

Peach Orchard System Update

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Objectives:

- Compare and demonstrate
- 2 peach varieties:
 - Loring (conventional growth habit)
 - Sweet-N-Up (upright growth habit)
- 4 training systems: 172 - 484 trees / A



Upright Variety



Peach Systems

- Planted 2007
 - All @18' cross row spacing
- Evaluate:
 - Tree growth
 - Yield and precocity
 - Fruit size & quality
 - Canopy light
 - (Labor efficiency)

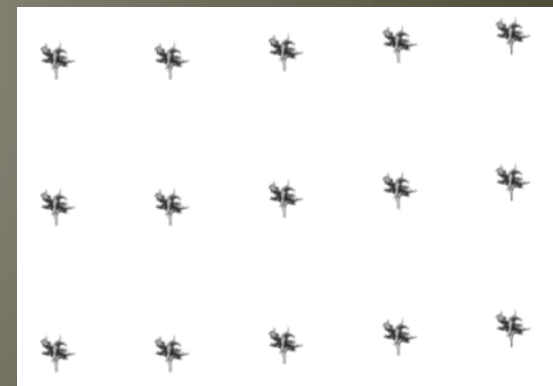


Sweet N Up

Loring



- Open center system
- 14 ft. X 18 ft.
 - 173 trees per acre
 - Unspecified scaffold no. per tree (3-6)



OC14
System

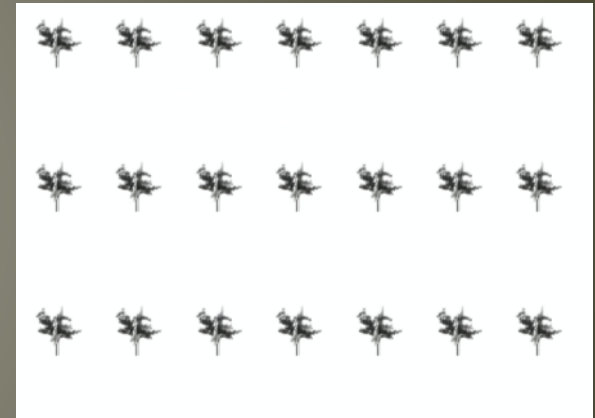
Tree Density
1 tree / 252 ft²

HV10 System



Hex V system

- 10 ft. X 18 ft.
- 242 trees / acre
- Six scaffolds / tree



Tree Density
1 tree / 180 ft²



Quad V system:

- 7 ft. X 18 ft.
- 346 trees per acre
- Four scaffolds per tree



Tree Density
1 tree per 126 ft²

QV7
System



Perpendicular V Syst:

- 5 ft. X 18 ft.
- 484 trees / acre
- Two scaffolds / tree



Tree Density
1 tree / 90 ft²

PV5
System



Darwin String Thinner 2011 & 2012

- All plots string thinned
- 3 passes / row
- Follow-up hand thinning



M. Wherley, ACTV

Platform Use



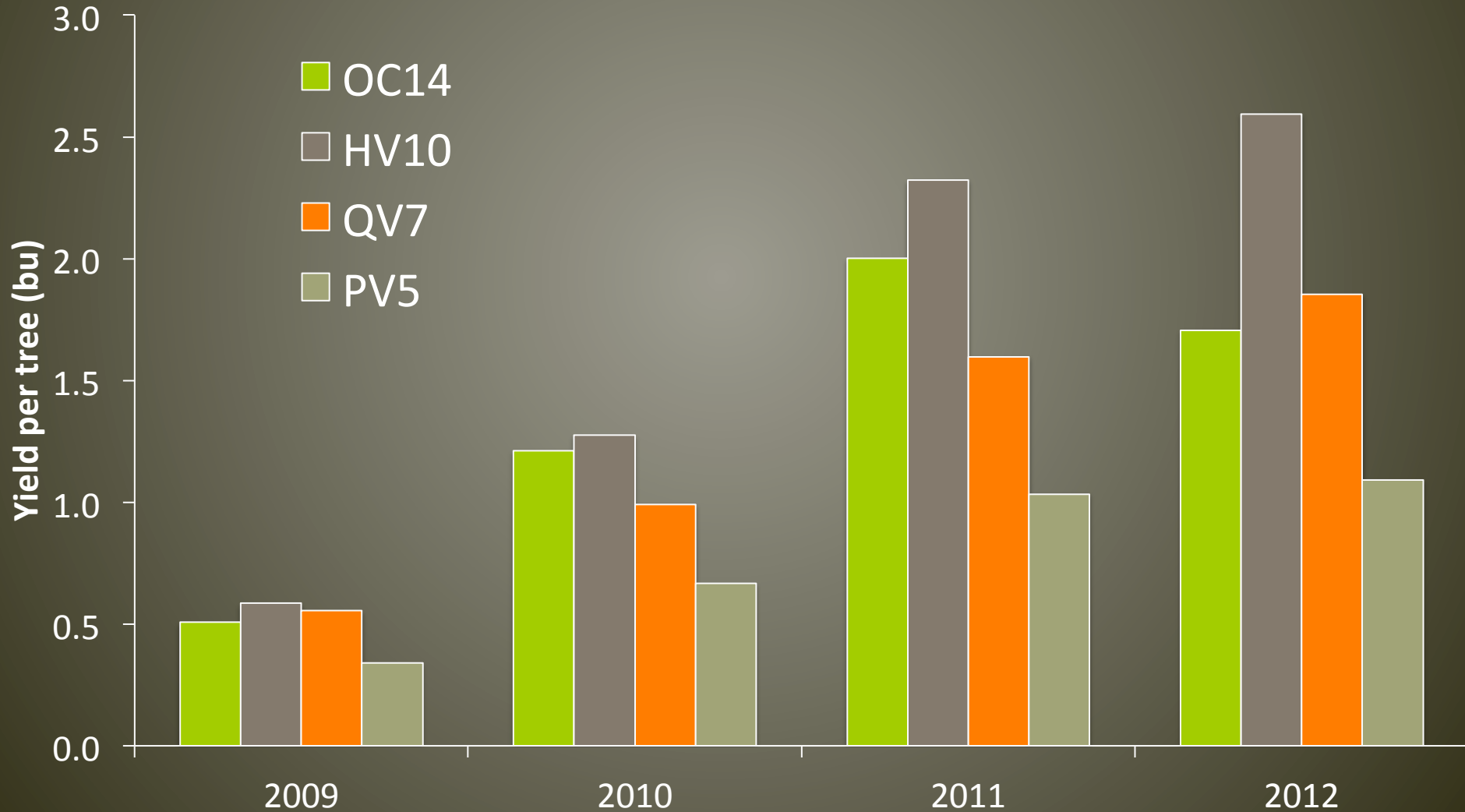
N. Blosi platform used
Thinning
Mating disruption
Summer pruning
Harvest

2011 & 2012:

