**A049 AGSC**

# The Influence of soil and foliar application of fulvic acid on yield parameters of organically grown bell peppers (Capsicum annuum L.) under open-field conditions in Tennessee


## Abstract

Due to increased demand for healthier fresh produce by consumers, growers are seeking for environmental friendlier techniques to improve sustainability and profitability in organic vegetable production. The use of fulvic acid biostimulant coupled with different mode of application can contribute to enhanced plant growth and high-quality yield. A field experiment was conducted in a randomized complete block design with three replications at the organic farm of Tennessee State University in summer 2021. The influence of foliar and soil application of fulvic acid biostimulant on yield of organically grown bell peppers (*Capsicum annuum* L.) was investigated. Transplants were raised from organic seeds of bell peppers var. *Revolution* F1 in a greenhouse and transferred in the field on plastic mulch with drip irrigation. Fulvic acid was applied as a soil drench to the plant root area and foliar spray on the leaf surface at different rates (0, 10, 20, 30, 40 ml/gal) three times a week starting from two weeks after transplanting. Results indicate increased yield in response to foliar application of fulvic acid and showed significant differences ($p \leq 0.05$) among treatments. Foliar 20 ml/gal led to highest yield (9.41 lb/plant) with subsequent increase in yield at soil 20 ml/gal (9.21 lb/plant) and foliar 30ml/gal (9.09 lb/plant) as compared to control and other treatments. Foliar 20 and 30 ml/gal also led to highest number of fruits (30 fruits/plant). Soil concentration at 20 and 30 ml/gal resulted in statistically significant mean fruit weight (0.33 lb). Fruit length and fruit diameter showed no significant difference in control and fulvic acid treatments. Preliminary trials suggest that foliar application of fulvic acid was effective and could be used to increase marketable yield in organic bell pepper production.



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