

WILLAPA RED: A "NEW" CRANBERRY VARIETY FOR FRESH FRUIT PRODUCTION IN THE PACIFIC NORTHWEST.

Kim Patten, Washington State University Long Beach Research and Extension Unit, Long Beach WA 98631

History: Willapa Red, formally called BE4, is an old USDA cross between McFarlin and Aviator. Its performance has been assessed at two locations. The first was a field planting with 93 cultivars at DuBay Cranberry Company Marsh in Wisconsin in the 1970's. Production data at this site was collected by Dr. Boone, University of Wisconsin, for 16 years. Based on those data, it was selected to be part of a comparative field planting with 13 cultivars/ breeding selections from Rutgers University at Long Beach, Washington in 2003. Performance data have been collected for six years. Based on its overall performance at both sites, it was decided that it would warrant an official release to growers in the PNW. A petition to rename it "Willapa Red" is being submitted to USDA. A 1/3 acre propagation bed has been established to generate mowed vines for the industry.

Data From WSU Long Beach

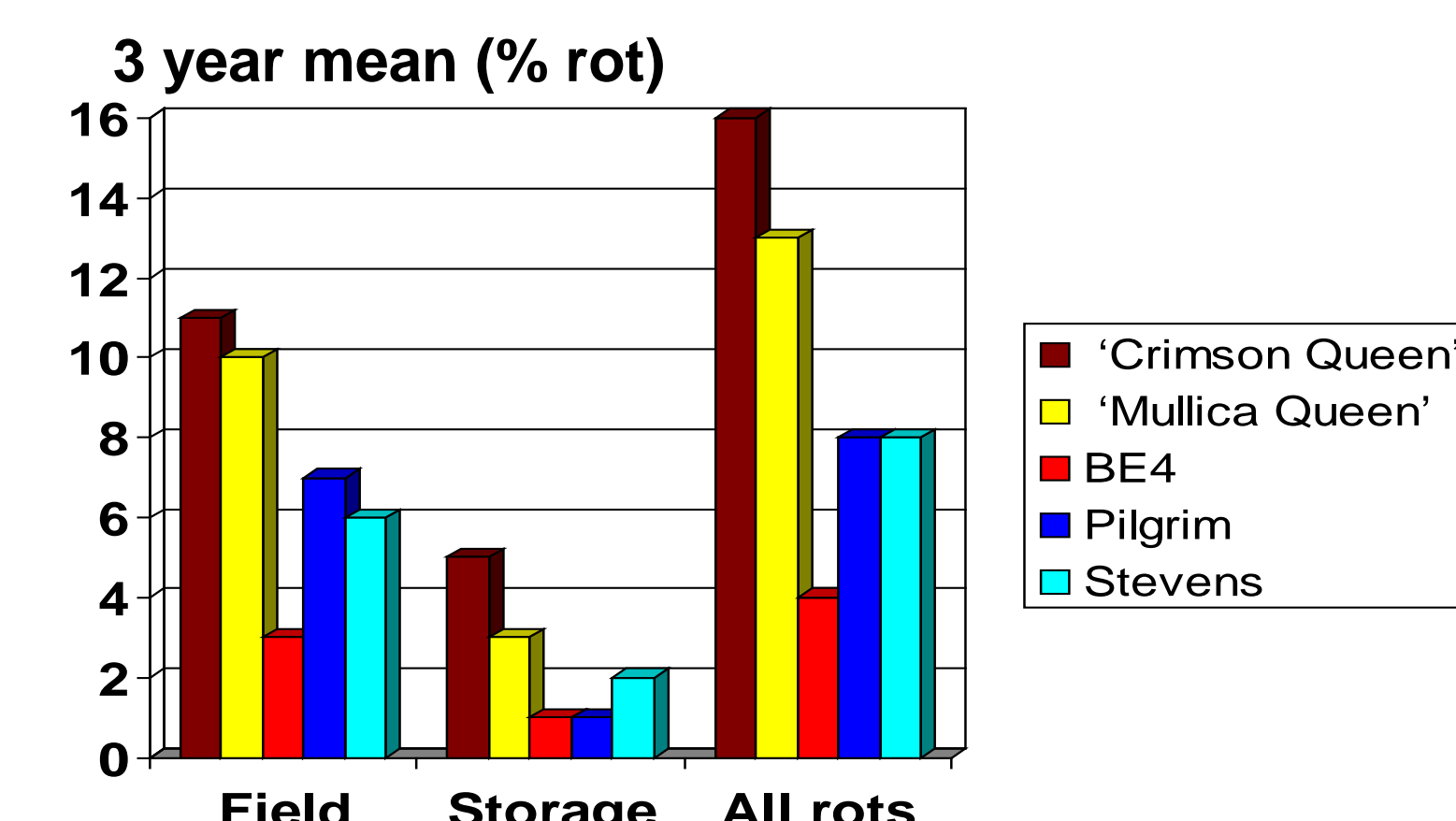
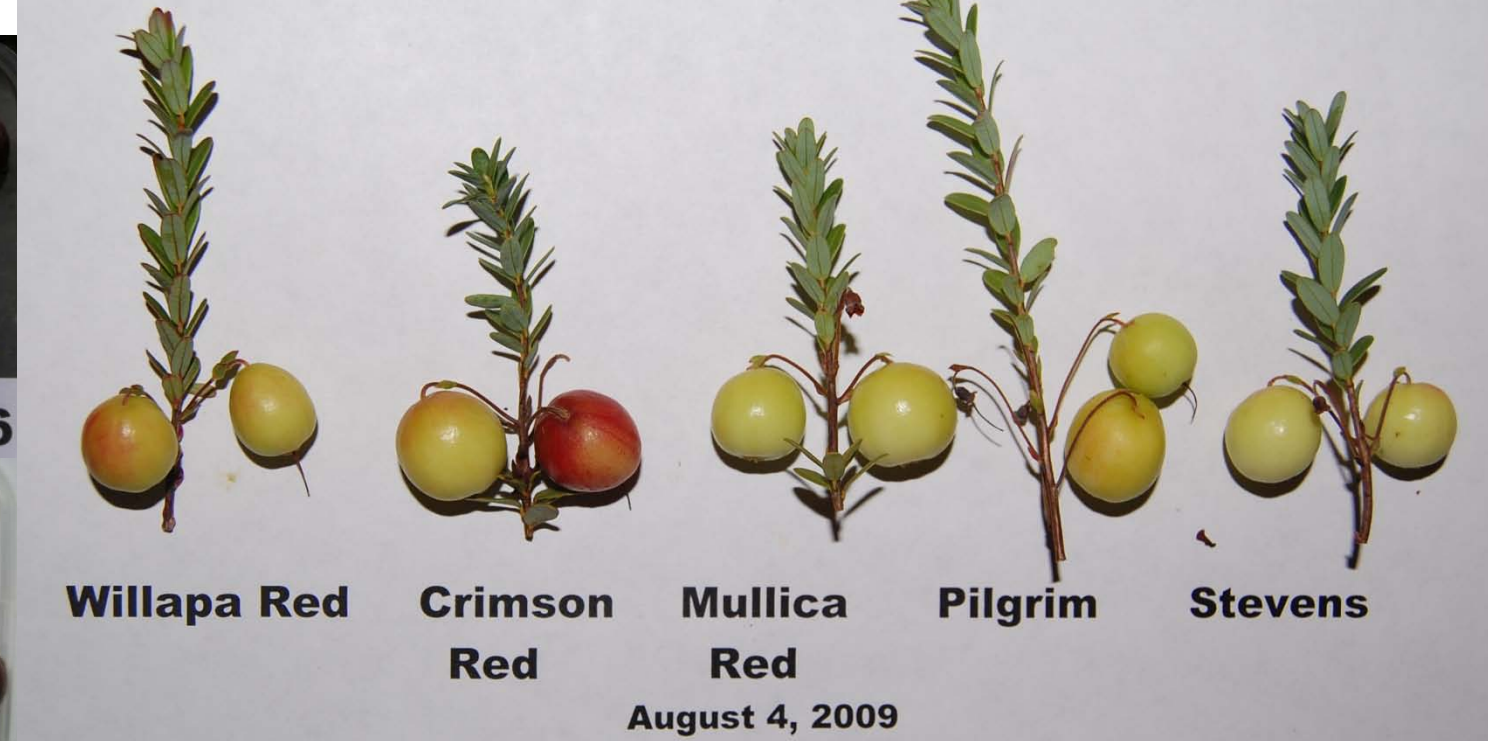