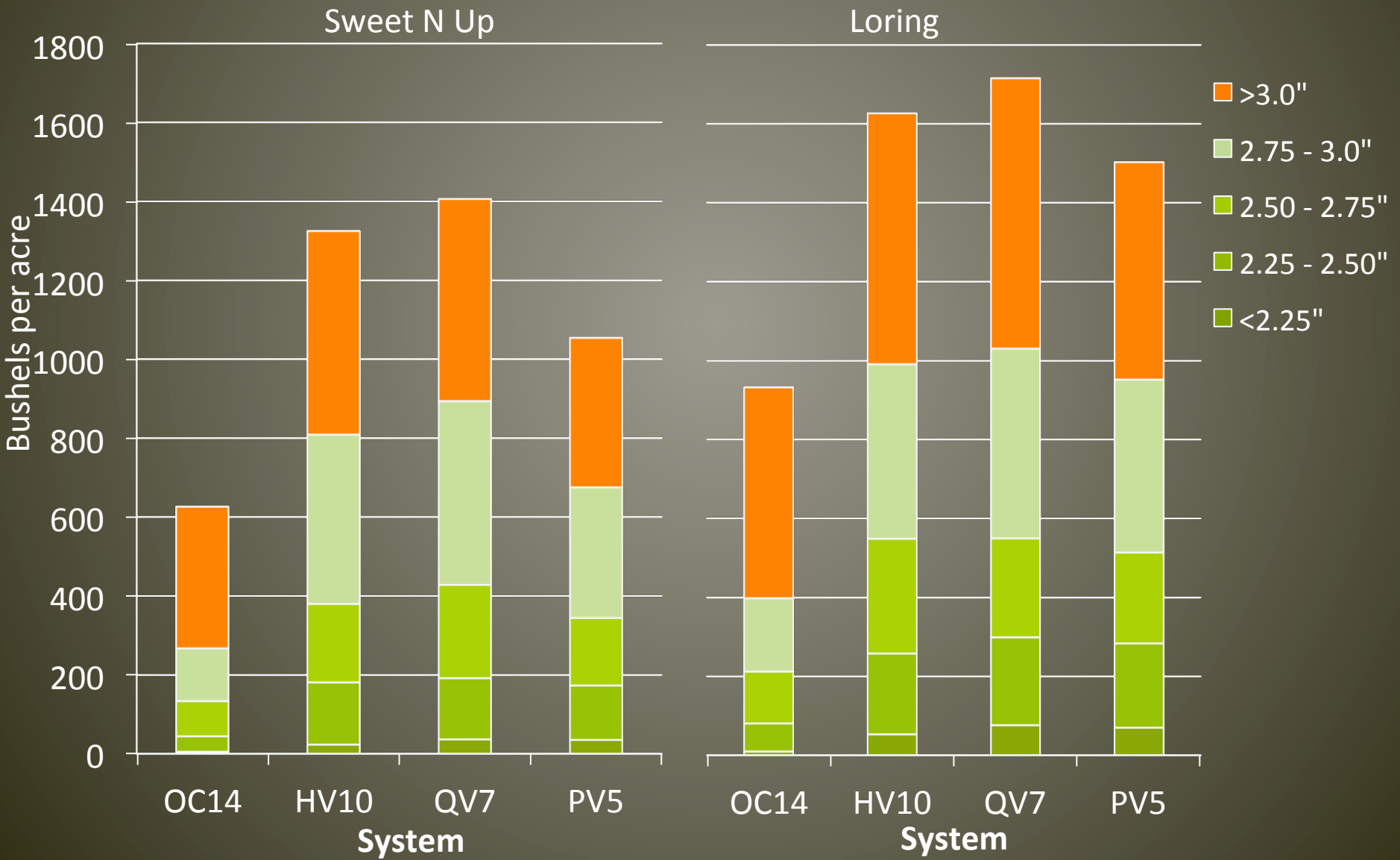


**IRRIGATION DURING
FINAL SWELL!**

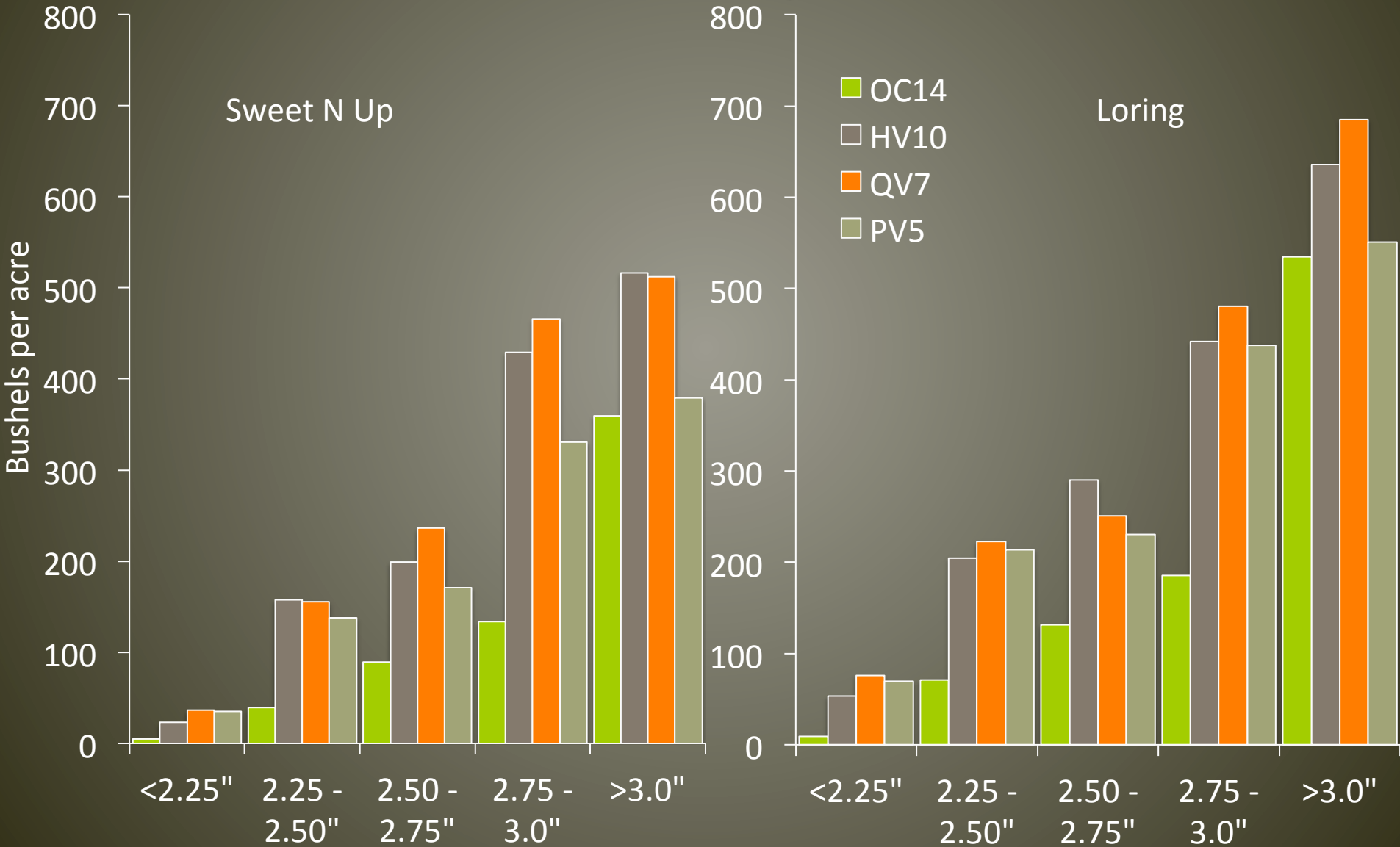
Yield per tree by year, Loring



