

Patrick Moore

Portland, OR

Picked berries – strawberries, raspberries, blackberries

Oregon State University, BS Forestry

University of Minnesota, MS Forestry

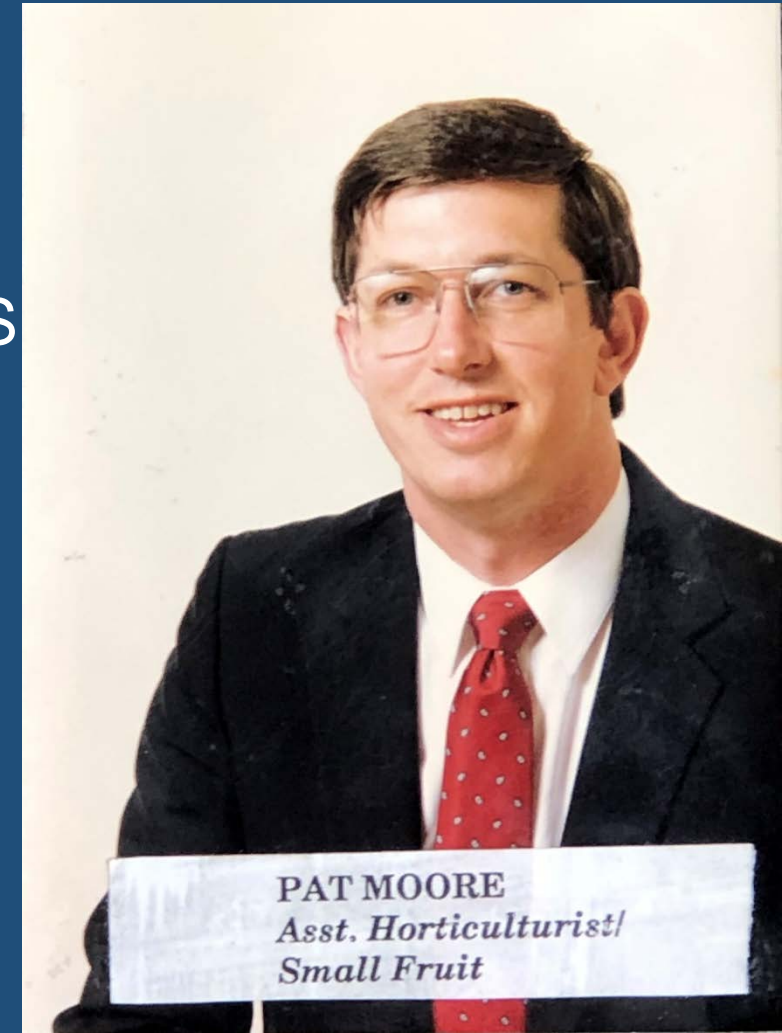
Michigan State University, PhD Forestry

Michigan State University, PostDoc Forestry

International Paper Company Bainbridge, GA Natchez, MS

Michigan State University, PostDoc Horticulture (tomato)

Washington State University, 1987-2019



History

Guidance

Present and Future

In 1928, growers came to the Western Washington Experiment Station
Cuthbert was declining, talked to HD Locklin (Horticulturist) and EL Overholser
(Head of Horticulture Department).

Decided that was a problem of winter hardiness and initiated a breeding program
OP seed planted in 1929 and first crosses in 1930.

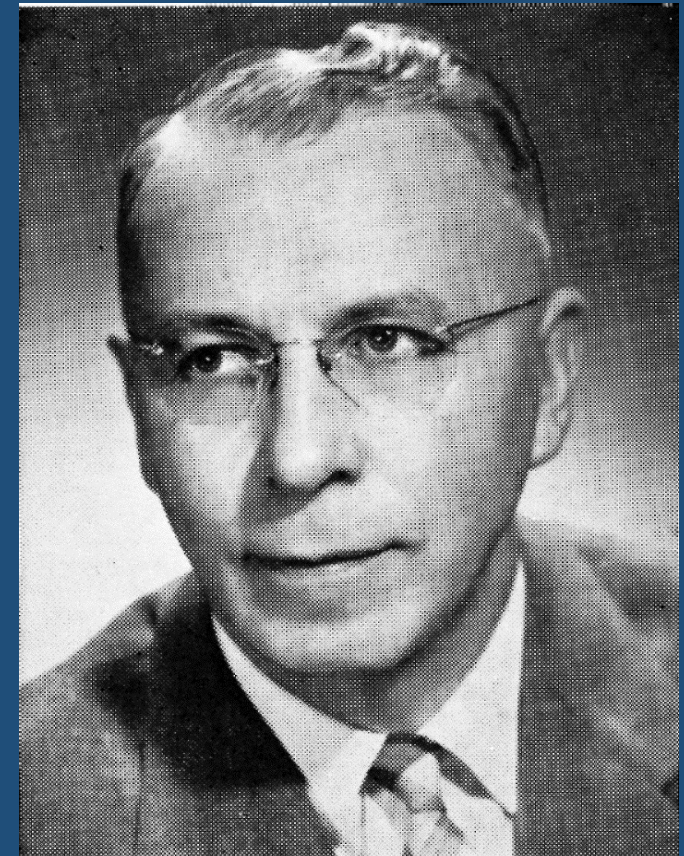
1931 crosses produced Washington and Tahoma,
both released in 1938

