

**INFLUENCE OF NITROGEN AND BORON
INTERACTION ON COTTON PRODUCTION
IN VIRGINIA AND SOUTH CAROLINA**

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Abstract

Multiple studies have shown boron (B) and nitrogen (N) to be essential nutrients for profitable cotton production. Four levels of nitrogen (N) (0, 60, 90 and 120 lb/acre) and four levels of boron (B) (0, 0.5, 1.0, and 2.0 lb/acre) were used on DPL-50 (Virginia) and DP-90 (South Carolina) in a split-plot design with B subplot treatments randomly assigned within N whole plot treatments. The experiment was replicated four times. Nitrogen as sodium nitrate was side-dressed and boron as solubor foliar applied. Yield and HVI parameters were measured for each treatment. There was no N X B interaction at both locations, however, there was N X B interaction for leaf and petiole B and N levels. The highest yields at both experimental locations were obtained with the combination of 60 to 90 lb/acre N and 0.05 to 1.0 lb/acre B. Application of N and B higher than 90 and 1.0 lb/acre N and B, respectively did not result in increased in lint yield. Leaf and petiole analysis indicated adequate B levels 5 weeks after first flower, while petiole NO₃ declined rapidly over time. Our findings support the current recommendation for B which is 0.05 to 1.0 lb/acre for higher yielding cotton.