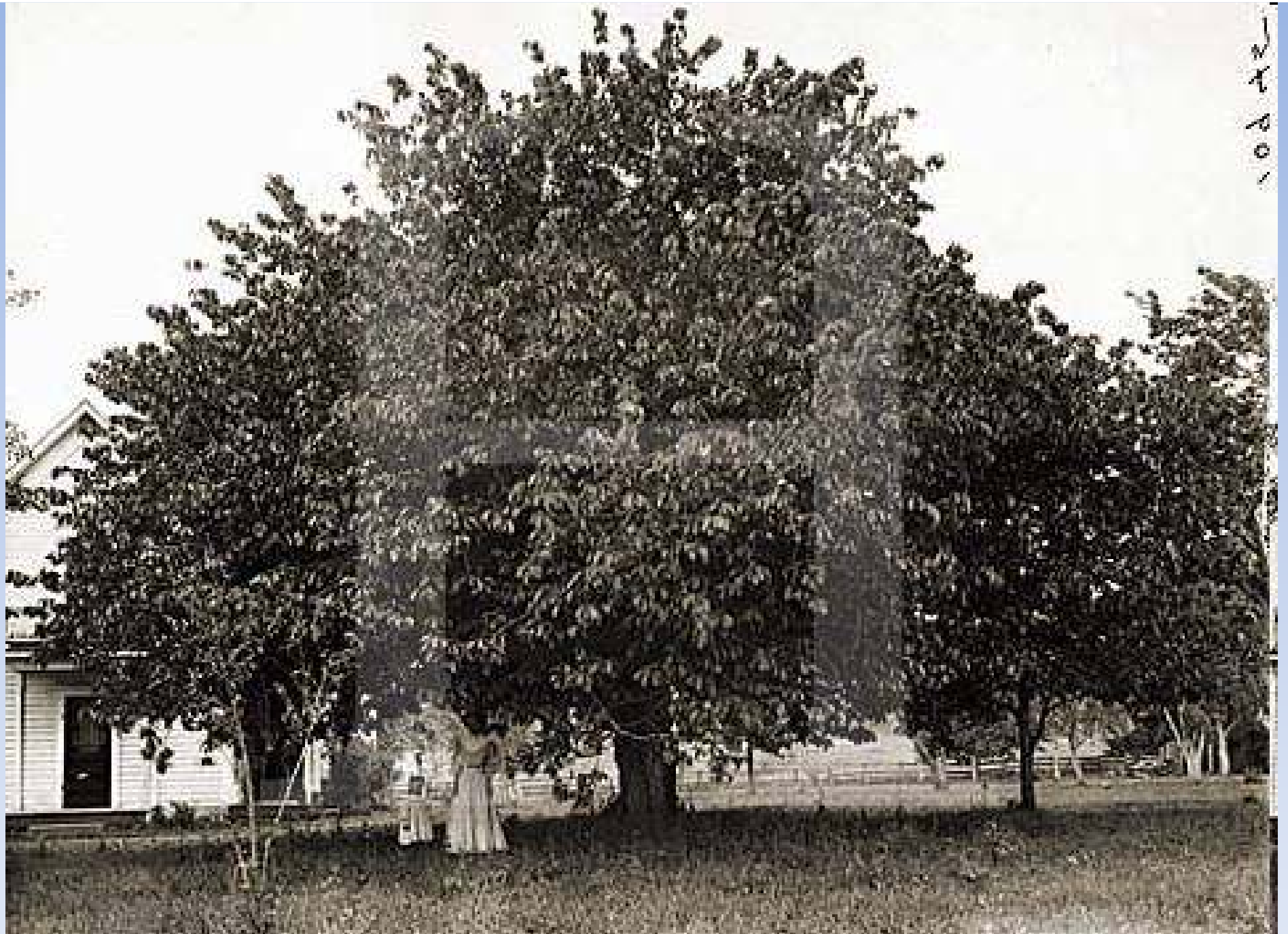


Commercial Cherry Varieties for Modern Orchard Systems

Presented by
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Prepared by
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-and-
Lynn Long, OSU Extension





This cherry tree yielded 2034 pounds of fruit in 1908, Creswell, Oregon







SHARE EMAIL PRINT FEED

Cherry Showcase, with 60 varieties, tests the testers

RICHARD LEHNERT



Cherry growers wanting to try out the taste and texture

Put 19 eight-foot tables horseshoe-style around the room's perimeter. On each table, put seven or eight clamshells overflowing with ripe sweet cherries. Give 50 or so people evaluation sheets and let them go to it, tasting and eating black cherries, red cherries, yellow cherries, blush cherries. Provide plenty of places for pits and stems.