Table 1. Yield and fruit size of cranberry germplasm trials in Long Beach, WA (planted in 2003)

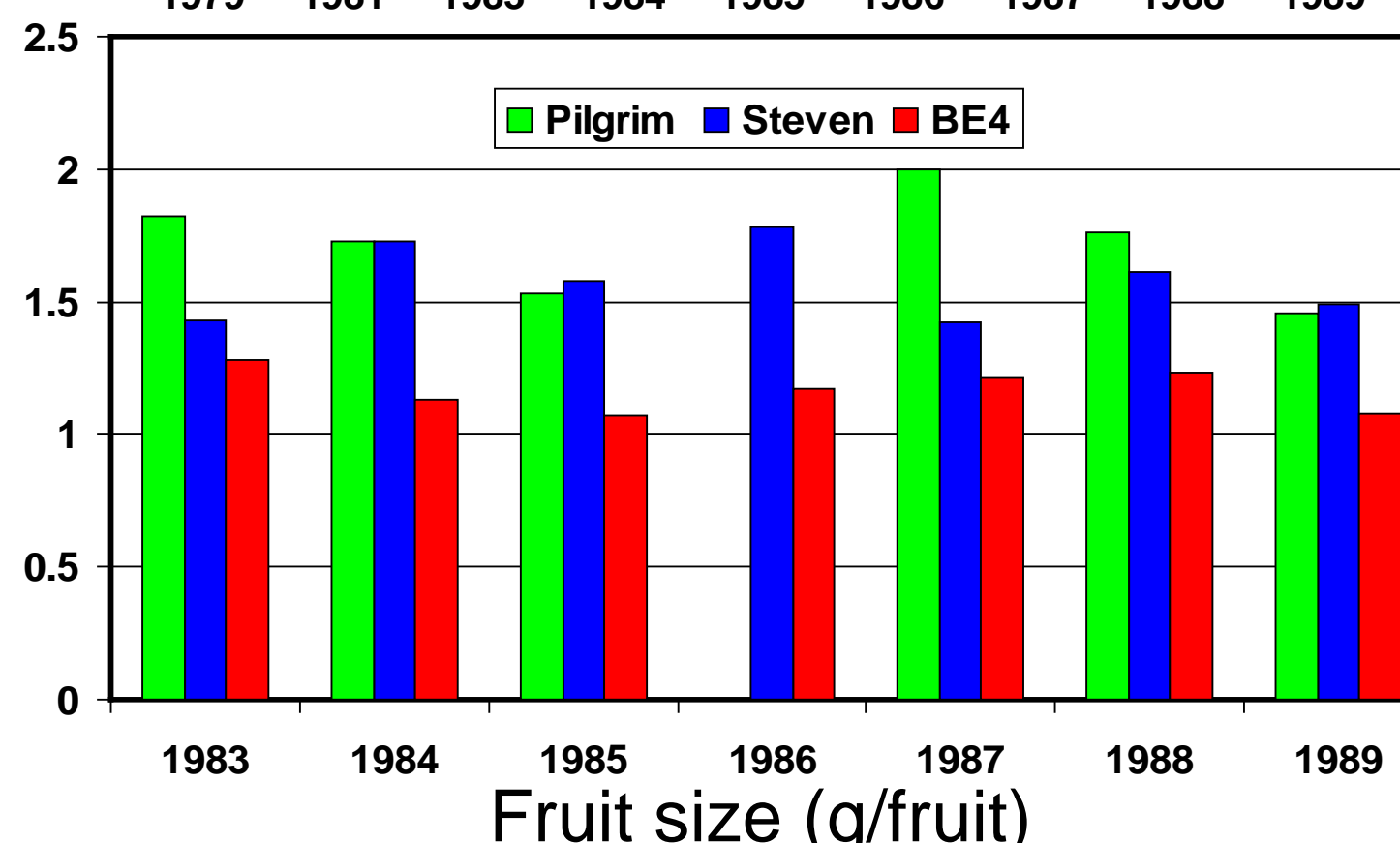
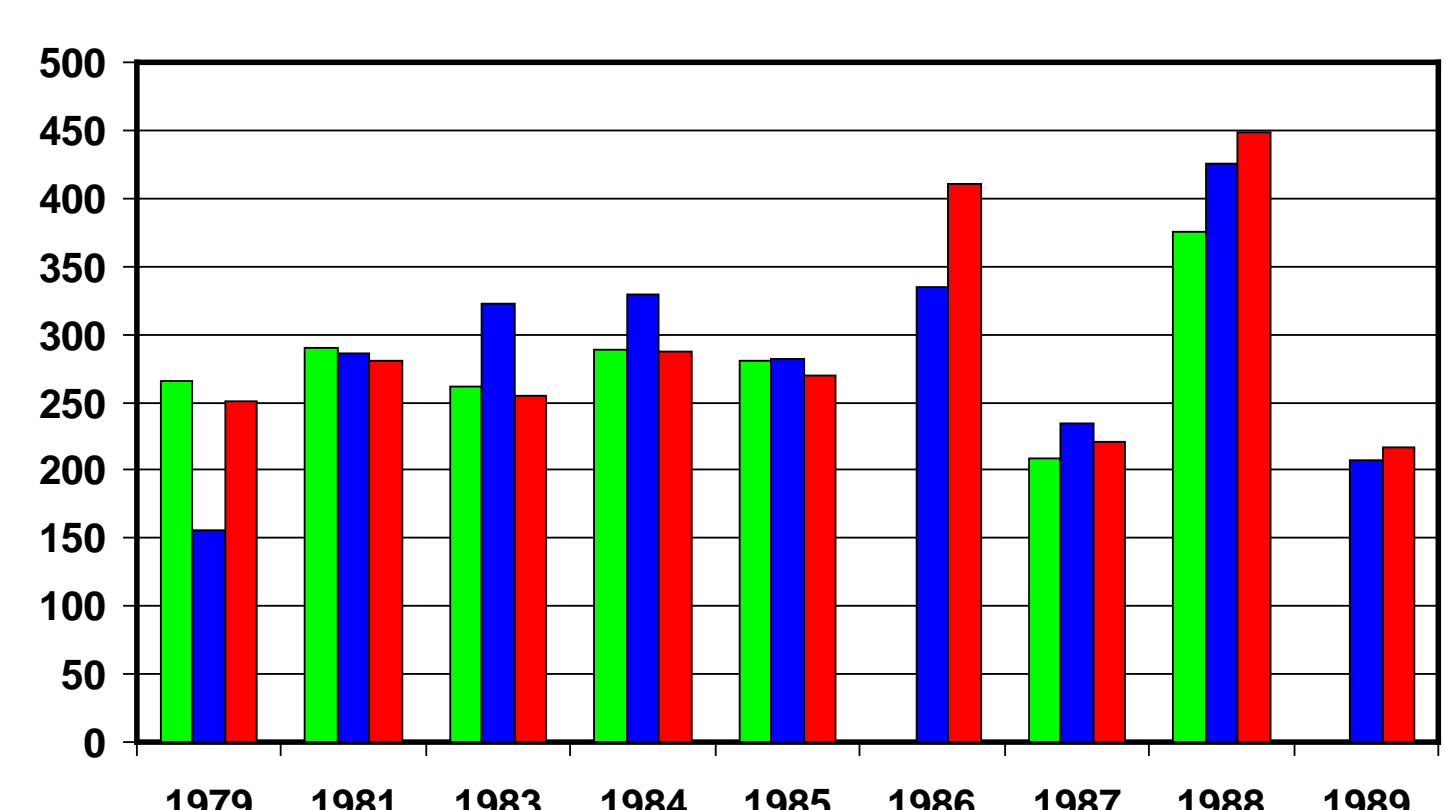
Variety	bbl/ac 2005	bbl/ac 2006	bbl/ac 2007	bbl/ac 2008	bbl/ac 2005 to 2008	fruit size g/fruit 2006	fruit size g/fruit 2007	fruit size g/fruit 2008
Willapa Red (BE4)	150 B	217 A	383 A	229 A	980 AB	1.23 D	1.11 A	1.00 C
Crimson Queen	77 BC	179 A	347 AB	242 A	846 B	1.87 B	1.56 A	1.56 A
Mullica Queen	23 C	20 B	252 AB	178 A	473 C	2.09 A	1.52 B	1.42 AB
Pilgrim	257 A	202 A	327 AB	345 A	1132 A	1.89 B	1.48 A	1.31 B
Stevens	3 D	48 B	209 B	138 A	398 C	1.62 C	1.09 A	1.10 C

