is widely cultivated and specific characteristics of its flowers such as the shape and size determine the success of pollination. However, in Brazil, the floral morphology of blueberry cultivars (*Vaccinium ashei*) grown and its impact on pollination has not been studied. In this study we investigated whether the floral morphology and pollen deposition differs between cultivars.

We measured five floral characteristics (corolla opening diameter; corolla width; corolla length; anther-stigma distance, stylet length) in 50 flowers of Bluebelle, Bluegem, Britteblue, Climax, Powderblue, Woodard and Delite, in two localities of Rio Grande do Sul (Veranópolis and Guaíba). To assess the impact of the floral morphology in pollination, we counted the number of pollen grains on the stigma of their flowers.

The Principal Component Analysis (PCA) indicated that the flowers of each cultivar presented a pattern of size and shape. MANOVA confirmed the differences in floral morphology between cultivars, except for the diameter of the corolla opening of flowers of Veranópolis orchard, which showed no difference. Flowers with smaller anther-stigma distances and greater corolla openings presented a greater number of pollen grains on the stigma.

Based on these results, we suggest that floral morphology influences blueberry pollination. Bluegem and Bluebelle flowers characteristics favour pollination, Delite flowers characteristics may limit it. We recommend that flower morphology is considered during the development of new cultivars and orchard planning.