



Time to Irrigate and Fertilize



Spring is the important time for irrigation and fertilization. Vegetative growth is emerging in the spring, and it is critical that this new growth be supported with adequate irrigation and fertilizer. The National Weather Service Climate Prediction Center has predicted that temperatures in Florida will be hotter than normal from March until the beginning of 2007. The report also indicated that Florida will be drier than normal from March to May, but then wetter than normal from June through November. This wetter period corresponds with the hurricane season, which is predicted to be active again this summer.

Irrigate For Uptake

Water stress in the spring can increase drop of young fruit. Hence, with this predicted drier and hotter than normal spring, adequate irrigation is necessary to maximize fruit set and growth.

To help gain optimum water uptake by the tree, sufficient land area must be wetted by the irrigation system. Depending on the number of trees per acre and the spray diameter, microsprinklers wet only a relatively small amount of the total land area. For example, using one microsprinkler or jet per tree with a 10-foot spray diameter in a typical grove with a 25 by 12½ foot spacing (about 140 trees per acre) wets only 25% of the total land area. If the spray diameter were increased to 12 feet, that number of jets would wet 36% of the total land area. In tests we carried out in a higher density grove (20-by-10-foot spacing), best yield was obtained when 50% to 75% of the land area was wetted by the microsprinklers. Trees with large diameter jets that covered nearly 100% of the land area did not yield any better than trees with jets that wet 50% of the land area. While most of the roots are under the tree, our rainfall helps some citrus roots grow beyond the

edge of the canopy out into the row middles. Hence, when using microsprinklers, it is best to use a jet that wets to the edge of the canopy and slightly beyond, if possible, to reach as many roots as you can.

It is critical to minimize water stress in the spring. With our poor-water-holding sandy soils, frequent irrigation is necessary. Depending on soil type and location, most groves would benefit from irrigation every three days (or twice per week) for three to four hours from March to June. During May, it may be necessary to irrigate every two days (or three times per week), depending on rainfall. Guidelines for when and how long to irrigate on ridge and flatwoods groves during each month are online at <http://edis.ifas.ufl.edu/HS204>. Irrigating with microsprinklers for more than five or six hours drives some of the water below the main root zone, wastes water, and does not benefit the tree.

Season Matters

Spring is also the time to start fertilizing. For those that are following the voluntary Ridge Nitrogen Best Management Practices, up to 65 pounds of nitrogen (N) per acre per application can be applied during the dry season. With fertigation, no application should exceed 15 pounds of N per acre per week. With oranges and trees that are four to seven years old, 200 pounds of total N per acre per year is allowed. For trees older than seven years, up to 240 pounds of N is acceptable. Generally, two-thirds of the N should be applied in the spring to avoid excess leaching.

With proper irrigation and fertilization in the spring, trees can be started out for optimum production. This year, the weather prediction suggests the importance of attention to the details of good irrigation management. 