Table 2. Field and storage rot and BRIX of cranberry germplasm trials in Long Beach, WA

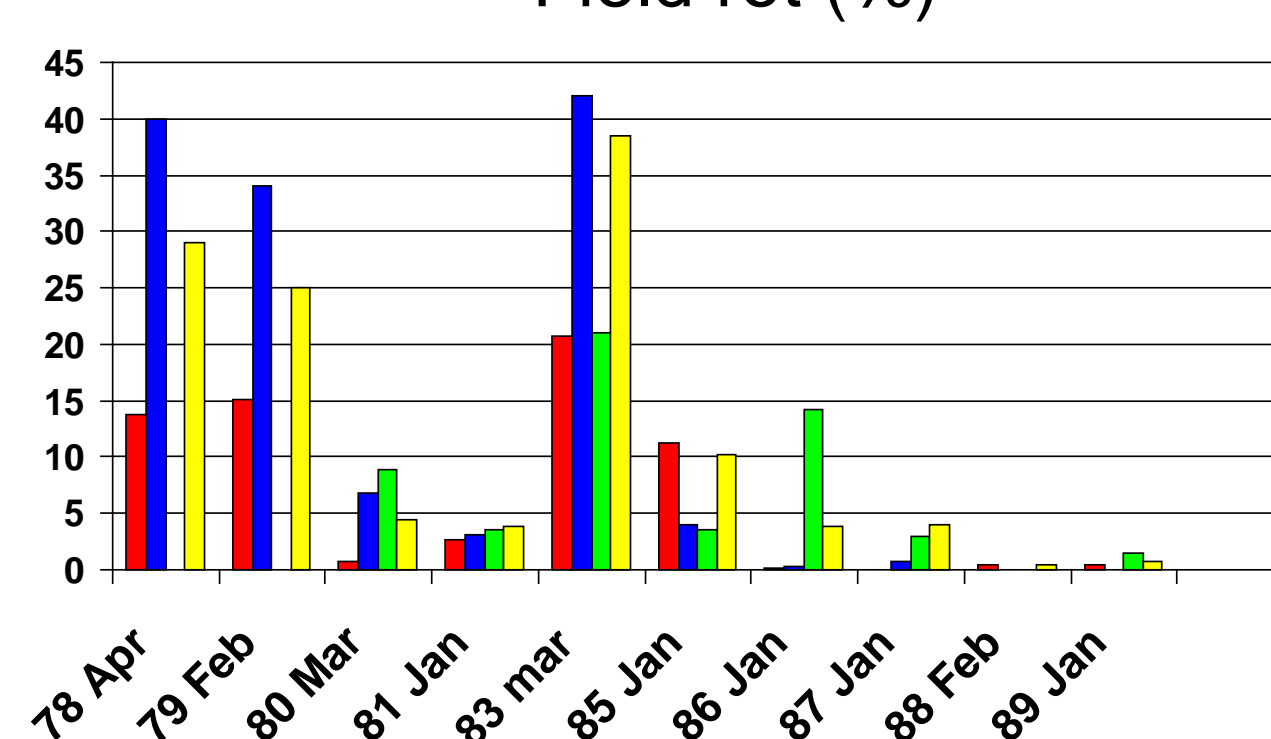
Variety	% Harvest Rot			% Storage Rot			BRIX	
	2006	2007	2008	2006	2007	2008	2007	2008
Willapa Red (BE4)	0.7 A	3 A	6 A	0 A	2 A	0 A	8.3 A	7.3 A
Crimson Queen	1.9 A	8 A	22 A	0 A	14 A	2 A	8.1 A	7.8 A
Mullica Queen	2.2 A	7 A	21 A	0 A	4 A	4 A	8.8 A	8.8 A
Pilgrim	0.6 A	5 A	17 A	0 A	2 A	1 A	8.9 A	7.8 A
Stevens	4.2 A	3 A	11 A	2 A	2 A	1 A	9.3 A	8.2 A

