

AN ALTERNATIVE FERTILIZATION REGIME

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At the Container Corporation of America Nursery near Archer, Florida, seedling production went from 12 million seedlings annually to 24 million seedlings in 1982. In order to maintain a quality product at the increased production rate, several areas of the nursery operation had to be revamped. One of those areas was that of fertilization.

Originally, an initial fertilizer application was made at plow down time with a conventional dry fertilizer spreader. The fertilizer used was a blend that matched nutrient deficiencies revealed by analysis of soil samples taken earlier. This operation was not changed since it is being done in a very efficient manner.

Top dressing of seedlings to continue counteracting nutrient deficiencies of the soil was also handled with a dry fertilizer blend. This blend was applied with a Gandy spreader right over the top of the seedlings. Placement of a precise amount of fertilizer made this a very reasonable operation. However, needed increased production capacity made this operation impractical. Alternatives were then sought to make this operation as efficient as possible. The outcome of this search brought about the concept of fertilizer injection through the irrigation system.

Liquid fertilizer is bought and stored in a fiberglass tank. When needed, liquid fertilizer is forced into the irrigation main line with use of an injection pump. With the irrigation system running, precise amounts of the fertilizer are metered into the system. Once the proper amount of fertilizer is applied to the appropriate area, the injection pump is turned off. Irrigation continues in order to flush the system and seedlings of fertilizer residue thus preventing corrosion of the system or burning of the seedlings.

With this method many fertilizer regimes can be adapted. At the CCA Archer Nursery, multiple applications of relatively small amounts of fertilizer are put on rather than just 1 or 2 large treatments.

The liquid fertilization injection system has proven to be a very efficient way to top dress seedlings. Using the dry system, fertilization could not take until there was not any moisture on the seedlings. Even on a day when no rainfall or irrigation had taken place, it took until 11 a.m., to dry dew from the seedlings. This left little time to fertilize. What was happening was that it was taking several days (even weeks) to fertilize the entire nursery one time. It became impossible to manage seedlings uniformly. With the liquid system, fertilization can begin at 7 a.m. The entire nursery can be fertilized in less than 8 hours.

Liquid fertilizer can be purchased in any blend similar to those available in dry form. An advantage of liquid fertilizer is that it comes in a form that is more readily available to the plant.

The purpose of this article is to show the liquid fertilizer injection system as an alternative for top dressing seedlings. Every nursery has particular characteristics which may or may not lend themselves to using this system.