

## An Orchard Snapshot

By Bill Klein

Virtually all fruit trees including both tart and sweet cherry are grafted at a nursery and grown into small trees before they are purchased by the orchardist. The grafting and growing process at the nursery generally takes two seasons. In year one, a small tree is planted in the nursery that has the desirable characteristics for a "rootstock." This tree vigorously grows, then in August a bud from the variety of the fruit that is desired is attached near the base of the "rootstock tree" through the process called "budding." In the spring of year two, the tree is cut off just above the bud. It is this bud that grows very rapidly the second season into a small tree which is removed from the nursery and shipped to the orchardist.



Trees in Nursery courtesy Hilltop Nursery

The tree arrives from the nursery as a bare root tree with a minimal number of branches. This tree is then planted into a prepared orchard site in the early spring and will develop quite rapidly during the next 3-4 years. Cherry orchards are generally planted at 110 - 135 trees/acre.



Planting an Orchard With a Mechanical Tree Planter

Photo Courtesy Gillison's Variety Fabrication

During the first several years of the orchard, the trees must be well taken care of to provide optimum conditions for growth. Weed control, irrigation application, proper nutrition (fertilizers), training and pruning of the limbs as well as disease, insect, and deer control are all components which need to be carefully administered to maximize growth in the young orchard. We can expect to get the first fruit production from tart cherries the 5th year after planting.



4 Year old Tart Cherry Orchard at the NW Michigan Horticultural Research Station

Once the trees are established, they continue to need to be pruned. This pruning consists of proper limb placement, thinning cuts as well as the removal of dead or diseased limbs. Much of this pruning is done during the winter when the trees are dormant.



#### Winter Orchard Pruning

Integrated Pest Management (IPM) practices are now commonly used by growers to help manage pests while utilizing less pesticides. This is accomplished by placing various traps in the orchard to monitor pest populations, scouting orchard for various insect pests and predators, weeds and disease pests and monitoring weather and other environmental variables to make sure that these pest outbreaks do not exceed the "economic injury thresholds" for the various pests.

Spraying for insect and disease problems is important not only for producing a quality fruit for the consumer, but also for keeping the orchard healthy and able to produce crops in subsequent years. Technology has enhanced the methods which we use to deliver fungicides and insecticides to the orchard. Most sprayers today utilize air to carry the water and spray material to the tree. Tower sprayers, as seen in this photo, are a new and very effective means of spraying orchards.



Air Curtain Style Sprayer



Otto Sleeper, Rufus Putney and L. K. Putney on sprayer Circa 1918

Courtesy Duane Evans

Modern cherry harvest is typically done mechanically with a machine called a shaker. The cherry shaker became widely adopted by the cherry industry by the late 1960's. Prior to that time, both tart and sweet cherries were hand picked. Trees that took hours to harvest by hand can now be shaken at a rate of 1-3 trees/minute. This allows the fruit to be harvested at its prime. Once the fruit is harvested, it is placed in tanks of cold water and chilled for 4-8 hours on cooling pads before being trucked to the processing plant.



Head of Cherry Shaker with Fruit falling onto Tarps

Cherry orchards have an average economic life of 25-30 years. Many trees may live longer than the 25-30 years; however, fruit quality, disease problems and tree death can make the orchard operation inefficient and costly. When this point in the orchard's life comes, the trees are removed from the ground and the orchard site is prepared by working the soil, cover cropping and fertilizing for two to four years before another orchard is planted.



Orchard Removal (Brush Piles)