If you do all that—plus lots of work beforehand—you have the Sweet Cherry Showcase. With nearly 160 samples and 60 varieties, it was nice they were alphabetized, from Attika to numbered selections from Washington.



Sysstem-CAL™

Finally a calcium that doesn't
make you choose between
calcium and Apogee®

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AGRO-K 

Cherry varieties are like puppies.
Honest!



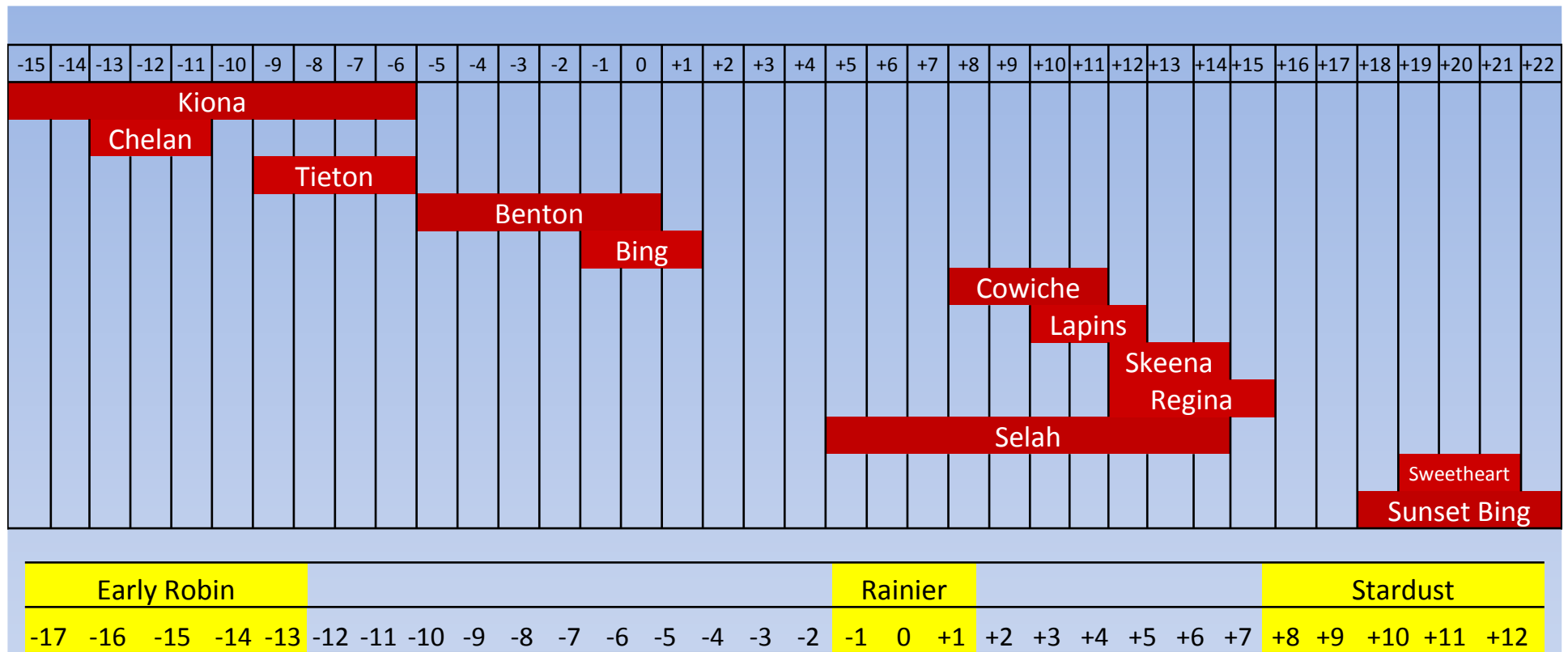
What will the variety become?





Things to Consider (amongst about 1000 other things!)

