**EFFECT OF GROWTH HABIT ON YIELD OF LARGE-SEEDED BUSH CULTIVARS OF COMMON BEAN**

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Abstract

Among common bean cultivars (*Phaseolus vulgaris* L.) with bush growth habits, large-seeded cultivars usually give lower yields than small-seeded ones, especially in warm, tropical environments. One suggested cause of this yield difference is that the determinate stem type typical of large-seeded bush cultivars is somehow less efficient than the indeterminate habits usually associated with small-seeded cultivars. To evaluate this hypothesis, yields of five pairs of large-seeded near-isogenic lines of contrasting growth habits were compared over five trials at three sites in Colombia. To obtain evidence from a group of materials with a broader genetic background, an additional 19 indeterminate and five determinate medium- to large-seeded experimental lines were grown in five trials at the three sites. In comparisons of the near-isogenic lines, no effect of growth habit on yield was detected in any of the trials. Determinate growth habit, on the average, resulted in 4 days earlier maturity. For the evaluation of 24 lines, the mean yield of the determinate lines over the five locations was 1700 kg ha−1, significantly lower than the mean yield of 1890 kg ha−1 for the indeterminates. Determinates matured 5 days earlier than indeterminates. Stability analyses for both studies indicated greater variation in yield stability of indeterminete lines as compared to the determinates. In the 24-genotype study, several indeterminate lines combined both high and stable yields. While the results of the near-isogenic lines indicate that differences in growth habit are not sufficient to explain low yields in large-seeded cultivars, the comparison among 24 lines suggests that the genotypic variation present within indeterminate growth habits may offer greater potential for yield improvement of large-seeded bush types without loss of yield stability.