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Genetic Variation among Cotton (*Gossypium hirsutum* L.) Cultivars for Seed-
Set Efficiency

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Abstract: Seed-set efficiency (SSE) is one of the most important within-boll yield components in cotton production. Increased SSE can lead to increased seed number and, ultimately, to greater fiber yield. A field experiment was conducted during 2003-2004 to compare cotton cultivars (*Gossypium hirsutum* L.), in terms of the potential for improved SSE, in a Mediterranean region (Kahramanmaraş Agricultural Research Institute). SSE changed by year by about 1%-2%, averaging 94%-95%. Mean values for cultivars ranged from 95.78% (Deltaopal) to 93.98% (Nazilli 84S) in 2003, and from 95.67% (Sayar 314) to 94.75% (Carmen) in 2004. Cultivars were significantly different (2%-3%) only for the bolls located at the bottom (1st position) of the plants. Despite the difference being small, in general, the bottom and top bolls of the plants had higher SSE than middle bolls did. Also, average yield and SSE were higher in 2004 than in 2003. The results showed that SSE was significantly affected by genotype and year, but not from the position of the bolls. Additionally, SSE was significantly and positively ($r = 0.69$) correlated to yield (lint, seed, and seed cotton) in 2003. Since there was no significant difference in the seed number of the bolls formed early or late in the season, bolls harvested throughout the season could be used for seed production, but further investigation of seed characters (seed vigor) is warranted.

Key Words: Cotton, seed set, genotype

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