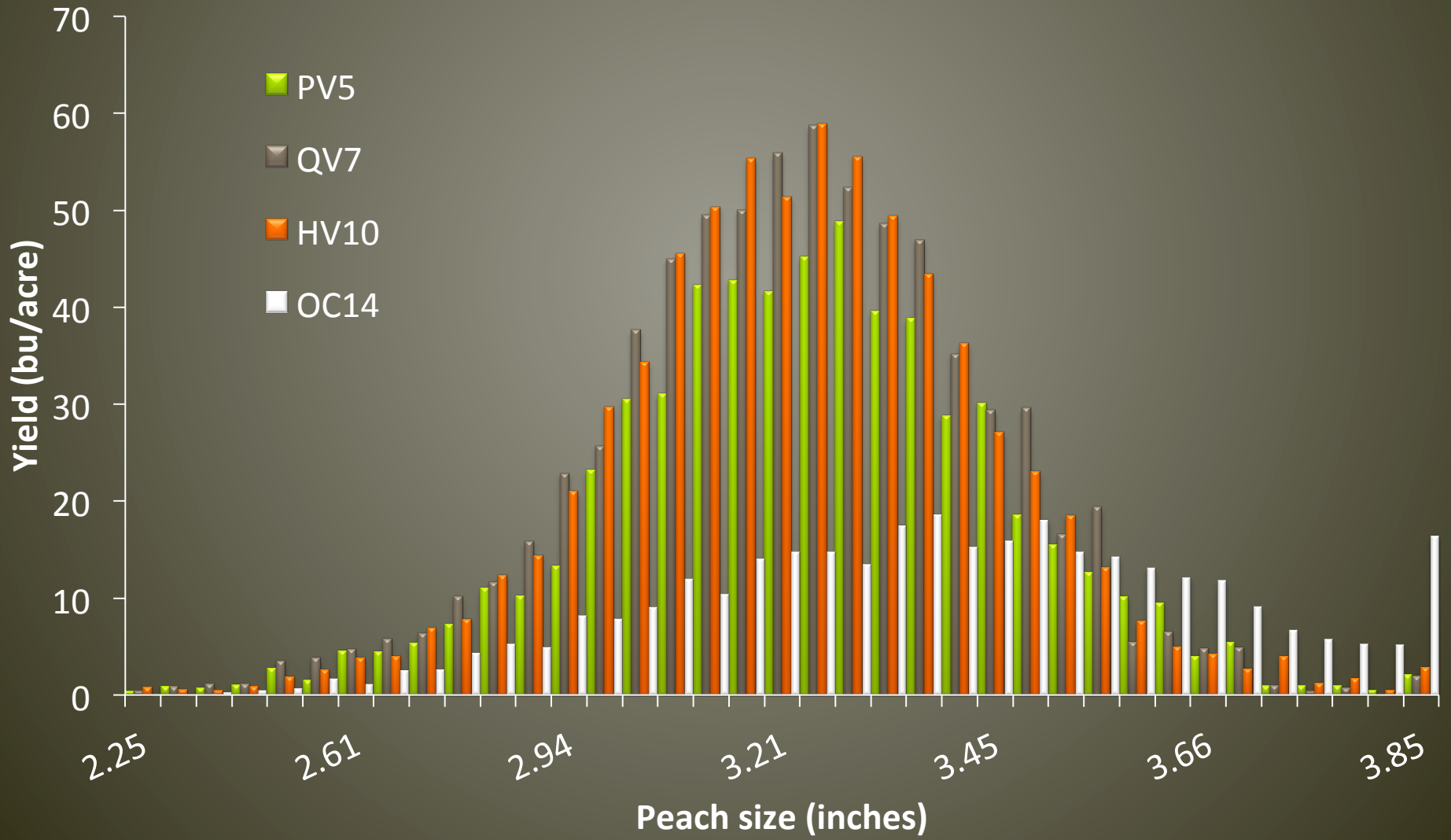
Cumulative Yield, 2009-2012:



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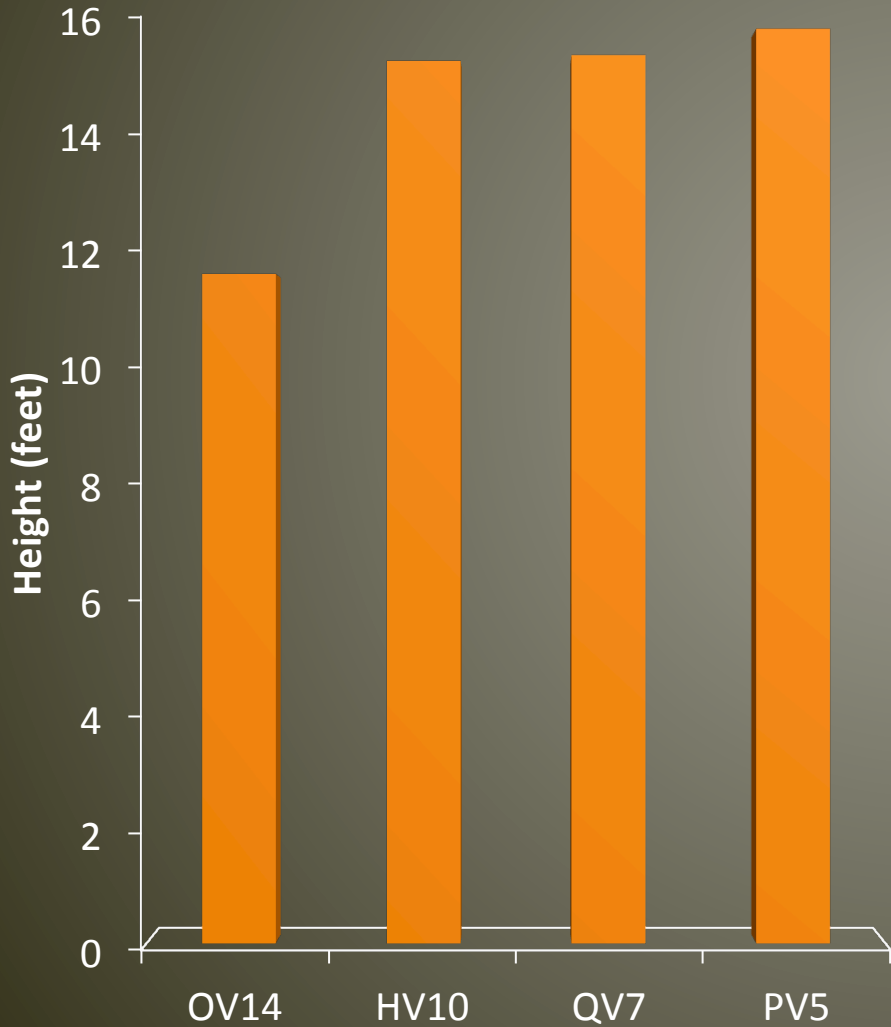


