'Thornless Evergreen' — Oregon's Leading Blackberry

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The 'Thornless Evergreen' blackberry, discovered in 1926, is now among the most important small fruit crops in Oregon. The success of this selection, aside from its thornlessness, is due to it adaptability to western Oregon climatic conditions and to its high yields of acceptable fruit for processing purposes. The cut-leaved thorny form of the 'Evergreen' blackberry is widely distributed in the wild, and is assumed by some to be a native plant. However, David Douglas (4), the first botanist to study the native plants of the Pacific Northwest, did not describe any plant similar to the 'Evergreen' blackberry during his visit to western Oregon in 1825 and 1826.

Fig. 1. A cane of Thornless Evergreen blackberry.

Origin of *Rubus laciniatus*

U. P. Hedrick, horticulturist of the Oregon Experiment Station in 1897, reported in the Small Fruits of New York (6) that he had found the 'Evergreen' blackberry widely distributed and commonly cultivated in Oregon, Washington, California and the Rocky Mountain states. He indicates that "There is now no question but that the Oregon Evergreen came originally from the Old World, and that it is a form of the common European blackberry *Rubus laciniatus* Willd." After attempting to determine the means by which the plant came to Oregon, Hedrick concluded that it was introduced into Oregon from the South Sea Islands. His sources, however, did not contain reliable information on its actual introduction.

Charles H. Carey (2), assuming that the 'Evergreen' blackberry had originated from South Sea Island, concluded that this species had "found a congenial habitat at the James Stephens' place" in the 1850s on the Willamette river, at the present site of Portland, Oregon. David Douglas (4), in 1827, makes no mention of seeing any blackberry plants similar to *R. laciniatus* during his travels on the Hawaiian Islands, however. There was also no reference to such a blackberry in the early or recent published floras of the various Pacific Islands.

Dr. Harold St. John (personal communication, 1975) of the Bishop Museum in Honolulu, Hawaii makes the following comments on *Rubus laciniatus:*

> "It is certainly not native to the Hawaiian Islands. I know of no early record of it here and I have never seen a plant of it in the islands. Other introduced blackberries grow here vigorously and attempt to seize the islands. If *R. laciniatus* had been growing here as early as 1850, it would be com-

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mon and everyone would know about it. Hudson's Bay Co. ships and others from the Atlantic, coming around the Horn, regularly touched at Honolulu, so they could have carried blackberry seeds, but there is no evidence that they landed any."

According to published floras of South Australia and New Zealand, *R. laciniatus* grows wild in these countries. Since Australia and New Zealand were settled by Europeans at about the same time as the North American Pacific coast, it is possible that the seed arrived at all three locations from England on ships of the Hudson's Bay Co.

Early references to *R. laciniatus* in the literature have been summarized by Watson (10) in the *Rubi of Great Britain and Ireland,* published in 1958. Watson stated that:

"Cultivated species of blackberry, *R. laciniatus procerus* and loganberry, often appear bird-sown from neighboring gardens. The longest cultivated of these, *R. laciniatus,* was figured by Leonard Plukenet in *Phytographia* (1691) and was described by Philip Miller in the fourth edition of his *Gardener's Dictionary* (1754); yet after 200-250 years it has not succeeded in spreading so far or increasing so much in any station that I have seen, for anyone to mistake it for a wild bramble."

In 1916, Bean (1), in *Trees and Shrubs Hardy in the British Isles,* makes the following comment on *R. laciniatus:*

"The origin of this handsome and useful bramble is not known. It was first distinguished by Willdenow in the old botanic garden of Berlin in 1809. It comes true from seed, and wild plants sprung no doubt from seed dropped by birds and found in the vicinity of cultivated plants. It is now extensively cultivated for its fruits in gardens, being perhaps the best of all blackberries for that purpose."

Fig. 2. Alternate Thornless Evergreen blackberry.

