

Drip-Tape

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The availability of water and conservation of water is and will be a very important topic for the 1990s.

McGill Nursery does not have an abundance of water available. We don't have any wells and our only water supply comes from a small spring-fed pond. If we start pumping out of that pond for big overhead sprinkler lines, it will not take long to empty. So, McGill Nursery was forced to conserve water years ago.

Our solution came in the form of a DRIP-TAPE system. DRIP-TAPE is manufactured by T-Tape Systems, San Diego, California. The water is pumped from the pond to the "DRIPHUT". In the driphut are the filters and regulators. From there, the water flows into a network of plastic pipes. In the plastic pipes are hook-up tubes every 44 in. (44 in. is our row spacing). When we start planting, we hook the drip-tape to the hook-up tubes and we are ready to go.

After the initial investment of pump, filters and regulators, the system is relatively inexpensive. Our drip-tape comes in 7500 ft reels at a cost of about \$150 which means it adds only 2 cents to the cost of a tree. The tape stays with the tree 2 to 3 years. We, at McGill's, use the medium (8 ml) drip-tape with hole-spacing at 12 in. The operating pressure is relatively low at only 12 psi.

The rolls of drip-tape are mounted on our Michigan 2 row mechanical planter and a guide-tube makes sure that the tape gets situated a few inches under the plants.

For tree growers it is advisable to put the tape a few inches on either the left or the right of the little tree, so you don't have any problems when you have to stake the tree later.

When the tractor moves, the tape starts unrolling; and besides all this, the water is following the planter. When the planter is on the end of the rows, which are between 1200 and 1300 ft long, the water is not far behind. This gives us the opportunity to plant all summer long.

Advantages of drip-irrigation include the following:

- 1) Water savings—60% over sprinkler-irrigation. We can irrigate 20 acres at one time against 3½ acres with overhead-sprinklers
- 2) Energy cost reduction.
- 3) Labor savings (one person can open and close the valves).
- 4) Field operations can continue, because furrows remain dry.
- 5) Less soil compaction
- 6) Moves destructive salts away from crop.
- 7) Better yield and quality.
- 8) Plant protection from disease—no wet leaves.
- 9) Can be automated
- 10) Fertilizer injection.

Every year we grow our tissue culture plants on Drip-Tape and have more than one million plants on the system.

The digger digs the tape, together with the trees, and the crew disposes of the old tape. It is advisable to chlorinate the tape twice a year to keep it clean of algae, or use phosphoric acid if you have an iron problem.