2012 Fruit Size Distribution

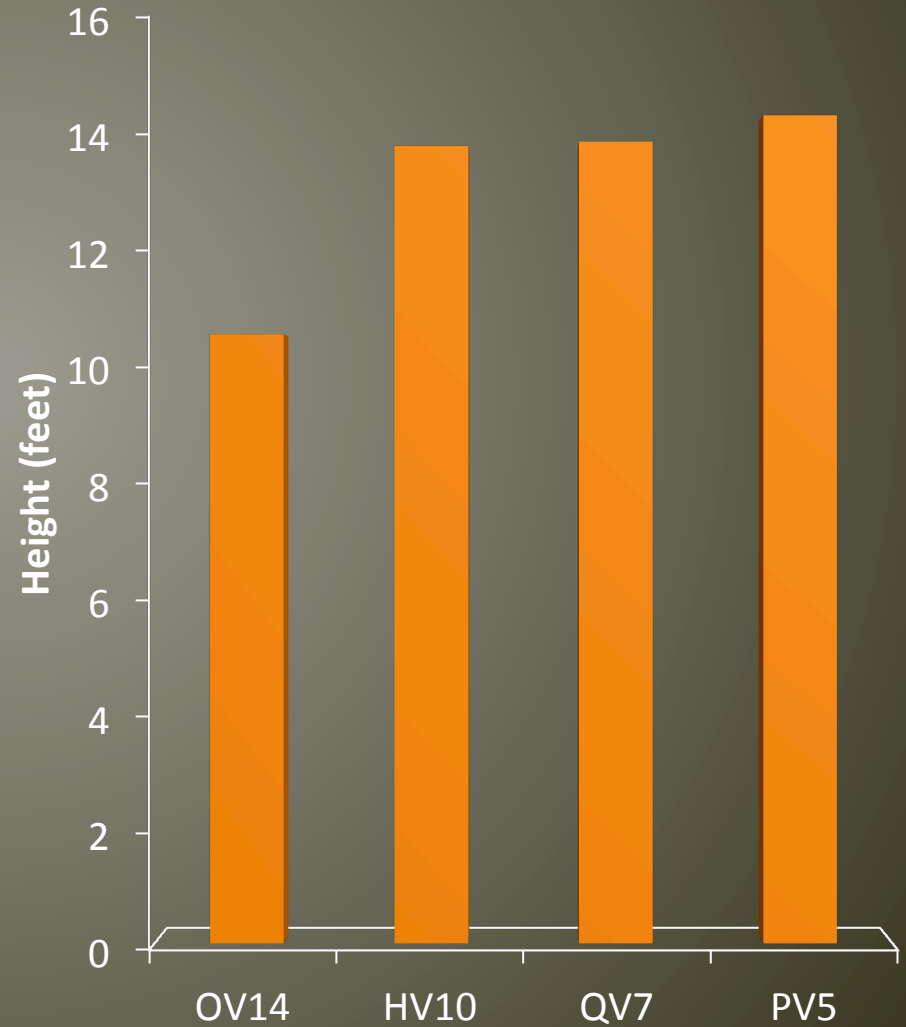


Canopy Height, 2011

SweetNup

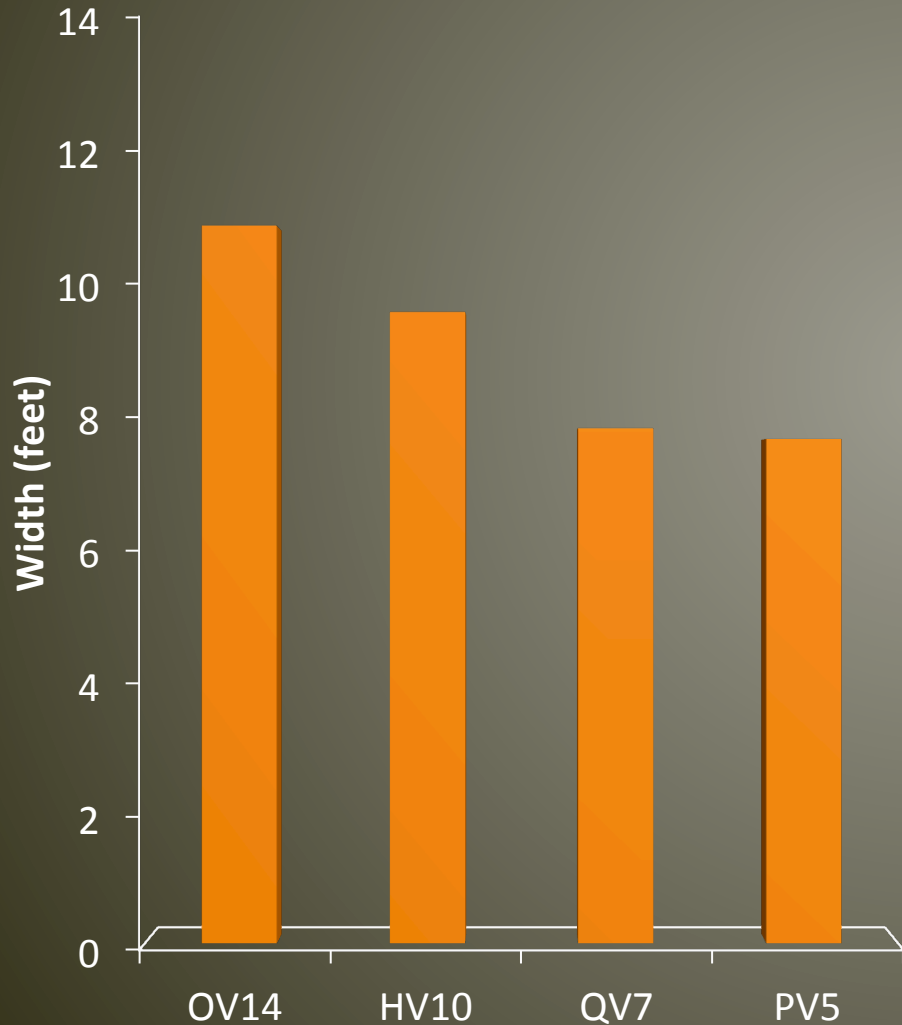


Loring