Strawberry breeding program began in 1940

Northwest released in 1949 and

Puget Beauty in 1956

Chet Schwartz 1932-1970



C. D. SCHWARTZE, PRESIDENT, 1957

Chet Schwartze 1932-1970

Bruce Barritt 1970-1980

Tom Sjulín 1980-1987

Pat Moore 1987-2019

Guidance

Whitey Lawrence
Hugh Daubeney

Pete Bristow
JoAnne Robbins

Current

Brad Pugh
Susie Smith
Wendy Hoashi-Erhardt

Chad Finn
Michael Dossett
Robert Martin
Tom Peerbolt
Growers

Cultivar Releases – Strawberry

	Cross	Release (years)		Breeder(s)
Northwest	1941	1949	8	Schwartz
Puget Beauty	1946	1956	10	Schwartz
Cascade	1947	1960	13	Schwartz
Columbia	1946	1960	14	Schwartz
Nisqually	1957	1967	10	Schwartz
Quinault	1958	1967	9	Schwartz
Shuksan	1962	1970	8	Barritt and Schwartz
Rainier	1962	1972	10	Barritt and Schwartz
Olympus	1960	1973	13	Barritt and Schwartz
Tillikum	1975	1983	8	Barritt and Sjulín
Puget Reliance*	1983	1994	11	Moore, Shanks, Sjulín
Puget Summer (Schwartz*)	1993	1998	5	Moore and Finn
<u>Puget Crimson*</u>	2003	2010	7	Moore and Hoashi-Erhardt
*patented cultivar		9.7	13 releases	

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Columbia	1946	1960	14	Schwartze
Nisqually (DN)	1957	1967	10	Schwartze
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Shuksan	1962	1970	8	Barritt and Schwartze
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Cultivar Releases – Raspberry

	Cross	Release (years)	Breeder(s)	
Washington	1931	1938	7	Schwartze
Tahoma	1931	1938	7	Schwartze
Puyallup	1940	1953	13	Schwartze
Goldenwest	1931	1953	22	Schwartze
Sumner	1935	1956	21	Schwartze
Meeker	1950	1967	17	Schwartze
Centennial	1974	1989	15	Moore, Sjulín, Barritt and Daubeny
C Delight*	1989	2003	14	Moore
C Nectar	1990	2003	13	Moore
C Bounty*	1992	2005	13	Moore
C Dawn*	1988	2005	17	Moore
C Gold	1979	2010	31	Moore, Hoashi-Erhardt
C Harvest*	1998	2014	16	Moore, Hoashi-Erhardt
C Premier	2007	2017	10	Moore, Hoashi-Erhardt

* Patented cultivar 15.4 14 releases

Meeker

1967 WSU release

Meeker replaced Willamette
(1943 release) in late 1980s –
early 1990s.



lighter colored
Excellent flavor
Productive
Long fruiting laterals

Centennial 1989



Puget Reliance*

1994





2002 Randy Honcoop
2003 Sakuma Brothers
2004 Sakuma Brothers
2005 Randy Honcoop
2006 Randy Honcoop
2007 Sakuma Brothers
2008 Sakuma Brothers
2009 Randy Honcoop
2010 Randy Honcoop
2011 Randy Honcoop
2012 Randy Honcoop
2013 Curt Maberry Farm
2014 Maberry Packing
2015 Randy Honcoop
2016 Randy Honcoop
2017 Randy Honcoop
2018 Randy Honcoop
2019 Randy Honcoop



