New management methods extend blackberry season

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This is "Prime-Jan" blackberry fruit photographed in late October, as researchers investigate methods to extend the growing season. Credit: Photo by Bernadine Strik

Fruit growers' profits have traditionally been limited by the seasons, particularly in colder climates where growing seasons can be short. Thanks to researchers and fruit breeders, newly developed varieties are being introduced that offer growers the ability to produce fruit during the offseason—resulting in economic bonuses for both producers and consumers. Fresh examples are the new varieties of blackberry called "primocane-fruiting", which bear fruit on current-season canes, or primocanes. Primocanes can offer distinct advantages over traditional floricane-fruiting varieties, which must be overwintered and produce

fruit the second year. These unique blackberries could greatly impact production efforts by extending the harvest into the fall and winter months in milder climates.

Researchers have established that harvesting of primocane-fruiting raspberry can easily be delayed in production systems that include techniques such as summer pruning, tipping, and tunnel protection. To determine the effect of management techniques on yield and fruiting season of blackberry, Ellen Thompson and Bernadine C. Strik from the Department of Horticulture at Oregon State University recently experimented with a primocane-fruiting variety called 'Prime-Jan'®. The team evaluated the effect of fruiting season on the chemistry of fruit ripened on plants grown in tunnel and open-field production systems. The results were published in a recent edition of the journal HortScience .

Plantings were established at the OSU-North Willamette Research and Extension Center (Aurora, Oregon) in May 2005; half under a high tunnel and the remainder planted in an adjacent open field. In 2006-07 primocanes were subjected to four treatments to promote branching and/or delay harvest: all primocanes were cut to the ground when averaging 0.25 m tall, then later emerging canes soft-tipped when reaching 0.5 m tall; all primocanes within the plot were cut to the ground when averaging 0.5 m tall, then later emerging canes soft-tipped when reaching 0.5 m; primocanes double-tipped (all primocanes within the plot were soft-tipped when averaging 0.5 m tall with subsequent lateral branches then soft-tipped when reaching 0.5 m long); and primocanes were soft-tipped when averaging 0.5 m tall.

Fruit harvest began in mid-September in the open field and tunnel, but lasted up to 3 weeks longer in the tunnel. Primocanes that were double-tipped had nearly twice the flowers and fruit than canes that were soft-tipped only once. In the tunnel, cumulative yield of double-tipped

primocanes averaged a 267% (2006) and 159% (2007) increase compared with the control. Strik noted that "on average, cumulative yield for all treatments was less in the open field than in the tunnel". The report noted that harvest date affected fruit pH in 2006, but not in 2007. In 2006, fruit pH was highest in the early season. All other differences in fruit chemistry were not significant.

Another significant finding: primocanes that were double-tipped produced an average of 33% heavier fruit than other treatments. The research showed that the pruning and tipping systems used in the experiment resulted in increased yield and offered options for extending growing seasons, giving blackberry growers valuable new information that could lead to increased profits.

More information: The complete study and abstract are available on the ASHS HortScience electronic journal web site: hortsci.ashspublications.org/c … t/abstract/44/6/1581

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