Performance of Selected Sweet Cherry Cultivars Under Shenandoah Valley Conditions

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Commercial production of sweet cherries in the Cumberland-Shenandoah Valley is limited to a few small Pick-Your-Own (P.Y.O.) plantings. Approximately 30 years ago cherries were grown commercially in Virginia but high harvest labor requirements, losses to cherry leaf spot, birds, cracking and declining prices caused the industry to die out.

Currently P.Y.O. operations near metropolitan areas have a strong demand for strawberries and many could utilize a companion crop that produces near the same time. Growers currently producing sweet cherries have more demand than supply and additional plantings are jusitfied.

Since many sweet cherry cultivars currently available were not used when Virginia acreage declined, a variety trial was established to compare old and new cultivars under Shenandoah Valley conditions.

Procedure

Three trees each of 21 different cultivars were planted in the spring of 1974 and 1975 at the Winchester Fruit Research Laboratory Farm in Frederick County, VA. The site is sloping and characteristic of the better fruit sites of the area. Soil type is Hagerstown silt loam, well-drained with a clay subsoil. Native soil fertility is high and pH ranged from 6.8 to 7.1. Trees were spaced 3.0 × 6.0 m. Weed control in the row was by tree hoe and the middles were mowed. Disease and insect control was a cover spray program of azinphosmethyl plus benomyl. Birds were effectively repelled with a single pre-harvest application of Mesurol.

Crop load, fruit size, color, cracking, and defoliation due to cherry leaf spot were rated. Cracking occurred in all years, but the 1981 results are presented because weather patterns were more conducive to cracking and cultivar differences in susceptibility to cracking were more apparent. Taste tests were used to determine flavor and maturity date.

Results

Cumulative data for the four years is presented in Table 1. Commercially acceptable crops were produced in 1978, 1980 and 1981. Frost reduced yields below commercially acceptable levels in 1979.

Fruit maturity dates ranged from as early as June 5, 1981 for Viva to as late as June 25, 1980 for Hedelfingen. In 1981 maturity was earlier for all cultivars than in other years. The season may last for 3 weeks with proper cultivar selection.

One of the most important criteria for cultivar selection is fruit cracking during rain periods. The cultivars Hardy Giant (Van Wells Nursery) and Starking Hardy Giant (Stark Bros. Nursery) appeared essentially the same until the 1981 season when the difference in cracking susceptibility was apparent as indicated by the low degree of cracking in Hardy Giant.

Based on this trial, sweet cherries appear to be an attractive possibility for small orchardists and P.Y.O. operations in the Shenandoah Valley area. Of the red types tested, Viva,

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Table 1. Performance of sweet cherries at Winchester Fruit Research Laboratory Farm, 1977-81

Variety	First fruit mature	Crop load	Fruit size	Flavor	Color	Cracking[1]	% Leaf Spot defoliation[2]
			Red sweet cherries				
Viva*	June 5-10	Excellent	Large	Good-excellent	Red	1.0	30
Sam	June 8-12	Very poor	Large	Poor-sour	Dark red	3.0	15
Valera*	June 8-12	Excellent	Med-large	Variable	Dark red	1.5	40
Deacon	June 12-15	Fair	Medium	Fair-poor	Black	2.5	40
Ulster	June 14-18	Good	Small-med	Variable	Black	6.5	45
Vic	June 14-20	Not consistent	Small	Poor-insipid	Dark red	8.5	15
Starking Hardy Giant	June 15-20	Good	Medium	Acceptable	Dark red	9.0	65
Hardy Giant*	June 15-20	Excellent	Medium	Good	Dark red	2.5	50
Bing	June 15-20	Not consistent	Medium	Acceptable	Dark red	7.5	85
Black Tartarian	June 15-20	Poor	Small	Poor	Dark red	8.5	70
Schmidt* Bigarrau	June 15-19	Poor-fair	Small	Good	Dark red	2.5	40
Vista	June 15-19	Fair	Large	Acceptable	Dark red	9.0	45
Venus*	June 15-19	Excellent	Medium	Good	Red	4.0	90
Van	June 16-20	Good	Medium	Good	Dark red	10.0	70
Rainier	June 17-22	Good	Large	Fair	Dark red	8.5	75
Black Republican	June 17-22	Good	Medium	Poor	Dark red	6.0	85
Hedelfingen*	June 19-25	Excellent	Medium	Excellent	Dark red	2.0	55
			Wax types				
Vega	June 11-15	Good	Medium	Acceptable-tart	Yellow-red blush	8.0	60
Corum	June 12-18	Good	Medium	Acceptable	Yellow-red blush	9.5	60
Napoleon (Royal Ann)	June 16-19	Inconsistent	Medium	Acceptable	Yellow-red blush	4.5	90
Emperor Francis	June 16-19	Excellent	Large	Good	Yellow-red blush	8.0	45

[1]Rated on a scale of 1-10 with 10 being almost all fruits cracked. Mean of 3 trees of each cultivar.
[2]Rated visually on 10/8/81 for percent defoliation as a rating of cherry leaf spot severity. Mean of 3 trees of each cultivar.
*Varieties probably worthy of trial on a small commercial scale.

Valera, Hardy Giant, Venus and Hedelfingen were the most acceptable overall based on criteria of this study. Other cultivars tested might be successfully grown, but they lack some of the attributes of the 5 chosen. All 4 wax types, Vega, Corum, Napoleon (Royal Ann) and Emperor Francis, were equally susceptible to fruit cracking.

The 6.0 m between row spacing used in this trial was too close. In order to use this spacing, a rigid pruning program would be required. A 3.5 × 7.5 m spacing would allow easier movement of equipment and labor between the rows and between trees.

Book Review

Western Fruit: Berries & Nuts, How to Select, Grow and Enjoy. Robert L. Stebbins and Lance Walheim. Horticultural Publishing, P.O. Box 5367, Tucson, AZ 85703. 1981. 192 pages. Illustrated, indexed. $7.95.

This is an excellent fruit and nut growing soft cover guide for the home gardener in western U.S. and Canada. It gives variety descriptions and cultural methods of many different kinds of fruits.

Climatic maps and charts are especially clear in outlining the best areas and methods of growing various species and varieties. Guides on planting, pruning, propagation and pest control can be easily followed by the home grower. Missing are descriptions of methods for using chemical herbicides which could be safely applied by most home gardeners if they are careful.

Numerous beautiful colored pictures and line drawings illustrate methods. The text is full of very practical horticultural information, e.g., "Cold air travels like water," or "Apple trees will bear on the same wood for many years."

More than two years were spent preparing the book. Dr. Stebbins traveled through California and other states and provinces where he consulted with many fruit breeders, nurserymen and pomologists to improve the variety lists. More than 400 different varieties are described in detail with information on which are best for flavor, storage and ornamental use. Nearly half of the book is about varieties. Charts on varieties are especially well presented. Because of this special emphasis on varieties, this book will be of particular interest to readers of the *Fruit Varieties Journal.*

Topics covered: Climate and fruit behavior; 19 western fruit zones; planting container-grown trees; planting bare-root trees; pests and diseases; pruning; propagating your own varieties; growing fruit in small spaces; fruit varieties; and lists of fruit nurseries, organizations, and extension services of 11 states.

Species described include apple, apricot, avocado, cherry, citrus, fig, olive, peach, pear, persimmon, plum, pomegranate, quince, blackberry, blueberry, currant, grape, raspberry, strawberry, 7 kinds of nuts, and 19 kinds of subtropicals, including banana. This reviewer considers that climates and cultural methods of apple and subtropicals are so widely different that they are not generally included together in the same book.

— R. D. Way