- Harvest: timing
- Fruit quality: size, firmness and flavor
- Management of the fruit
 - Pollination/fruit set
 - Mildew
 - Sunburn
 - Cracking susceptibility
- Management of the tree
 - Pruning
 - Nutrition
 - Rootstock selection
 - Tree spacing



- Some varieties have narrow windows, others long.
- We don't know the best harvest timing of some varieties.
- Some varieties change from year to year.
- Tree age, irrigation, fertilizer, GA all have variety-dependent effects.
- Learn when the fruit is ready to pick and be flexible!

Harvest timing data- based on export sales



Harvest Timing

- Has a profound impact on fruit quality and storability.
- Many varieties lose fruit quality if picked too early or too late.
- Some varieties maintain fruit quality regardless of harvest date.
- You need to figure out harvest timing for yourself.



Harvest Timing- listen to your customers! Then adjust accordingly.



Things to Consider (amongst about 1000 other things!)

- ✓ • Harvest: timing
- Fruit quality: size, firmness and flavor
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 - Pollination/fruit set
 - Mildew
 - Sunburn
 - Cracking susceptibility
- Management of the tree
 - Pruning
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 - Tree spacing

Fruit Quality:

What makes a good cherry?

- For fruit exporters:
 1. size
 2. firmness
 3. stem condition
 4. color
 5. flavor
 6. shape
- For fruit stands: I've got no idea.



What makes a good cherry?

Consumer Response Research: Long, Seavert, Whiting

- Sweet > Acid
- Big > Small
- Juicy > Dry
- Dark > Light
- Blocky > Round
- Long stem > Short Stem

