Alternative Strawberry Planting Method Tested In Florida Field

To provide strawberry growers improved crop survivability, uniformity, and other advantages, Speedling, Incorporated has developed a plug for use in a mechanical planter which waters the seedlings as they go into the ground.

The transplanter is equipped with water wheels which give the plugs a moist soil environment and reduce the need for initial irrigation. Berl M. Thomas, president and CEO of Speedling, said water conservation is one of at least three main reasons for introducing use of plugs in the strawberry industry.

"It takes a tremendous amount of water to start bare-root plants," he explained. "These transplants can take off without any overhead irrigation." He noted that producers are dealing not only with water restrictions, but also more costly labor and the eventual loss of methyl bromide as a preplant soil fumigant.

Speedling is field-testing the new strawberry planting method on five or six acres at Williford Farms in Ruskin, owned by Ralph and Randall Williford. The company held a field day in late October to demonstrate the planting method to growers at the Williford operation.

By December, the Willifords noted that plants which were set with this method in October were more uniform, had less mortality, and produced fruit earlier than bare-root plants. In early January, they were observing whether the normal gap between first and second crop would be less with the transplants. "What we want to see will be the total yield between both crops, because the bottom line is the dollar," Randall noted. "But so far it does look promising."

Kennco Manufacturing, Inc. adapted water-wheel transplanter which is used to set strawberry transplants in field at Williford Farms, Ruskin.

Kennco Modifies Planter

Kennco Manufacturing, Inc. in Ruskin builds the water-wheel transplanter and expanded this one to include a second storage rack, additional seats, and a second water wheel. It was built at Speedling's request, and the design was coordinated with Dr. Steve Kovach, new business development manager. The extra capacity enables a planting crew to make more trips across the field before adding flats to the racks, explained Kennco salesman Danny Allen. The unit is equipped with a handle so one member of the crew can shut off water at the end of the row while the tractor pulls the planter into position for the return trip.

As the machine punches holes in the plastic mulch, it also injects water so that, when the plug is inserted, it secures the plant firmly in the sandy soil. The water includes a mild fertilizer solution which is strong in phosphorus to promote growth.

"It reduces transplant shock a lot," Ralph Williford observed. "The 2x2 soil ball holds a lot of the water around the plant and root system for

Speedling, Incorporated develops technique which utilizes plug rather than bare-root transplant.

Tank supplies pair of yellow water wheels which irrigate each hole before plant is inserted into the soil, greatly reducing transplant shock.

days. And even if you do water the plant, it will rapidly reabsorb the little bit of water that you put on the plant and hold it for the root system. So you eliminate the use of water."

He noted that bare-root plants require considerably more water than plugs. "If you have a block that you set with bare-roots and you come back in and reset it with bare-roots, you have to run water constantly during the heat of the day for the first three days to get your resets started."

Ralph said the biggest advantage for him is a more uniform crop because of the lack of resetting and because all the plants are set at the same depth in the soil. "With bare-root, only a percentage of the plants will bear earlier, so as you walk across the field you might pick one in five or six plants. With this system, when you come in, you should be able to pick most every plant down the row, thereby getting more yield and lowering the cost to harvest per flat."

Speedling, Incorporated, executives at field day included (from left) Mike Samilian, Florida nurseries manager; Berl Thomas, president and CEO; Steve Kovach, new business development manager, and Tim O'Rourke, Bushnell nursery manager.

The key to success of the system will be whether total yields will be high enough, and harvesting costs reduced sufficiently, to compensate for the higher initial cost per plant. The Willifords will evaluate their results this spring.

Fumigation Needs Studied

Thomas feels that the time is right to introduce the concept, due to the pressures of labor costs, water management, and the scheduled loss of methyl bromide. One of the things Speedling and growers will be watching, he said, will be whether the new transplant method will help plants to better withstand disease and pest pressures with use of alternative fumigants.

"The plant starts growing almost immediately — you can dig it up three days after planting and it has feeder roots," Thomas said. "Anytime you have a plant going into the field that isn't injured or under stress, then it is less susceptible to disease. It's not the total answer for the elimination of methyl bromide, but you certainly have a clean plant going into the field."

He noted that a plug has a definite advantage in giving the plant a stronger start. "With a plug, you retain the feeder roots. When they cut the bare root, they eliminate the feeder roots so that plant is undergoing a lot of shock. It takes about two weeks for it to generate new feeder roots and get started." Plants require a lot of water during this time.

Now In The Pilot Stage

Thomas said Speedling has been working on the process for two years and is now in the pilot program stage. In 1996, the company conducted preliminary tests on plots in California and Florida.

"With a plant that has a viable root system, one of the things that we are trying to accomplish," Thomas said, "is to get into the marketplace earlier. We have proven that that can happen. From the farmer's perspective, he wants to know if he can get into the marketplace early enough that he gets an economic gain to pay for the transplants." **FG**