Willdenow (11) describes *Rubus laciniatus* plant, as follows:

"Leaves five-fingered and divided into three; leaflets pinnate; stem, petiole and peduncle prickly, the prickles curved downward. Fatherland unknown; stalks grow about ten feet long, hang downward in all directions in form of a curve, are angular, and have hook-like thorns."

On the basis of this description, it seems likely that the thorny blackberry present in Germany in 1811 was the same as the 'Evergreen' blackberry of the Pacific coast states. I was unable to determine the origin of this species in Europe from the available literature.

The environment of the Pacific Coast has proven suitable for the growth and rapid distribution of the 'Evergreen' blackberry. It is now found in open fields, and in fence rows beside roadways in many parts of

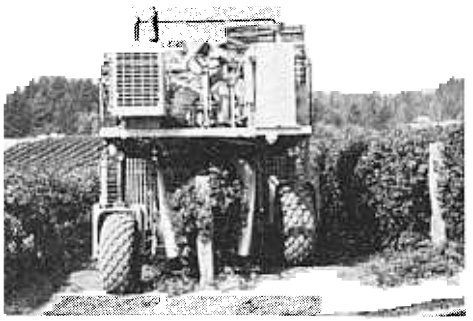

Fig. 3. Machine harvesting Thornless Evergreen blackberries, Willamette Valley, Oregon.

Oregon, Washington, and California. After only 125 years the species has spread widely within this region.

Fruit quality of the thorned Evergreen blackberry

Lawton (7) says in a letter to the American Pomological Society, dated July 25, 1881, from Seattle, Washington:

> "The country is covered with a wild blackberry that is far superior in flavor to the cultivated ones. Tons of them are gathered here in the summer to preserve. This seems to be their natural climate."

It is quite evident that reference here is to the 'Evergreen' and not the native blackberry.

The 'Evergreen' blackberry seems to have been acceptable to the fruit processing industry when the industry first assumed importance in Oregon about 1910. Hartman (5) in 1923 related:

> "The 'Evergreen' seems to be the only blackberry that meets the approval of both growers and the trade in this state. This variety is vigorous and unusually productive, is easy to handle and fills the requirements of cannerymen."

Schuster (8) observed in 1926 that cultivated plantings were increasing quite rapidly, but predicted that most of the commercial crop would come from wild blackberry patches for some time to come. The thorny form comprised both commercial plantings and patches of wild plants, at that time. Although the thorns were a hazard for pickers, the value of the fruit made it profitable to pick it anyway.

The 'Thornless Evergreen' blackberry

The 'Thornless Evergreen' blackberry was discovered by Frank Siegmond growing along a fence on his farm during the summer of 1926, east of Stayton, Oregon. Mrs. Ida Steffes, of Sublimity, Oregon, reported (personal communication, 1974) that Mr. Siegmond told her late husband, Phillip, of finding this plant and offered to allow him to propagate it because Seigmond was a grain farmer and had no interest in blackberries. Mr. Steffes later took the plants and set them out on his farm near Sublimity, Oregon.

While studying variations in the 'Evergreen' blackberry in Oregon in 1930, Darrow (3) was referred to this productive planting of thornless berries at the Steffes farm. Mr. Steffes related having obtained tiplayer propagations from a thornless plant in 1926. Mr. Steffes had planted several acres of this thornless sport and a number of the plants were bearing. The plants were apparently as vigorous and hardy as the thorny 'Evergreen' and in every way as desirable. A search of Mr. Steffes' fields revealed occasional thorny canes coming from roots of thornless plants.

As the 'Thornless Evergreen' became better known and the advantages of thornlessness became evident, growers became concerned about its productivity in comparison to the thorny form. Waldo (9) in 1938 reported that 'Thornless Evergreen,' in limited acreages, appeared to be equivalent in fruit yield and quality to the thorny 'Evergreen' blackberry.