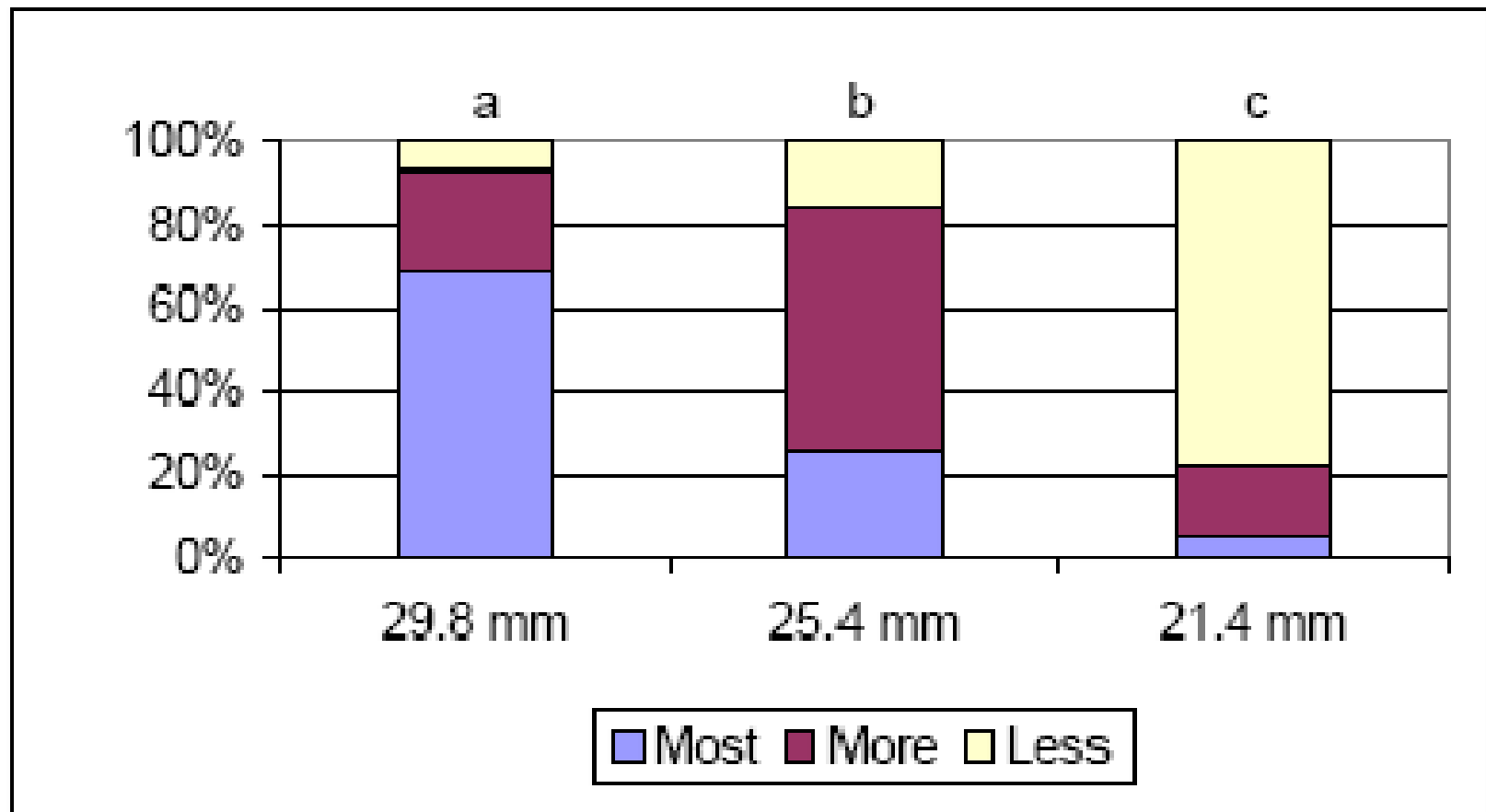
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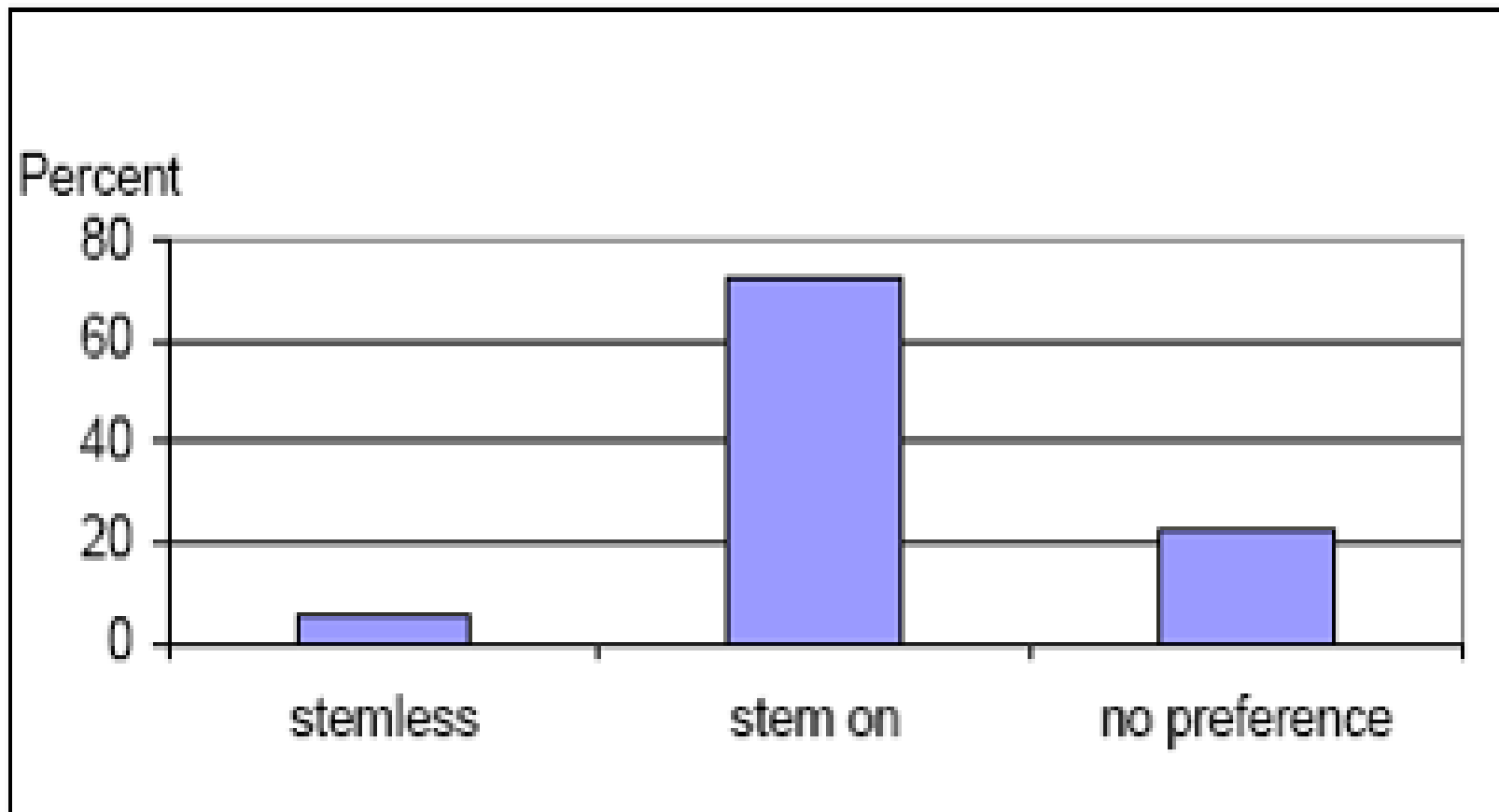


