19 — *Subsequent irrigation*, 2 cm; estimated *ET* of 2.2 cm (5 days); 2 cm storage unfilled; no drainage.

20 — Rainfall of 3 cm; estimated *ET* of 0.4 cm (1 day); profile temporarily overfilled; drainage loss of 0.6 cm; root zone restored to 7 cm of available water as on May 1.

29 — *Initial irrigation*, 2 cm; estimated *ET* of 4 cm (9 days); rainfall of 1 cm after irrigation; 1 cm of storage unfilled; no drainage.

June 5 — *Subsequent irrigation*, 2 cm; estimated *ET* of 3.2 cm (7 days, 3 at 0.445 cm/day and 4 at 0.47 cm/day); 2.2 cm storage unfilled; no drainage.

June 9 — *Subsequent irrigation*, 2 cm; estimated *ET* of 1.9 cm (4 days); 2.1 cm storage unfilled; no drainage.

June 11 — Rainfall of 4.3 cm; estimated *ET* of 0.9 cm (2 days); storage temporarily overfilled; drainage of 1.3 cm; root zone restored to capacity as on May 1.

The consequences of rainfall on May 20 and 29 and on June 11 demonstrate the value of a management practice which provides some soil storage capacity for trapping rainfall. To use the above or any other management strategy successfully, the irrigator will need to continually test the consequences of his irrigation decisions. Do the plants wilt a day or so before irrigation is scheduled? Is the soil wetted to a depth of 20 to 30 cm about a day after irrigation? On the other hand, is the soil wetted to greater depths—an indication that unfilled storage is less than calculated? Are the measured or estimated soil and plant characteristics (available water, root depth, plant canopy), appropriate for the major portion of the specific field being irrigated?

Additional questions should be considered. What is the forecast for rainfall? Are the weather conditions (clouds, relative humidity and temperature) such that estimates of *ET* need to be adjusted up or down during the rain-free periods? What is the crop condition—stage of growth and degree of ground cover—and appropriate k_c' value? How much leaching loss of water and nutrients has occurred? Is the loss of mobile nutrients serious enough to require correction by top dressing with fertilizer? Is the irrigation system design appropriate to the soil–crop-land area enterprise?

In spite of the obvious complexity of the irrigation management problem, progress is being made in developing more efficient management systems for crop production in Florida. The aspects of the problem, treated briefly here, emphasize the need for more knowledge about the crop's physical and biological environment and the grower's management potential in it.