Lateral length / attachment



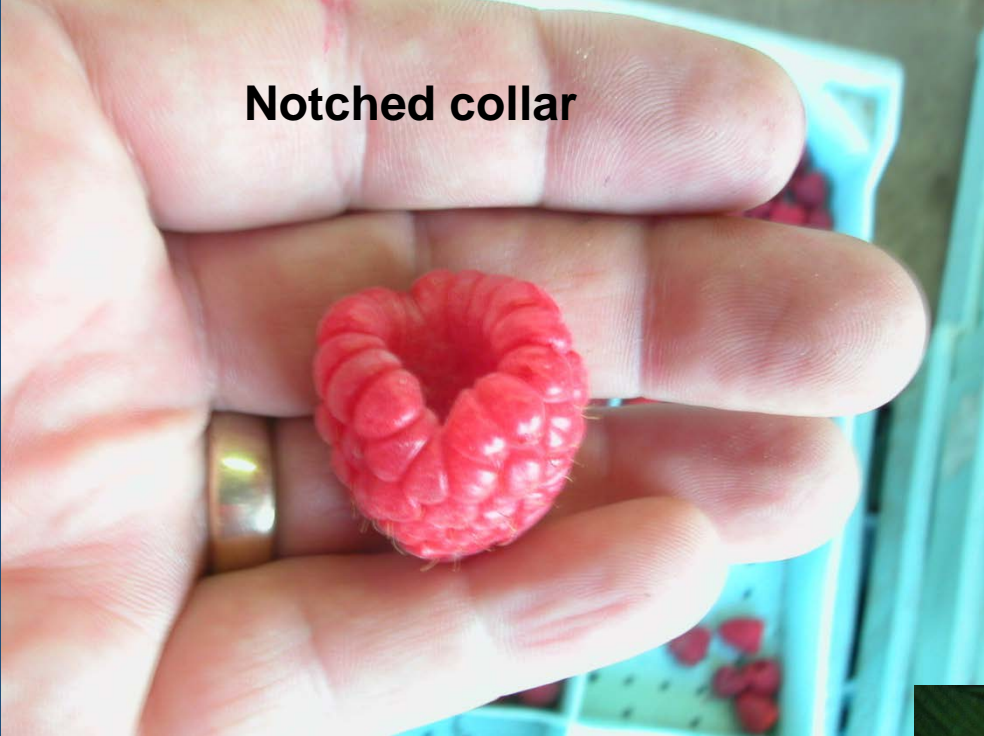


Shape of receptacle

**Drupelets over top of
the receptacle**



Notched collar



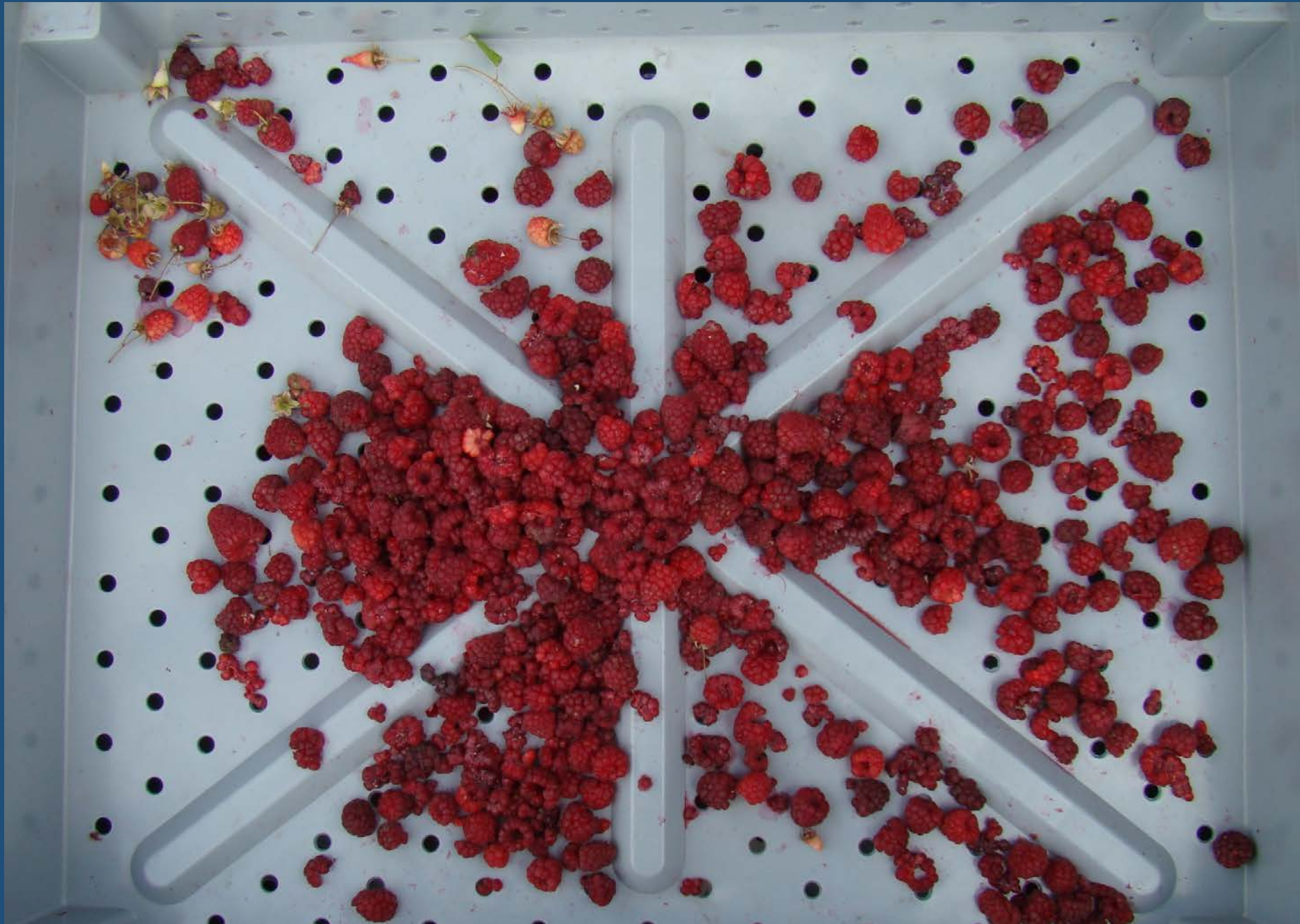
Thick walled, even collar



Overripe/
collapsed



Crumbly



Greens & Stems



Evaluate subjectively for
Green
Overripe
Collapsed
Stems
Crumbly fruit
Yield
Color, Size, Firmness, Flavor



