

**EFFECTS OF METHOD AND TIME OF
POTASSIUM APPLICATION ON
YIELD AND QUALITY
OF COTTON IN VIRGINIA**

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Abstract

Previous studies across the Cotton Belt demonstrated the importance of K fertilization on cotton (*Gossypium hirsutum* L.) yield and fiber quality. Three levels of pre-plant, split (preplant + first flower) soil-applied, and foliar-applied K were compared to untreated control on DPL-50 at two locations (Coastal Plain and Piedmont) in Virginia. Foliar application were made every two weeks and weekly starting from first flower. Potassium nitrate was the K source for foliar treatments and KCl was utilized for soil treatments. Lint yield, boll counts, and High Volume Instrument quality parameters were measured for each treatment. Averaged over soil applied treatments, K application increased lint yield ($P < 0.05$) and total number of bolls ($P < 0.1$) compared with the untreated control at the Piedmont site. The increase in lint yield was 180, and 153 lb/A preplant soil-applied K, and split soil-applied K, respectively. A similar trend in lint yield was observed for the Coastal Plain site although not significant. Weekly foliar K application increased ($P < .05$) lint yield over the untreated control. However no increase in lint yield occurred when foliar application was made two weeks apart. Similar results had been reported for cotton grown in various environmental conditions. Fiber quality, micronaire, length, strength and uniformity were not affected by K application.