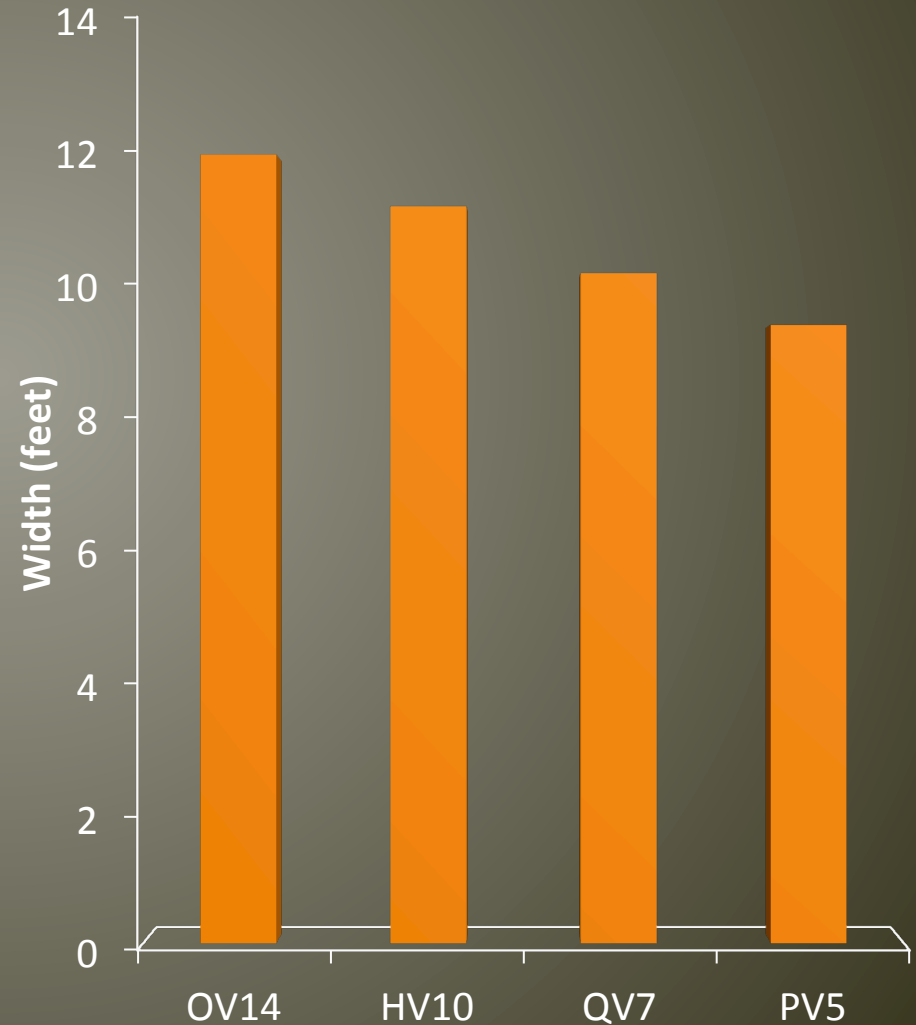


Cross-Row Canopy Width, 2011

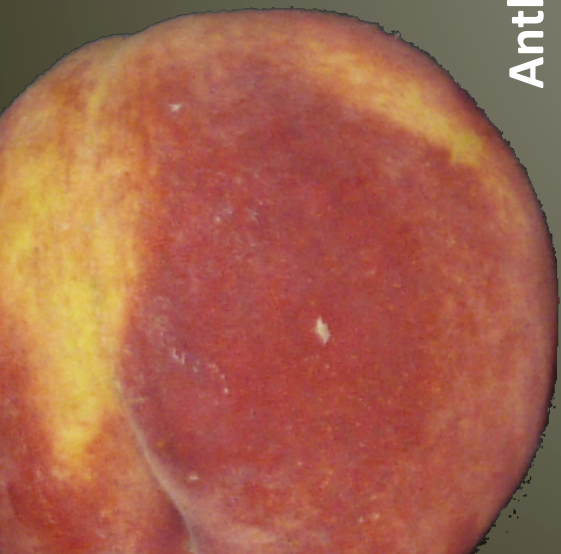
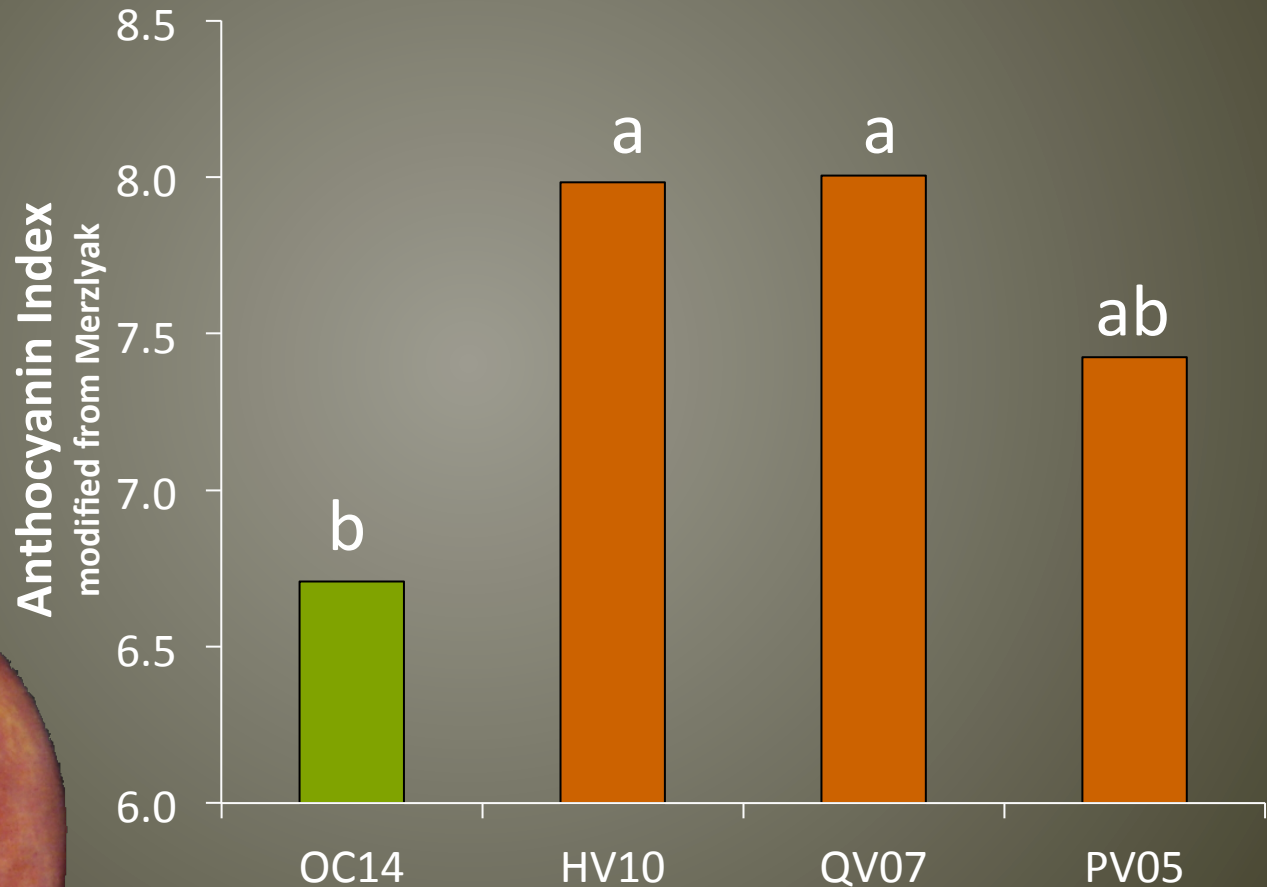
SweetNup