Cascade Delight

2003 WSU release

Very large, firm fruit

Productive

Excellent flavor, tart

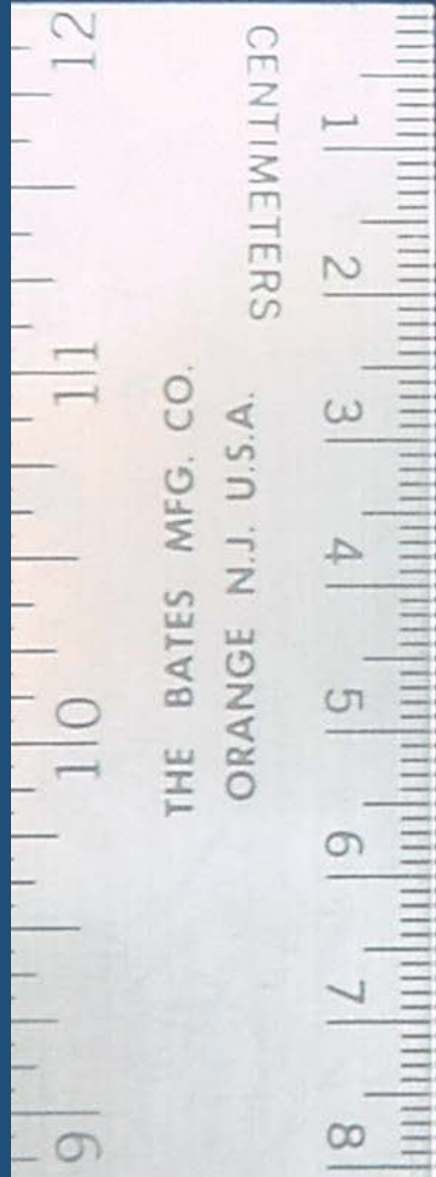
Good levels of root
rot tolerance

Long fruiting laterals



Cascade Nectar

Released 2003



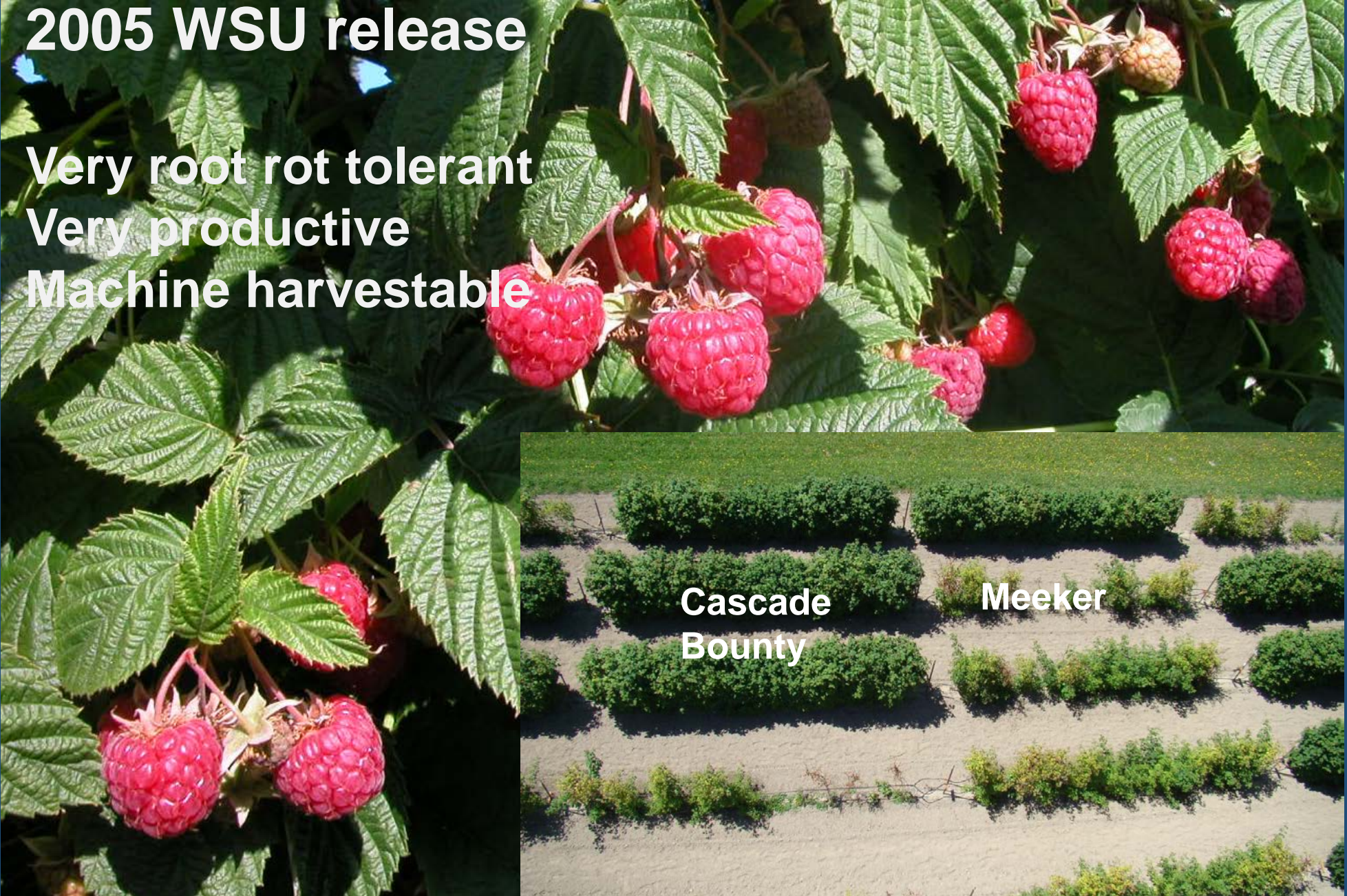
Cascade Bounty

2005 WSU release

Very root rot tolerant

Very productive

Machine harvestable



Cascade Gold

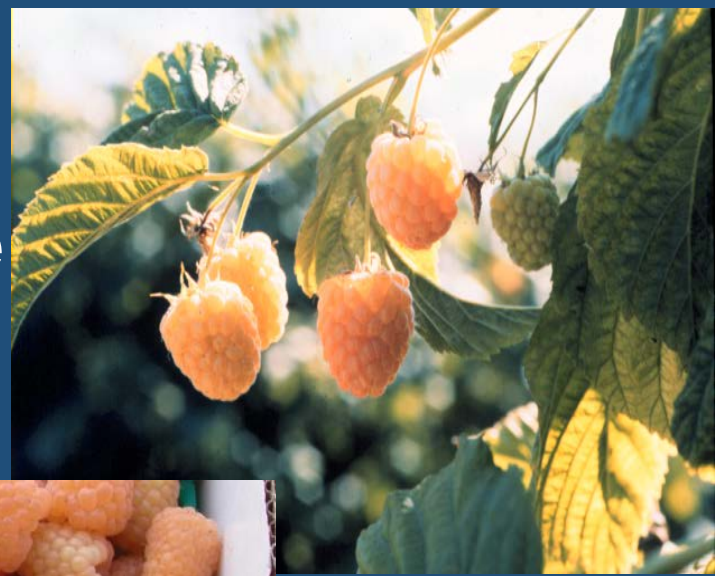
2010 release WSU

31 years from cross to release

Floricanne fruiting

Early season

Large, firm, excellent flavor



Easy fruit release
RBDV resistant

Puget Crimson

Released 2010



Cascade Harvest

- 2014 WSU release
- Machine harvests well
- Root rot tolerant ?
- RBDV resistant (common)
- 2-6 d earlier than Meeker
- Large fruited
- Productive - equal or greater than Meeker
- Good flavor



Recommended for release in 2017

WSU 2166/Cascade Premier

Machine Harvests easily

Large, firm fruit

**Early season – harvest season
similar to Willamette**



**More resistant to root rot than Meeker and C
Harvest**

Firmer than C Harvest, Meeker and Willamette

**Similar soluble solids, pH and titratable acidity
as Willamette**

Similar anthocyanins as Meeker

Excellent flavor

Promising selections



WSU 2188

Both C Premier and WSU 2188 selected as MH





WSU 2001 WSU 1480 x C Harvest

Late season

Productive

Dark fruit

Similar yield and firmness as Wakefield in second year

Root rot evaluation year 3 4.5/5.0



WSU 2068 WSU 1387 x **WSU 1499**

Yield and firmness similar to Wakefield,
anthocyanins considerably less than Wakefield



WSU 2069 WSU 1480 x C Harvest

About same yield and firmness as Wakefield,
