Wheel Line Irrigation Systems

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In 1985 Carlton expanded its tree production and also planted shrubs as a part of the production schedule. This increased the acreage that needed to be irrigated and maintained. We needed a more efficient method of irrigating in order to cope with the new demands. At this time we pressed into service two "Wade Rain" wheel lines and movers we had received with the purchase of some property.

The advantage of this system is that the pipe does not have to be disconnected, moved by hand, and reconnected. One person can irrigate many acres by just starting up the power unit and rolling the lines to the next position. It is fast, easy and safe. The system we utilize has 64 in. diameter wheels, 4 in x 40 ft pipe sections and Rainbird 30 sprinklers.

Cost for 1200 ft of wheel line and one power mover runs between $6,500 and $7,250 This is about four to five times the cost of a regular hand line. However, costs are recovered through labor savings, as one person can irrigate several hundred acres when using wheel lines. This type of system can be utilized on rootstocks and shrubs during their first growing seson. The wheels, pipe sections, and power unit dismantle easily for movement to another field the next spring

Drip Irrigation in Containers

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Traditionally high dollar crops such as grafted Japanese maples, *Stewartia*, and *Parrotia* are difficult to propagate and slow to grow. Their growth response in polyhouses under uniform conditions, however, is the opposite. Fairway Nursery, in looking for an efficient, uniform delivery system for water and fertilizer, opted for a drip irrigation system.

The system is very simple and consists of a polyethylene feeder pipe into which a multi-outlet dripper is plumbed Each dripper feeds eight regulating sticks that are placed in the pots. The drippers operate under low pressure, 35 psi and deliver 0.25 gph per stick at a 97% uniformity. The most important component of any drip system is filtration. A 140-mesh, 2-in. Arkal disc filter along with Netafim's design of a turbulent flow path in the regulating sticks prevent clogging from particulate matter in the water

We are able to irrigate 1800, 5-gal containers on 2700 sq ft Water useage is approximately 900 gal per day as opposed to 1780 gal with traditional overhead irrigation. The multi-outlet dripper costs $1.14 per unit and polyethylene feeder tubing 17¢ per foot. Dependable uniform watering allows for accurate feeding. We use an Amiad displacement injector to apply 50 ppm of 10.1:6 fertilizer during the growing season.