



Multivariate analysis of backcross progeny of *Passiflora* L. (Passifloraceae) for pre-breeding genotype selection

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ABSTRACT. The Ward-MLM procedure was used to evaluate genetic variation in four backcross progenies and in their parents, hybrid F1 HD13 and donor parent *Passiflora subblanceolata*. Sixteen quantitative descriptors and five qualitative characteristics of relevance to ornamental flower production were assessed. Using the pseudo-F and pseudo-T² criteria, we identified four groups among these plants in two evaluation periods. In both evaluations, the BC₁ plants showed greater dissimilarity to their recurrent parent, but showed high genetic similarity with the *P. subblanceolata* parent. The first two canonical variables produced by the Ward-MLM procedure accounted for over 90% of the variation in both evaluation periods, enabling the representation of diversity through two-dimensional graphics. Groups II and IV were formed in the first assessment period. Groups I and IV formed in the second period and showed plants with selection potential. We found that it was essential to use both qualitative and quantitative variables for this analysis. Assessments of quantitative descriptors indicate that the

selection of BC₁ plants can be performed in any of the four progenies. Because of the similarities observed for some floral descriptors between BC₁ and the *P. subanceolata* parent, a second generation backcross was not recommended. However, the selection of BC₁ plants for evaluation and direct use as an ornamental cultivar, or as a resource in other breeding programs, can be recommended.

Key words: Multivariate analysis; Interspecific hybrid; Plant breeding; Modified location model.