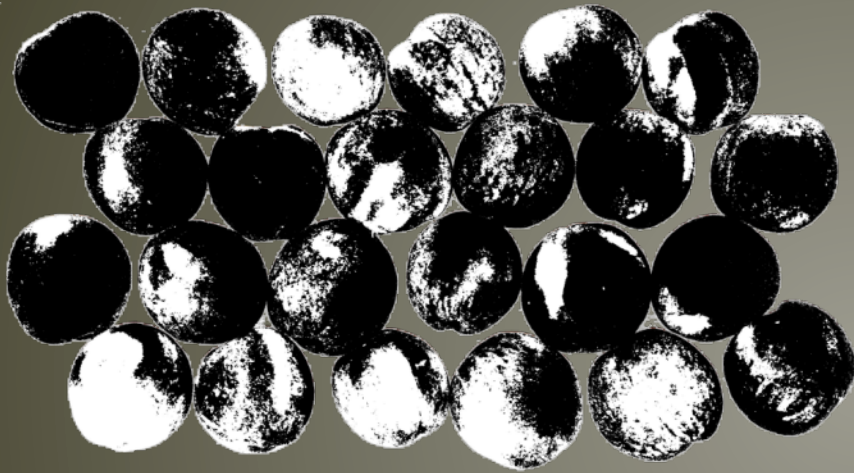
Loring



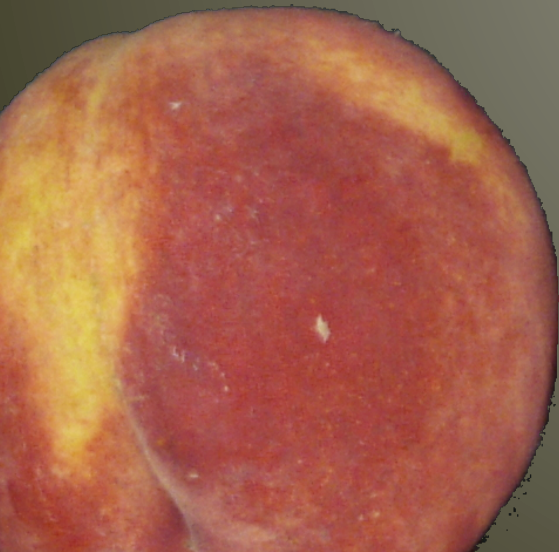
Blush "Redness", Loring



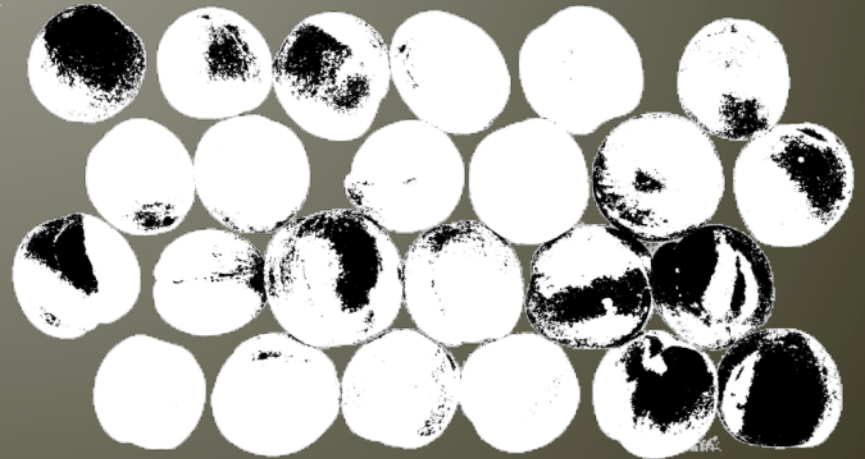
Percent Blush Coverage



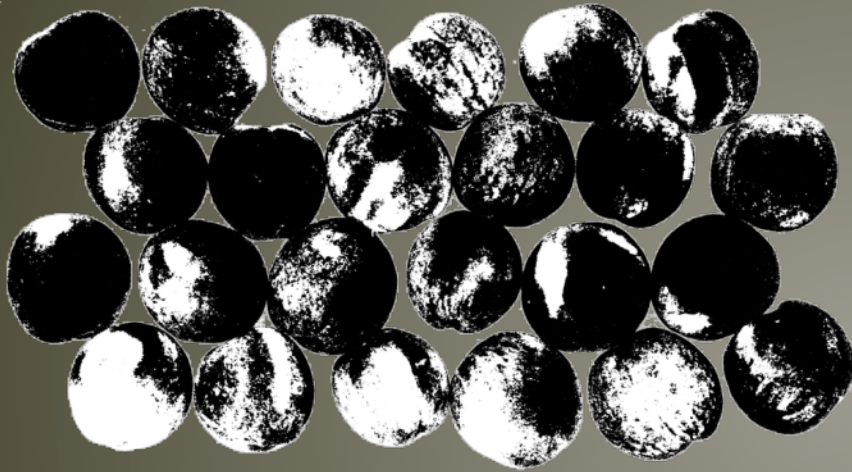
HV10 system, 24 randomly chosen peaches, blush side



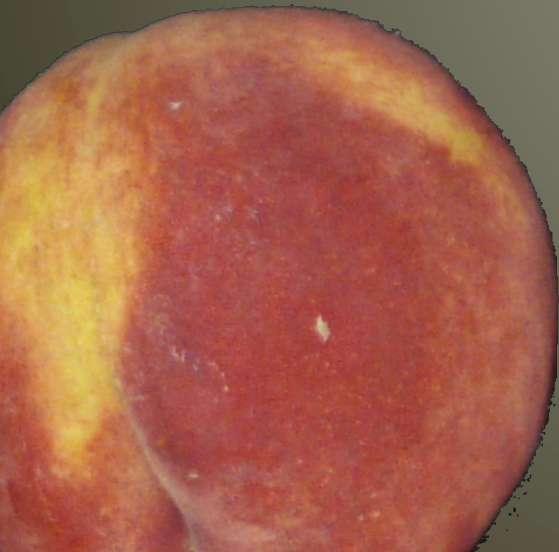
OC14 system, 24 randomly chosen peaches, blush side



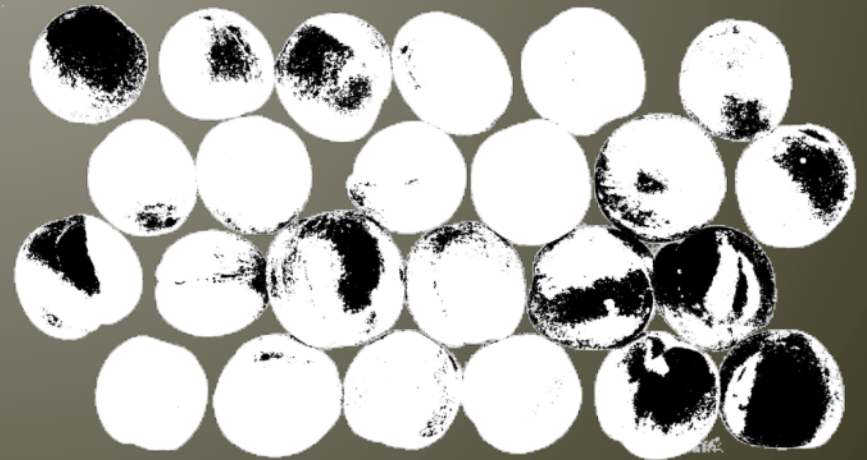
Percent Blush Coverage



45.4% blush (indicated in black)