Bbl/ac

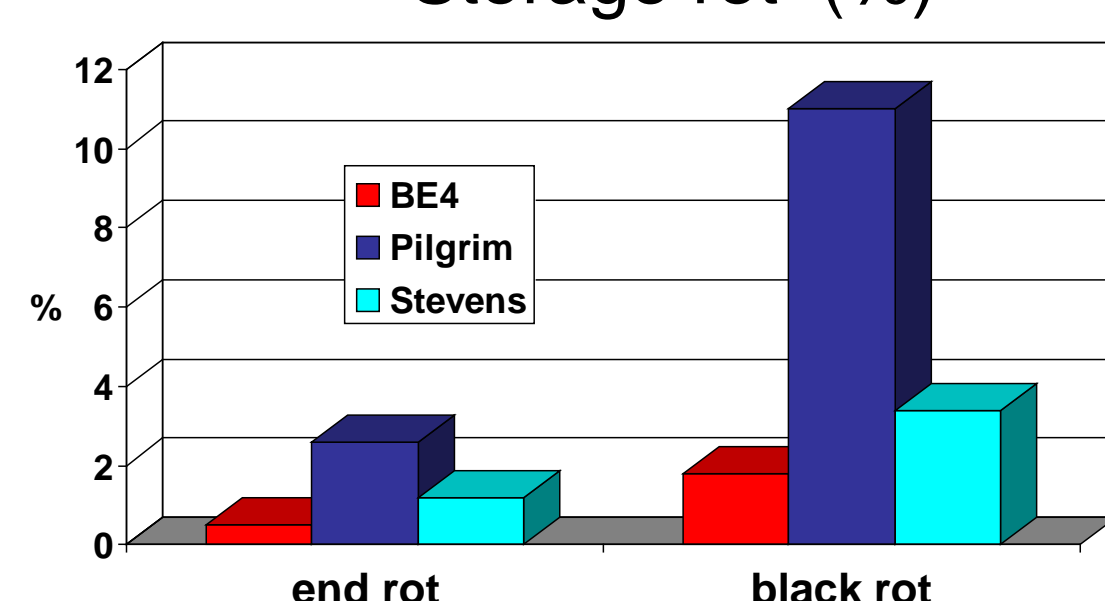
Data From Dr Boone & DuBay Cranberry Co, Wi



Field rot (%)



Storage rot (%)



Multi-year Summary of Evaluation Data of Cranberry Cultivars in DuBay Marsh Plots¹.