similar anthocyanins.



WSU 2087 WSU 1480 x C Harvest

Two year yields greater than C Harvest and Meeker

Root rot evaluation year 3, 4.75/5.00



WSU 2088 WSU 1480 x C Harvest

Average yield was 88% of Wakefield
Firmer than Meeker, less firm than
Wakefield

Similar Brix as Wakefield

Fruit size larger than Wakefield



WSU 2130 WSU 1502 x **WSU 1503**

Firmer with greater Brix than Wakefield

About 75% of the yield of Wakefield

Root rot evaluation year 3, 4.75/5.0

Long season

Promising selections that need more evaluation

WSU 2366 WSU 1530 x WSU 1538

WSU 2425 WSU 1784 x C Harvest

WSU 2472 Chemainus x C Harvest

WSU 2481 WSU 1447 x WSU 1955

WSU 2555 WSU 1888 x **Boyne**

WSU 2557 WSU 1964 x **Boyne**

WSU 2559 WSU 1973 x **Boyne**

WSU 2561 WSU 1980 x **Boyne**

WSU 2564 WSU 1980 x **Boyne**

WSU 2567 WSU 2011 x **Boyne**

WSU 2571 WSU 1980 x WSU 1035

WSU 2575 WSU 1888 x WSU 1750

WSU 2577 WSU 1980 x **WSU 1912**

“We have all drunk from wells we did not dig and have been warmed by fires we did not build.”



Comments

Need to have access to MH

Make selections as MH – C Premier & 2188

Need to have area that has high levels of Phytophthora.

Ideal might be to grow seedlings in area with Phytophthora and MH.

Need to have a combination of traditional breeding and molecular.

I am confident that Wendy will be successful

Things change

1960 WWAHA Proceedings Dr. C.D. Schwartz

- All cultivars in PNW from public programs
- Cuthbert good for canning
- Fruit lab at Puyallup
- IF machine harvesters developed - may lessen the demand for berries of very large size (Willamette or Puyallup)

