

Gaining Control

Controlled-release fertilizers offer growers another way to manage tree nutrition while complying with citrus best management practices.

By Tom Obreza (taobreza@ifas.ufl.edu) and Bob Rouse (rer@ifas.ufl.edu)

In the new age of Florida citrus production, best management practices to protect water quality are being considered across the state. Growers have been encouraged to carefully consider nitrogen (N) fertilizer rates, application schedules, and irrigation management in their groves. Nitrogen sources have received little attention because most managers are accustomed to using water-soluble fertilizers like ammonium nitrate, ammonium sulfate, and urea. Synthetic controlled-release fertilizers (CRFs) have existed commercially for more than 35 years, but other than use in young-tree fertilizer blends, Florida citrus growers have avoided them due to high cost and lack of production experience.



Top-dressed controlled-release fertilizers offer growers an easy method of applying the product.

October at total rates of 45, 90, and 180 pounds of nitrogen per acre. Fertilizers were applied by hand under the tree canopy, and remained there following several heavy rain events during the first two months after application. We measured boxes per tree and pounds solids per box for each treatment, from which we calculated the pounds solids per tree yield.

Research Results

Yield response to water-soluble N fertilizer was described by a gently-sloping curve that reached its maximum at 77 pounds solids per tree. The increased N fertilizer efficiency provided by the controlled-release sources was evident by the sharp increase in yield as

N rate increased from 45 to 90 pound per acre. It was apparent that the citrus trees responded more strongly to increasing rates of CRF compared with the water-soluble source.

The mixture we evaluated in this trial served as the forerunner to the suite of materials that The Scotts Company now markets as CitriBlen. This fertilizer is the first material composed of mostly coated nutrients that is made and marketed specifically for mature Florida citrus as a one application per year nitrogen-phosphorus-potassium fertilizer. Field trials are now underway to compare the product with standard water-soluble fertilization practices.

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Tom Obreza is a professor of soil and water sciences at the University of Florida's Institute of Food and Agricultural Sciences (UF/IFAS) in Gainesville; Bob Rouse is a citrus specialist at the UF/IFAS Southwest Florida Research and Education Center in Immokalee.

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