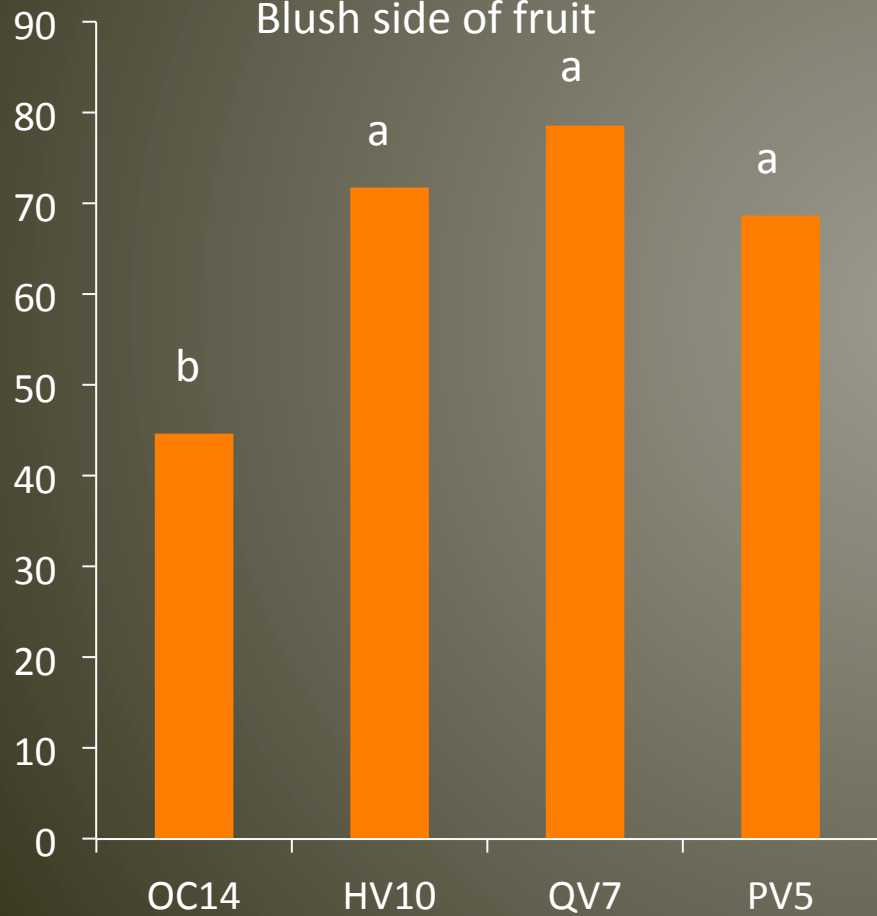


17.7% blush

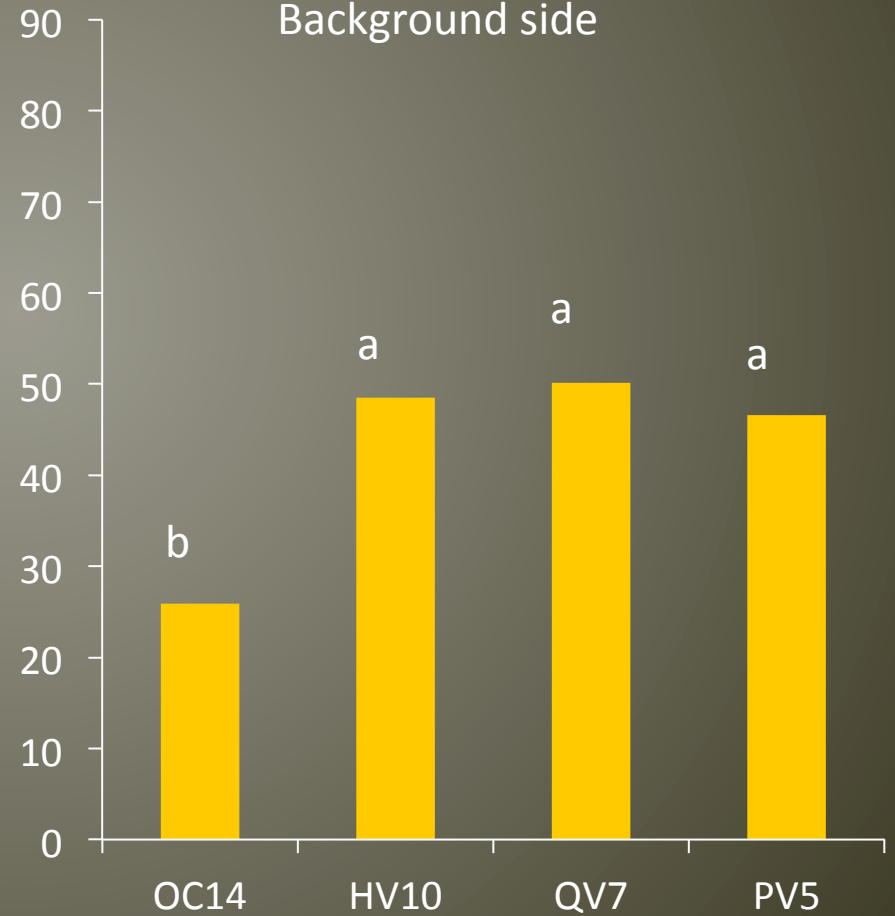


Blush Coverage (%), Loring

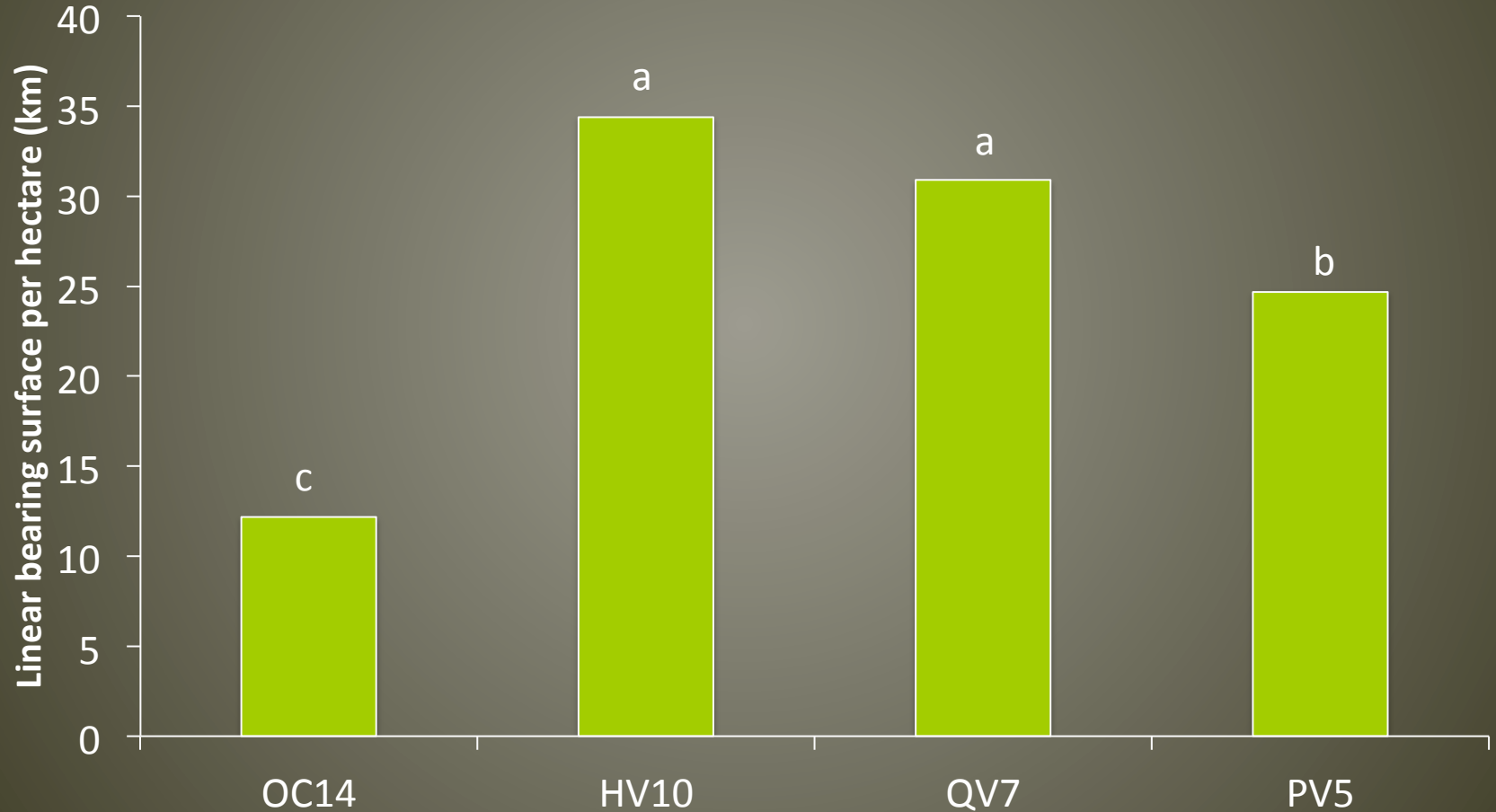
Blush side of fruit



Background side



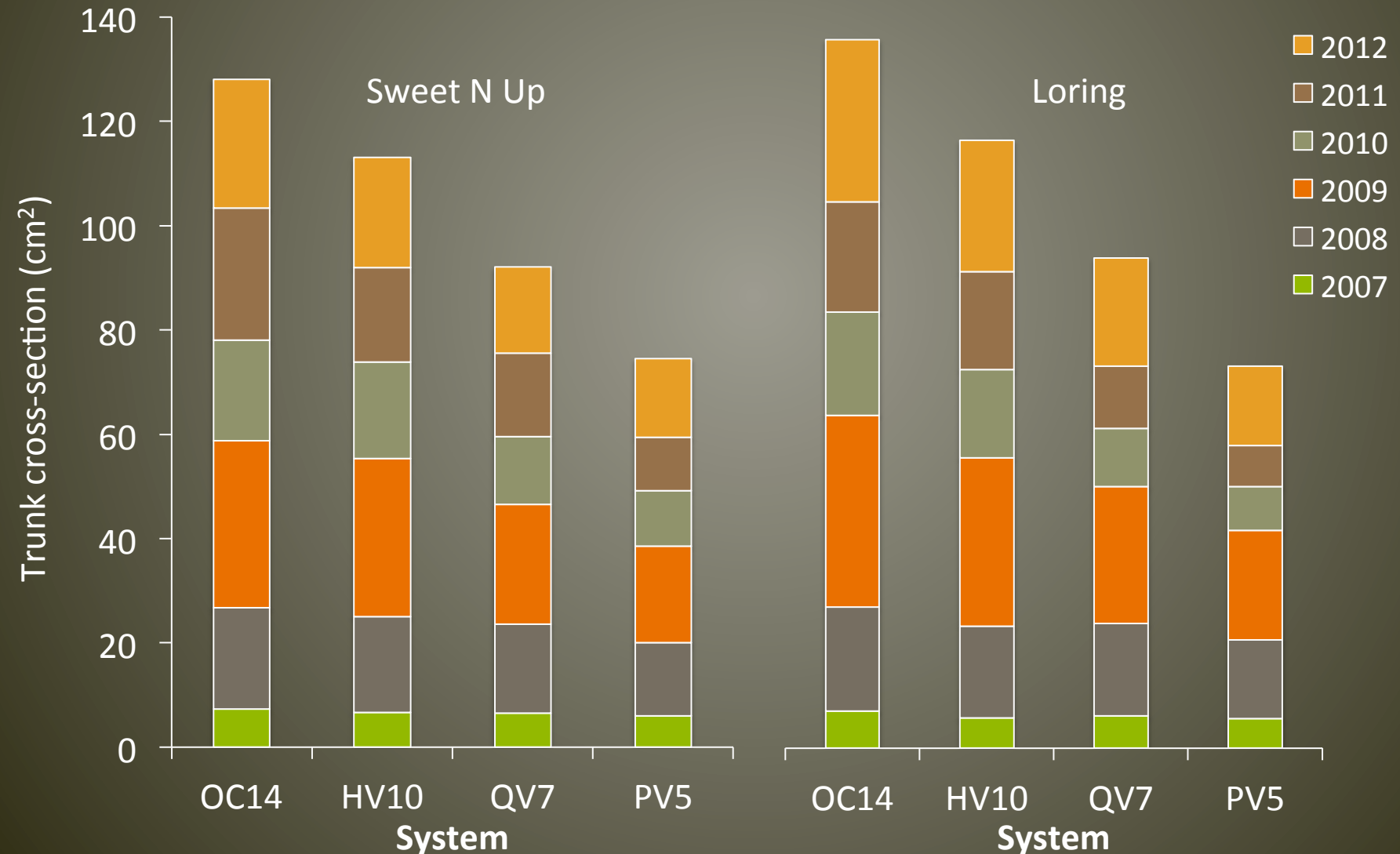
Linear Bearing Surface by System, Loring



Why do V systems perform better?

- More linear bearing surface per acre
- Better light interception
- Training compatible with natural growth
- Less aggressive, 'retaliatory' growth
- They don't shade themselves excessively

Trunk size by year and system



Income over specified costs / A, 2012

Sweet N Up					
	2009	2010	2011	2012	Cumulative
OC14	\$ 1,741	\$ 633	\$ 2,014	\$ 4,575	\$ 8,963
HV10	\$ 2,938	\$ 2,283	\$ 4,534	\$ 9,930	\$19,685
QV7	\$ 2,556	\$ 240	\$ 4,255	\$ 9,628	\$ 16,680
PV5	\$ 2,809	\$ (162)	\$ 2,169	\$ 5,871	\$ 10,687

Income over specified costs / A, 2012

Loring					
	2009	2010	2011	2012	Cumulative
OC14	\$ 1,246	\$ 1,764	\$ 3,880	\$ 7,455	\$ 14,346
HV10	\$ 1,647	\$ 3,311	\$ 6,277	\$ 15,886	\$ 27,120
QV7	\$ 3,911	\$ 436	\$ 5,861	\$ 15,677	\$ 25,886
PV5	\$ 1,855	\$ 226	\$ 4,546	\$ 11,952	\$ 18,579

Summary - Variety

- Similar tree size for both
 - Sweet N Up trees were taller (con)
 - Loring Trees were wider (pro)
- Loring pulling away on cumulative yield
 - Sweet n Up had highest yield in 2009
 - Loring has been yielding more since 2010
- **Advantage: standard spreading habit**

Summary - System

- Quad or Hex Vs Perp V – More scaffolds per tree did little to reduce tree height.
- V systems have filled their space
 - 2012: will manage for tree height at 14'
 - Vs may have peaked on yield / acre
- Open vase has ≥ 2 feet to go to fill space
 - Expect annual yield to keep rising

Summary

- V systems
 - Higher yield / A
 - Redder fruit color
 - More economic value
 - More efficient use of land
 - More bearing surface per acre
 - More large fruit, more small fruit, more fruit
- Open center systems
 - Very slight savings on labor
 - Larger average fruit size
 - Less fruit, also less large fruit (per acre)
 - More wood

Take Home Message:

- **Best:** Hex V at 10 x 18 & Quad V at 7 x 18
- Quad:
 - Easier to get 4 good scaffolds
 - Earlier Bu. / A = best system for high value crops
- Hex:
 - Similar performance to Quad with less investment
 - Scheduled replacement of declining peach blocks
- **Challenge:** Keeping scaffolds in a row

Acknowledgements

- Dr. Tara Baugher
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