

DEVELOPING A PEDESTRIAN ORCHARD

PROJECT LEADERS: Kevin R. Day
COOPERATORS: Dr. Ted M. DeJong and Dr. R. Scott Johnson

Economic pressures are forcing growers to reevaluate all farming practices. For production practices, labor costs dominate all others. Over the past few years, much has been learned about the relationship between tree height, production potential, and labor cost savings. Both dwarfing and standard rootstocks have been studied, but never within a comparison as part of an overall system.

Furthermore, while we have demonstrated that orchard height can be significantly and successfully reduced, even while using vigorous rootstocks such as Nemaguard, we still do not know if a true pedestrian orchard, i.e. one in which no ladders are at all necessary, is economically feasible over the long-term.

To understand these issues better, we have begun a trial that will explore the relationships between tree form, orchard density and rootstock vigor. Our overall goal will be to maintain tree height at about 7-8' thus establishing a pedestrian orchard. Within those constraints we will investigate how successful and how suitable such a strategy is.

Methods

An orchard block is being established at the Kearney Agricultural Center. In 2006, the low-volume microsprinkler irrigation system was installed. Trees were scheduled to be planted in 2006 but due to poor rooting percentage in the nursery insufficient trees were available. Potted trees are now growing at Burchell Nursery for planting in the summer of 2007. Two varieties will be used, Spring Flame 22, an early, vigorous peach and Summer Flare 28, a late-season, heavy-bearing nectarine, and they will be planted to the flowing systems.

Rootstock	Spacing	Density (tree/acre)	Form
Nemaguard	12'x18'	202	6-leader Hex V - tall
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UC Controller 9	12'x16'	227	6-leader Hex V
UC Controller 9	7' x 14'	445	4-leader Quad V
UC Controller 5	7' x 14'	445	4-leader Quad V
UC Controller 5	5' x 14'	622	2-Leader Kearney V

All trees will be kept at a height of 7-9 feet with the exception of treatment #1, which will be allowed to grow to an industry standard of 12-13 feet. Trees will be planted in non-replicated demonstration blocks that are four rows wide and 10 trees long.

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