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# Cherry trees shrink along with labor pool

### Diminutive trees increase worker efficiency

By MATEUSZ PERKOWSKI Capital Press

Cherry trees in the Northwest are shrinking as growers plant diminutive orchards in anticipation of labor shortages, experts say.

Traditional orchards, with large trees planted at spacious distances, are often getting replaced with higher-density "pedestrian" systems in which most branches are within an arm's length, expediting functions like pruning and har-

A worker with both feet on the ground can collect up to 170 pounds of cherries per hour, compared to 100 pounds if he's frequently moving and climbing ladders, said Lynn Long, extension horticulturist at Oregon State University.



Matt Whiting

"He's increasing efficiency, which means you need to hire fewer pickers," Long told farmers at a recent OSU cherry research symposium in The Dalles, Ore.

Migrant workers are moving to other industries and the cost of labor is rising, forcing growers to think about running their operations with fewer people, he said.

Apart from easing access to fruit and tree limbs, higher-density orchards offer uni-



Lynn Long

formity — trees are trained to grow similarly, reducing complications and mistakes compared to traditional orchards, in which each tree is different, Long said.

"It slows down that operation," he said.

Farmers have multiple options for establishing pedestrian-style orchards. One popular option is the "Kym Green Bush," in which limbs are cut back to form a compact structure with multiple "leaders."

With the "upright fruiting offshoot" technique, the tree grows along a trellis with vertical branches springing from a largely horizontal trunk.

A new system that hasn't been adopted commercially is the "super slender axe," in which a single central leader produces lateral branches that are cut back hard each year.

The fruiting wood remains close to the trunk while large shoot leaves develop on the new limbs, resulting in high quality cherries that are simple to pick, Long said. "You don't have to reach for them. It doesn't get any easier than that to harvest cherries."

Growers are able to quickly achieve a healthy per-acre yield with the system but it's expensive to establish, he said. About 2,500 trees per acre are planted with the super slender axe system, compared with 350-700 per acre with the Kym Green Bush.

Farmers are concerned that the transition to denser, "high

output" orchard systems will be correlated with higher inputs, which can be mitigated or prevented with automation, said Matt Whiting, extension specialist with Washington State University.

Mechanical pruning, for example, can greatly speed the process though it does involve some challenges, he said.

In one trial, a hedging machine was able to remove lateral branches 12.5 times faster than hand pruning but left more wood on the tree.

"It's not perfect, but it's not that bad," Whiting said.

When mechanical pruning was followed by a manual "clean up" — cutting limbs between trees and closer to trunks — the process was still 25 percent faster than just hand pruning.

One possibility would be to alternate mechanical pruning one year with a combination of techniques the next, he said.

Whiting and other re-

searchers recently completed a five-year study of mechanized harvesting, which was funded with a \$4 million

USDA grant. By vibrating tree limbs to knock cherries from their stems, a mechanical harvester prototype increased harvest

efficiency by 50-fold, he said. With a "mechanically-assisted" approach, in which a modified reciprocating saw vibrated limbs, cherries were harvested four times faster than hand-picking.

A commercial solution for mechanized picking isn't yet available and some producers worry that stemless cherries won't find a market, Whiting

However, surveys indicate that consumers don't actually prefer cherries still attached to stems, he said.

Chelan Fresh, a marketing company, is testing the waters with packaged cups of cherries that are convenient to eat, Whiting said.

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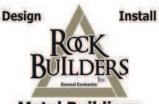
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