During the time that the 'Thornless

Evergreen' has been extensively cultivated, there has been no indication of reduced productiveness by thornless canes. The acreage has increased rapidly since 1938. Processors have found a ready market for the fruit in all parts of the United States. Yields per acre have remained relatively high, and 9-12 tons per acre are not uncommon. An estimated 65% of the present Oregon blackberry crop is harvested by recently developed mechanical pickers.

There are now about 3000 acres of 'Thornless Evergreen' in Oregon, producing about 24 million pounds of fruit per year, valued at over 6 million dollars. This productiveness has made it the principal commercial blackberry cultivar in the United States. About 70% of the fruit is used in jelly manufacture, with the remainder used for bakery products. At present, no other blackberry cultivar seems likely to replace it.

Discussion

It is of interest to note that this remarkable plant, although resembling the European types of blackberries, appears distinctly different. It was apparently selected for cultivation in western Europe many centuries ago, but it never became widely distributed in that area. Conditions more favorable for its natural spread have instead existed in the north Pacific coast of North America, southern Australia, and New Zealand. The thorny form is presently a nuisance in these areas. The 'Himalaya' blackberry (*R. procerus* P. J. Muell.) has recently become an even more aggressive weed species in the Pacific coast region of North America. The 'Himalaya,' as reported by Hedrick (6) was introduced by Luther Burbank in the early 1890s and is reportedly also of European origin.

Much credit for the existence and success of the 'Thornless Evergreen' blackberry must be given to the foresight of Phillip Steffes, who recognized the advantage and potential value of the thornless form, propagated large numbers of plants, and established sizeable plantings. His work not only preserved the thornless clone but also facilitated its early field evaluation for commercial production. Since economic conditions were unfavorable for expansion of the small fruit industry during the depression of the 1930s, Mr. Steffes never received financial compensation or appropriate recognition for his valuable contribution before his death on December 19, 1966, at the age of 77 years.

Fig. 4. Phillip Stettes, born July 20, 1889, died Dec. 19, 1966. Who first recognized the value of the Thornless Evergreen blackberry.

Credit must also be given to Dr. George M. Darrow for his part in rec-

ognizing the value of this discovery and encouraging the small fruit industry to evaluate the 'Thornless Evergreen' blackberry as a commercial cultivar.

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Scion and Rootstock Influence on Winter Survival of Peach Trees

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Abstract

Survival ratings were made of 11 scion-rootstock combinations of 5-year old peach trees following a severe winter in which minimum air temperatures of –31°C were recorded. Tree survival was a function of scion cultivars and rootstock seed sources, but was affected more by the scion than the rootstock. Tree survival averaged over the four rootstocks was best for 'Siberian C' scions (95%), intermediate for 'Harrow Blood' scions (63%), and poorest for 'Elberta' scions (43%). The survival of 'Elberta' scions was significantly affected by rootstock seed sources with survival being best on seedlings of 'Siberian C' (67%), intermediate on seedlings of 'Bailey' (32%), and poorest on seedlings of 'Rutgers Red Leaf' (18%).

Cold injury is an important limitation to peach culture in Canada and the Northern United States (2). Genetic differences in the cold hardiness of peach cultivars are a significant factor in tree survival (4, 6, 7). Recently, it has been shown that peach seedling rootstocks exert a modifying influence on the expression of scion hardiness (1, 4, 6), although the exact nature of this influence is not known (4). Rootstock seedlings of 'Siberian C' peach have been found to exert an enhancing influence on scion hardiness, more so than other peach seedling rootstocks studied (4). Peach seedling rootstocks have also been shown to affect tree survival indirectly through their effects on canker (*Leucostoma* spp.) infection (3, 4, 5).

In an earlier study (6), we showed that cold acclimation of young peach trees was affected by temperature, photoperiod, cultivar and rootstock. The largest effects were associated with temperature and cultivar, while photoperiod and rootstock had smaller but detectable effects. At the completion of those studies the remaining trees of the various scion-rootstock combinations were planted outdoors

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