‘Wild Treasure’ Thornless Trailing Blackberry

Chad E. Finn1
U.S. Department of Agriculture–Agricultural Research Service, Horticultural Crops Research Laboratory, 3420 NW Orchard Avenue, Corvallis, OR 97330

Bernadine C. Strik
Department of Horticulture, Oregon State University, Corvallis, OR 97331

Brian Yorgey and Michael Qian
Department of Food Science, Oregon State University, Corvallis, OR 97331

Robert R. Martin
U.S. Department of Agriculture–Agricultural Research Service, Horticultural Crops Research Laboratory, Northwest Center for Small Fruit Research, Corvallis, OR 97330

Mary Peterson
U.S. Department of Agriculture–Agricultural Research Service, Horticultural Crops Research Laboratory, Northwest Center for Small Fruit Research, Corvallis, OR 97330

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‘Wild Treasure’ is a new trailing blackberry (Rubus subg. Rubus Watson) cultivar from the U.S. Department of Agriculture–Agricultural Research Service (USDA-ARS) breeding program in Corvallis, OR, released in cooperation with Oregon State University’s Agricultural Experiment Station. ‘Wild Treasure’ is thornless and has high-quality fruit that are very small and suitable for mechanical harvest (Figs. 1–3). The fruit is of particular value for market niches where small fruit size is perceived as superior. Such markets include bakery products that use whole berries and in frozen polybag fruit blends in which large-fruited blackberries are out of proportion to the other components of the mix. ‘Wild Treasure’ is named to recognize its pedigree because it was selected from a cross between a thornless cultivar and a selection of the western dewberry, Rubus ursinus Cham. et Schlt.

Origin

In 1993 and 1994, an extensive collection of Rubus ursinus germplasm was made throughout Oregon and Washington. The Washington portion of this trip was organized by James Luby (Univ. of Minnesota, St. Paul, MN) and Richard Harrison (Driscoll Strawberry Associates, Watsonville, CA). Numerous seedling and clonal populations were planted in a common garden in Corval­lis for evaluation and a number of selections were made from these populations (Finn, 2001). Rubus ursinus offers several traits of particular interest to breeders, including outstanding flavor and fruit quality, very early ripening, flexible canes, and good vigor. Many of the characteristics that have made ‘Marion’ blackberry the commercial standard for fruit processing, including aromatic flavor and less noticeable seeds, can be traced back to R. ursinus in its pedigree (Yorgey and Finn, 2005). However, R. ursinus in a monoculture in the Willamette Valley (Oregon) is very susceptible to foliar and cane diseases, particularly anthracnose [Elsinoe veneta (Berk.-holder) Jenk.] and septoria (Septoria ruborum (Lib.) Petr.], rust [Kuehneola uredinis (Link) Arth.], and anthracnose. They also received a single bloom time application of captafol at labeled rates to control anthracnose, botrytis (Botrytis cinerea Pers.:Fr.), cane spot, purple blotch [Septocyta ruborum (Lib) Petr.], rust [Kuehneola uredinis (Link) Arth.], and anthracnose. They also received a single bloom time application of captafol at labeled rates to control anthracnose, botrytis (Botrytis cinerea Pers.:Fr.), cane spot, purple blotch [Septocyta ruborum (Lib) Petr.], rust [Kuehneola uredinis (Link) Arth.], and anthracnose. The cooperating grower in Washington is primarily a red raspberry (Rubus idaeus L.) grower. Although the plants were spaced and trained similarly to the Oregon trials, they were irrigated and fertilized with nitrogen at rates standard for red raspberry but greater than typical for blackberry. At OSU-NWREC, ‘Wild Treasure’ was planted in 2001, along with standard cultivars, in a randomized complete block design with four three-plant replications used for fresh fruit evaluation and three replications harvested once a week to determine harvest season, yield, and fruit weight (mean of randomly selected 25-berry subsamples per harvest). A mean weighted fruit weight was calculated. These data, collected in 2003–2005, were analyzed as a split plot in time with cultivar as the main plot and year as the subplot. Of the 20 genotypes harvested from the replicated trial, only the data for ‘Marion’, ‘Siskiyou’, ‘Walco’, and ‘Wild Treasure’ were included in the analysis. The cultivar x year interaction was significant for yield and for fruit weight.

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1To whom reprint requests should be addressed; e-mail Chad.Finn@ARS.USDA.GOV.
higher but not significantly different from ‘Marion’ for aroma, flavor, color, and overall quality (Yorgey and Finn, 2005). A similar evaluation as an individually quick frozen (IQF) product, ‘Wild Treasure’ was generally ranked poorer than ‘Marion’, which we attribute to a negative bias by the panelists against very small fruit. When frozen and thawed as an IQF fruit, ‘Wild Treasure’ is intermediate as far as turning purple after freezing and thawing between ‘Obsidian’, which tends to stay black, and ‘Marion’, which tends to turn purple. In a blind evaluation by a trained consumer panel, flavor was compared with “fresh fruits,” “citrus,” “strawberry,” and “raspberry” (Kurnianta, 2005). In an evaluation of fruit chemistry, including anthocyanins, polyphenolics, and antioxidant properties, ‘Wild Treasure’ (evaluated as ORUS 1843-3) had a lower percent soluble solids, higher titratable acidity, lower total phenolics, similar total anthocyanins, and slightly lower antioxidant potential as measured by oxygen radical absorbance capacity and ferric reducing antioxidant power than ‘Marion’ (Siriwoharn et al., 2004). ‘Wild Treasure’ had much higher procyanidin and ellagic acid but comparable ellagitannin and flavonol levels to ‘Marion’ (Siriwoharn et al., 2004).

‘Wild Treasure’ is not likely to be well suited to fresh market because it is not sufficiently firm for handling and shipping significant distances. Its small fruit size may preclude economical hand-harvesting, although when sold at a premium in farmers’ markets, it may be profitable.

‘Wild Treasure’ is introduced as a very high-quality, very small-fruited blackberry that can be mechanically harvested for the processing market. ‘Wild Treasure’ has generated a great deal of commercial interest for specialty small fruit applications and is recommended for areas where trailing blackberries can be successfully grown.

‘Wild Treasure’ nuclear stock has tested negative for Tomato ringspot virus, Raspberry bushy dwarf virus, and Tobacco streak virus by enzyme-linked immunosorbent assay and has indexed negative on grafting to R. occidentalis.

‘Wild Treasure’ is not patented. However, when this germplasm contributes to the development of a new cultivar or germplasm, it is requested that appropriate recognition be given to the source. Further information or a list of nurseries propagating ‘Wild Treasure’ is available on written request to Chad Finn, USDA-ARS, Northwest Center for Small Fruit Research, Horticultural Crops Research Laboratory, 3420 NW Orchard Avenue, Corvallis, OR 97330. The USDA-ARS does not sell plants. In addition, genetic material of this release has been deposited in the National Plant Germplasm System as PI 638265 (CRUB 2237), where it will be available for research purposes, including development and commercialization of new cultivars.

Literature Cited