Abstract

1st National Organic Tree Fruit Research Symposium

May 31 and June 1, 2001

Grand Junction, Colorado

Sponsored by:
Colorado Organic Crop Management Association
Colorado State University
Scientific Congress on Organic Agricultural Research
American Society for Horticultural Science
Gerber Products Co.

with additional support from:
Dr. Rick Zimmerman, Colorado State University
Pacific Biocontrol

The results in these informal symposium proceedings are preliminary. The papers within are only to be used for symposium discussion and information by conference participants. They are not reviewed and will be followed by a peer reviewed formal proceedings.

Thursday Afternoon

1:15 - 6:00 Tour of Colorado Organic Orchards and Research Sites
6:00 - 7:30 Sponsored Dinner at the Apple Shed, Cedaredge, Colorado
7:30 - ? Return to Grand Junction with possible sunset tour over the Grand Mesa

Friday Morning - June 1

GENERAL SESSION:
MODERATOR: LARRY TRAUBEL - TRAUBEL FAMILY ORCHARDS/GRAND MESA DISCOUNT

8:00 - 8:15 Housekeeping/Symposium Updates (Morning speakers meet to load files at 7:45 a.m.)

Pg 39 8:15 - 9:00 GENERAL ADDRESS: Dr. Ian Merwin - Organic Tree-Fruit Production: Controversies and Challenges

RESEARCH REPORTS - SESSION II - NUTRITION AND ORCHARD FLOOR MANAGEMENT
MODERATOR: CURT ROM

Pg 47 9:00 - 9:15 Fallahi - Effects of Various Humic Acid Compounds and Nutrients on Yield and Fruit Quality of 'Early Spur Rome' Apple
51 9:15 - 9:30 Seyedbaghi - Effect of Humic Substances on Soil and Plant Metabolism in Organic Production
53 9:30 - 9:45 Davis - Nutrient Availability for Apple Trees from Chicken Manure and Compost
55 9:45 - 10:00 Azarenko - Alternative Orchard Floor Management Practices for Improving Soil Quality and Optimizing Nitrogen Uptake Efficiency

10:00 - 10:15 Break (after break speakers meet to load files)

RESEARCH REPORTS - SESSION III - PEST MANAGEMENT CONSIDERATIONS
MODERATOR: ANITA AZARENKO

Pg 59 10:15 - 10:30 Suckling - A New Zealand View of Plant Protection Challenges in Organic Tree Fruit Production
61 10:30 - 10:45 Bird - Impact of Cherry Orchard Management Systems on Nematode Community Structure
64 10:45 - 11:00 Swezey - Mating Disruption in Organic Apples: Testing and Adoption of a Key Technology for Production Guidelines in California
77 11:00 - 11:15 Foster - Advances in Organic Insect and Mite Management on Apples
79 11:15 - 11:30 Garcia - Scab Resistant Cultivars: A Biological Alternative in Organic Apple Production
81 11:30 - 11:45 Glen - Insect, Disease, and Horticultural Effects of Applying a Particle Film, Surround WP
83 11:45 - 12:00 Larsen - Apple Powdery Mildew Studies in Colorado

12:00 - 1:00 Lunch (afternoon speakers meet to load files)

NUTRIENT AVAILABILITY FOR APPLE TREES FROM CHICKEN MANURE AND COMPOST

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The purpose of this study is to evaluate the impact of manure (5 T/acre and 10 T/acre rates) and compost (0.5 and 1.0 T/acre rates) applications on the soil fertility of organic apple orchards. Over a two-year period with annual treatment applications, soil fertility effects generally increased with time in both of the orchards under evaluation. Manure application reduced soil pH and soil calcium levels, while increasing soil salinity and organic matter levels. In addition, manuring increased soil nitrate, ammonium, phosphorus, potassium, zinc, iron (on one of the two farms only), magnesium, and boron. Compost, on the other hand, increased soil salinity (on one farm only) and phosphorus and magnesium levels but rarely impacted soil nitrate and ammonium contents. At this time, it appears that the 5 T/acre manure application rate was the best treatment. The higher manure application rate may increase soil salinity, result in phosphorus runoff, and lead to boron toxicity. The compost application rates were too low to see much positive impact; however, increasing the compost rate could lead to serious soil salinity problems.