

ALBION[®]

Metalosate[®] Plant Nutrition News

A Compilation of Technical Information and Essential Plant Research Projects

MARCH 2005

VOLUME 6, No. 3

Yield and Quality of Cantaloupe Melons as Affected by a Field Application of Metalosate[®] Calcium

By Jeremy O'Brien

Cantaloupe Project

Dr. Jorge M. Fonseca at the University of Arizona—Yuma Agricultural Center, Yuma Arizona recently completed some trials on cantaloupe melons in Arizona.

In his project Dr. Fonseca looked at the effect of pre-harvest application of Metalosate[®] Calcium on yield and post-harvest quality of whole and fresh-cut cantaloupe melons.

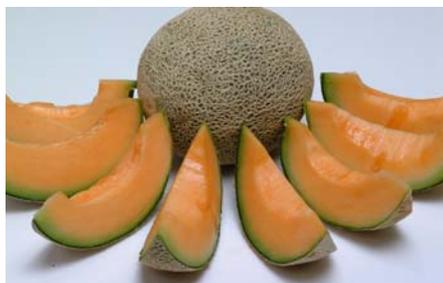


Image Courtesy of John Wazniak, LSU AgCenter

Project Details

The Metalosate[®] Calcium was applied utilizing two different timings. One application was made ten days prior to harvest. The other application was made seven days prior to harvest. The rate of Metalosate[®] Calcium applied was 1 quart per acre (2.3 L/ha) with a total spray volume of 50 gallons of water per acre (473 L/ha). There were four replicates of each treatment.

Plots within the treatments were randomly selected for evaluation with the following parameters being evaluated: Number of ripe fruits, number of non-ripe fruits, external firmness, internal firmness, soluble solids,

weight of ripe fruits, weight of non-ripe fruits, diameter of ripe fruits, and calcium content.

All of the treatment plots were harvested by hand, with melons being randomly selected to be observed for post-harvest storage. The melons selected were all fully mature, of uniform size, and with no visible injury, insect damage or disease.

Some of the melons from each treatment were kept intact and evaluated after 21 days for overall visual quality, soluble solids, external firmness, internal firmness and soft decay.

A group of melons were cut into cubes of 1-2 sq. inches 48 hours after harvest. The cubes were placed in low-density polyethylene lidded containers. The fresh cut melons were evaluated after 5 and 10 days of storage at 40-45 degrees F (4.4 - 7.2 degrees C). The evaluation parameters included: overall visual quality, juice leakage, and color.

Project Results

Dr. Fonseca found that the application of Metalosate[®] Calcium increased the overall yields by almost 20%. The average fruit weight of the treated fruits was 1023.6 g and 1031.8 g while the weight of the control was 844.9 g. The Metalosate[®] treated fruits also showed higher external firmness at 20.22 and 21.63 ft. lb. with the control being 16.3 ft. lb.

Table 1. Quality aspects of cantaloupe melons at harvest as affected by Metalosate[®] Calcium applied one time prior to harvest.

Treatment	Control	Metalosate [®] Ca 10 days Before Harvest	Metalosate [®] Ca 7 days Before Harvest
External Firmness (ft. lbs.)	16.30 a	20.22 b	21.63 b
Diameter (cm)	11.75 a	12.34 b	12.51 b
Weight (g)	853.1 a	1031.8 b	1023.6 b

Values followed by different letters in the same row are significantly different (P<0.05).

The treated fruits also had a larger average diameter at 12.34 and 12.51 cm with the control having 11.75 cm. Table 1 represents a summary of these results.

The overall quality of the fresh cut melons based upon visual appearance, color and pulp integrity treated with Metalosate[®] Calcium 10 days prior to harvest was better after 5 days and 10 days of storage than that of the other treatments.

This research indicates Albion's commitment to continuing to learn about and develop crop-specific programs. If you wish to see the full report on this project, please contact your local Albion representative. We would like to thank Dr. Jorge Fonseca for his excellent research. 