



## **Blueberry Root and Fruit Responses to Humic Acid Application**

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### **Abstract**

Humic acids are rapidly becoming a popular agrichemical used in blueberry production. Since these substances fall under the biostimulant category, there are no rate recommendations for their use in many crops. In addition, there is limited literature on the effect that humic acids can have on blueberry. In this study, we tested the effect that humic acids can have on transplant success, yield, and fruit quality of southern highbush blueberry (SHB) grown in containers filled with soilless substrates. In the first experiment, we grew 'Sweetcrisp' SHB in rhizoboxes containing 1.7 L of soilless substrate. Immediately after transplanting, humic acids were applied as a drench at low (0.7% v/v), medium (1.3% v/v), or high (2.4% v/v) rates. Irrigation water without humic acids served as control. We monitored substrate pH and electrical conductivity, root growth, and whole plant biomass accumulation for 10 weeks. We found that humic acid drench applications did not improve transplant success in 'Sweetcrisp' SHB. In the second experiment, 1-year old plants of 'Avanti' SHB and two advanced selections from the UF Blueberry Breeding and Genetics Program (FL09-311 and FL06-19) were grown in 2.73-L pots filled with soilless substrate. Plants were manually pollinated with pollen from 'Emerald' SHB before humic acid applications at medium (1.3% v/v), or high (2.4% v/v) rates. Irrigation water without humic acids served as control. We harvested ripe fruit and determined average fruit size, total yield, and total soluble solids. Humic acid drench applications did not affect yield in all SHB tested, but effects on fruit quality were genotype-specific. Humic acid drench applications reduced total soluble solids in 'Avanti' SHB, but not in other genotypes. Humic acid drench applications reduced average fruit size in FL09-311, but not in other genotypes. These results suggest that there are genotype-specific responses to humic acid drench applications. Thus, it is challenging to make generalized recommendations for SHB cultivation in soilless substrates.

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