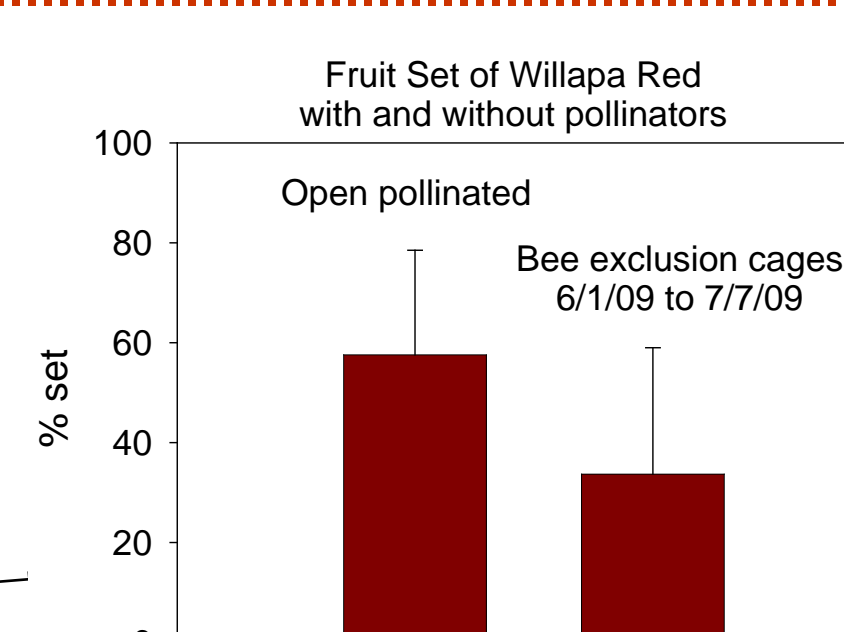
Variety	bbl/ac	TACY	g/fruit	% storage rot (4 months)	
				dry raked	wet raked
Willapa Red	284	48	1.1	2.7	4.6
Ben Lear	212	60	1.4	6.6	11.8
Early Black	220	65	0.8	4	4.8
Howe	230	28	0.9	2.1	3.8
Pilgrim	251	39	1.6	7.1	26
Stevens	269	32	1.5	4	9

¹ Yield, color and berry size data are for the ten-year period 1983-1992, with some exceptions where data for some years were lacking for certain cultivars. Storage rot data for dry-raked berries are for the eight years 1985-1992; that for the wet-raked berries are for the three years 1989, 1991 and 1992. Storage rot data were taken after four months of refrigerated storage.

http://www.hort.wisc.edu/cran/pubs_archive/proceedings/1994/craboo.pdf

Summary of results:

- Yield - consistently a good producer in Washington and Wisconsin, even in off years.
 - Fruit rot and keeping quality - minimal field and storage rot, always among top performing cultivars.
 - Fruit size - small to medium (~ 1 to 1.20 grams/fruit).
 - Fruit color (TACY) - less than Crimson Queen, similar to or greater than Mullica Queen or Stevens.
 - Bloom time - slightly later than Crimson Queen, similar to Mullica Queen and Stevens.
 - Fruit set - appears to be able to set a reliable crop with minimal or no pollinators (34% without vs 57% with).
 - Foliage disease resistance - similar susceptibility to red leaf spot and rose bloom as other varieties.
 - Vigor - vigorous, but no observed proclivities for overgrowth or runner growth.
 - Root rot resistance - unknown, but has grown and performed well in very wet soil conditions (frequent standing water).
- Both Stevens and Mullica Queen are showing appreciable decline in adjacent plots.
- Suitable for dry harvesting (Furford) - very good (small fruit and rigid uprights result in fruit setting high in canopy).
 - Return bloom on fruiting uprights - very good ~ 80 to 85%, similar to Crimson Queen.
 - Availability - Willapa Red is not patent protected and will be available to all growers in small quantities in 2011.



Conclusion: Willapa Red shows promise for the dry harvested fresh fruit industry. It has high yields, low field and storage rots, and is suitable for Furford picking. Yields have been comparable to the new hybrids. It is more precocious and less subject to adverse field conditions than Stevens. It is more suited to dry harvesting than Pilgrim or the new hybrids. It is not patent protected and there are no planting restrictions.

Funding sources: USDA Northwest Center Small Fruit Research, Washington State Cranberry Research Commission, Ocean Spray. A special thanks to Rod Serres for supplying and collecting the vines from DuBay's and helping to initiate this project.

