

# EFFECTS OF SOIL APPLIED HUMIC ACID AND CALCIUM TREATMENTS ON WATERMELON YIELD AND QUALITY

*William Terry Kelley*  
*Extension Horticulturist*  
*University of Georgia*  
*P.O. Box 1209*  
*Tifton, GA 31793*  
[wtkelley@uga.edu](mailto:wtkelley@uga.edu)

## **Introduction**

Watermelons are annually Georgia's largest vegetable commodity based on acreage. Production usually exceeds 30,000 acres and \$70 million in farmgate value. Blossom End Rot can be a common problem on watermelons in Georgia during the Spring season. While this condition is associated with calcium deficiency, it is not only Ca in the soil that is at issue. Horizon Ag Products and Helena Chemical Company have two new products with potential to increase watermelon yield and reduce Blossom End Rot. Hydra-Hume is a humic acid product which is purported to have the ability to increase uptake of micronutrients. Es-Cal-Eight is a low pH material with 5% nitrogen and 8% calcium. These materials alone and in combination were tested to determine their effects on yield, quality of watermelon.

## **Methods**

Watermelon plants (variety "Tri-X 313", Syngenta Seed Co.) were produced in a greenhouse by a commercial transplant grower. Plots were established at the Coastal Plain Experiment Station (elev. 382 feet) in Tifton, GA. Plot land was tilled and 600 lb/A 10-10-10 was applied and incorporated. Methyl bromide was applied (134 lb. a.i./acre) when black plastic mulch and drip tape were installed.

Watermelons were transplanted on April 22, 2004 into a Tifton sandy loam (fine-loamy siliceous thermic Plinthic Kandiudults) soil. Plots consisted of one row of watermelons planted on raised beds that were spaced six feet apart (from center to center). In-row spacing was 48 inches per plant. Plots were each 30 feet long and were replicated four times. The experiment was arranged in a Randomized Complete Block Design.

Hydra-Hume was injected at one gallon per acre shortly after planting. Es-Cal-Eight was injected at one gallon per acre one week prior to bloom and every three weeks thereafter. Additional fertilizer was applied through the drip irrigation system. Watermelons were harvested on July 9, 2004 and data collected on yield and quality. Other than fertilizers, normal cultural and pest control practices were used. Due to excess rains, two replications of the melons were lost.

## **Results and Discussion**

Results are presented in Table 1. Since two replications of the test were lost to waterlogged conditions, only means could be presented with no statistical comparison. The means for yield were greater for either product used alone when compared to the

check. The yield for the combination treatment was better than the check or when either product was used alone. There was little difference in melon size or percent marketability.

**Table 1. Yield, average fruit weight and percent marketability of watermelons treated with Hydra-Hume and Es-Cal-8 and untreated watermelons at Tifton, Georgia in 2004.**

Treatment	Yield (Lbs.)	Average Fruit Weight (Lbs.)	Percent Market able (%)
Untreated	60440	17.5	72.0
Hydrahume	74778	16.5	67.4
EsCal-8	95832	17.6	67.1
Hydrahume+ EsCal-8	103092	14.2	73.8
Mean	83536	16.5	70.1