

String blossom thinner proves effective across stages of bloom development

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String arrangement of molded hollow cords of mechanical string thinner when thinning peach trees. More strings are required for thinning apple trees. Credit: Photo by M. Wherley

Blossom or fruitlet thinning is a labor-intensive part of commercial peach and nectarine production. The use of mechanical string blossom thinners has been shown to reduce labor requirements and improve fruit size in peach crops, but stone fruit producers have needed more information about the range of thinning times. New research from Tara Auxt Baugher and colleagues from The Pennsylvania State University and Penn State Cooperative Extension gives producers sought-after data about optimum thinning times.

Baugher said that, prior to this study on bloom stage, peach producers interested in the cost-effectiveness of string blossom thinning had

unanswered questions about the range of thinning timings. "Some were concerned about spring freezes and wanted to thin as late as possible, and some wanted to obtain as many hours of use from the mechanical thinner as possible. Based on this study, we have determined that the thinning timeframe is from pink to petal fall, which is good news for both commercial situations."

The research, conducted over 2 years on 'Sugar Giant' peach and 'Arctic Sweet' nectarine, was designed to assess the effects of mechanical thinning at various bloom stages compared with conventional green fruit hand-thinning on blossom removal and follow-up hand-thinning requirement, and on crop load, fruit size, and net economic impact. Results showed that blossom removal with the string thinner was significant across years, cultivars, and canopy regions for bloom stages in which there were open flowers.

The best treatments reduced follow-up hand-thinning time compared with green fruit hand-thinning alone by 51% and 41% for 'Sugar Giant' and by 42% and 22% for 'Arctic Sweet' in years one and two, respectively. The savings in hand-thinning time and increases in fruit size associated with the bloom stage treatments increased the value of the peach and nectarine [crops](#), resulting in a net positive impact of \$123/ha to 1368/ha compared with hand-thinning alone.

"This study demonstrated that it is more difficult to remove blossoms at pink compared with other bloom stages, which indicates that producers will need to thin more aggressively at earlier bloom stages; e.g., by increasing spindle rpm.", Baugher said. "A benefit of using the string thinner at earlier stages of bloom development is that there can be an increased effect on [fruit size](#) and market value."

More information: The complete study and abstract are available on the ASHS HortScience electronic journal web site:

[hortsci.ashspublications.org/c ... t/abstract/45/9/1327](https://hortsci.ashspublications.org/content/abstract/45/9/1327)

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