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Use of Metalosate® Products on Canning Tomatoes in California

Original report written by Don Perry; Edited by Jeremy O'Brien

Introduction

A nutrient trial was conducted using five different Metalosate® products on a canning tomato variety 'Brinker Orsetti 3155.' Yield, fruit quality, and disease severity were observed.

Materials and Methods

Two foliar applications were made to the treated half of the field. The first application on June 10, 1997, was applied using 32 fl. oz./acre (2.3 L/ha) Metalosate Zinc, 24 fl. oz./acre (1.8 L/ha) Metalosate Manganese, 32 fl. oz./acre (2.3 L/ha) Metalosate Potassium, and 12 fl. oz./acre (0.88 L/ha) Metalosate Iron. A second application of 32 fl. oz./acre (2.3 L/ha) Metalosate Manganese, 48 fl. oz./acre (3.5 L/ha) Metalosate Potassium, and 16 fl. oz./acre (1.2 L/ha) Metalosate Calcium was applied on August 5,

1997. A foliar phosphorous 4-30-8 was also applied at 48 fl. oz./acre (3.5 L/ha). All materials were tank mixed and applied by air using a helicopter. Prior to each application, the field was tissue sampled, and the applications were made based on TEAM® analysis results.

Eight randomized test plots, each 5.0 x 10 ft. (1.5 x 3.0 m), were used for the trial. Four plots were in the treated area with the other four being in the untreated area. Normal watering and cultural practices continued through the trial period. Observations were made on a weekly basis until the trial concluded on September 2, 1997.

Results

Table 1 is a summary of the yield data collected from the trial. All plots were hand harvested. The treated area showed a 39.5% increase in yield compared to the untreated area. This is equivalent to a yield of 44.64 tons/acre (121.6 metric tons/ha). The fruit quality in the

treated area compared to the untreated area was superior. A higher degree of fruit decay and disease was found in the untreated area.

Summary

Observations were made to determine yield, fruit quality, and disease severity. The treated areas were significantly higher in yield and fruit quality. Application of Metalosate products were made twelve and three weeks before harvest resulting in a 39.5% increase in yield. The increase in terms of yield was equivalent to 12.64 tons/acre (34.43 metric tons/ha). A noticeable decrease in blight occurrence was observed in the treated area. The fungicide sprays were applied across both the treated and untreated plots. With all fungicide treatments being the same, the only differences were the Metalosate applications.

This trial indicated that Metalosate products have a beneficial effect on plant growth and yield as well as the plants ability to resist disease. Plant tissue analysis was critical in determining the nutrients to apply as well as the timing of the applications. ☺



Canning-Tomato Field in California
(Image Courtesy of Gene Miyao, UC Vegetable Research and Information Center)

Table 1. Calculated Tomato Yield

Treatment	Calculated Yield
Growers' Standard	32 tons/acre (87 metric tons/ha)
Metalosate® Treated	44 tons/acre (120 metric tons/ha)

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101 North Main Street Clearfield, Utah 84015 USA

Phone (801) 773-4631 • (800) 453-2406 • Fax (801) 773-4633 • www.albion-an.com • E-mail: info@albion-an.com

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