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Relative Environmental Adaptation of Bell Pepper Cultivars Across Three Southeastern States [ABSTRACT]

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RELATIVE ENVIRONMENTAL ADAPTATION OF BELL PEPPER CULTIVARS ACROSS THREE SOUTHEASTERN STATES

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Four commercially available bell pepper cultivars (*Capsicum annum* L.) were evaluated for yield stability over a combination of 3 years, 3 planting dates, and 7 locations across the Carolinas and Georgia. Stability analysis is most frequently performed as a breeding tool with a large number of genotypes in relatively few environments and environments varying in only one respect, either years or locations. In this study, the reverse was emphasized in an attempt to evaluate the adaptation of commercially available cultivars to a broad geographic region. Although each cultivar (GatorBell, Hybell, Skipper, and Keystone Resistent Giant #3) was found to be responsive to environmental change, the stability of response was variable. An individual cultivars was characterized as having environmental stability if the weight of marketable fruit was above the average of all cultivars across all environments, both favorable and unfavorable with a minimal deviation between environments [a regression coefficient ≤ 1 and a coefficient of linear determination (R^2) value $\geq 50\%$].