Fruit Size



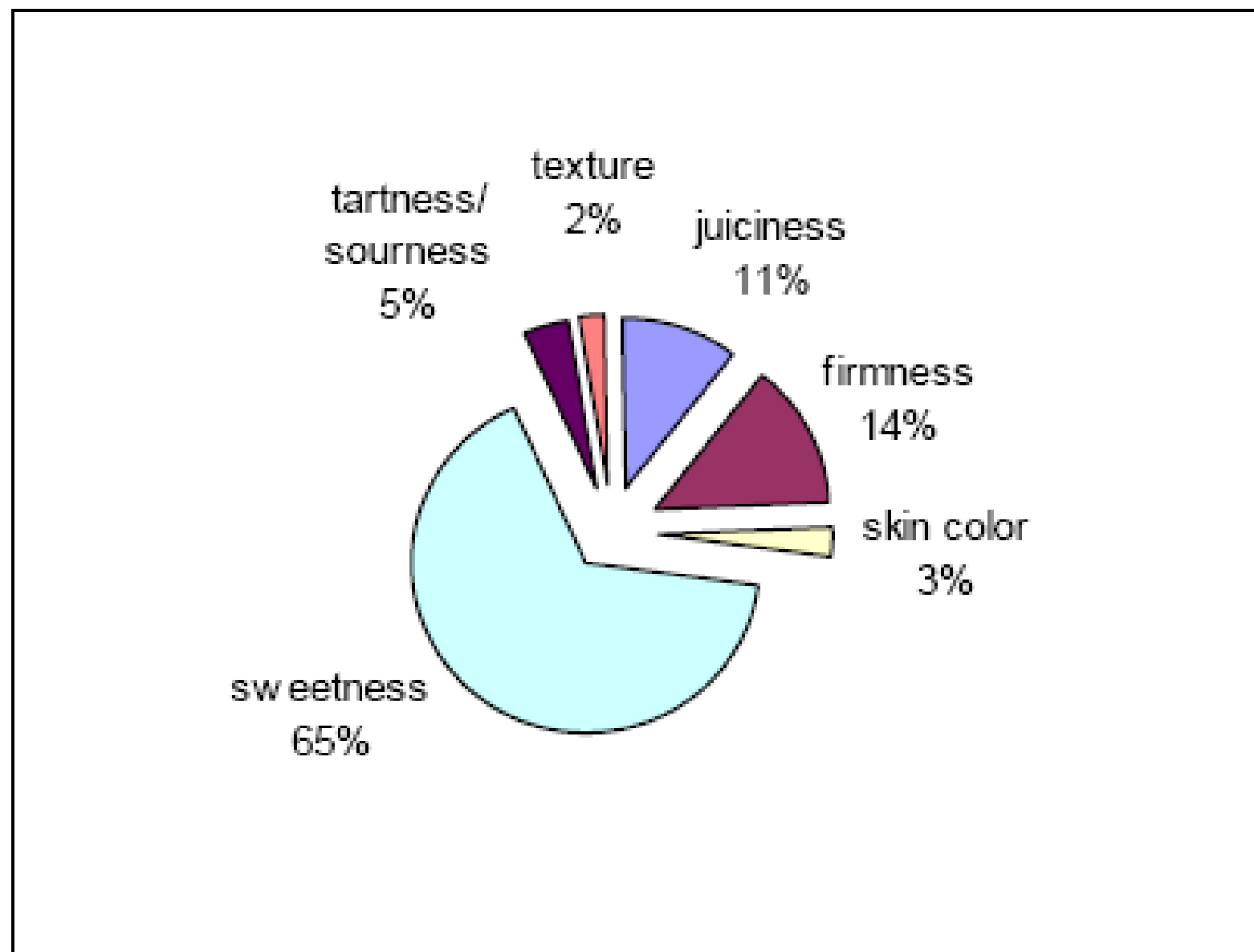
Data: Seavert and Long

Stems



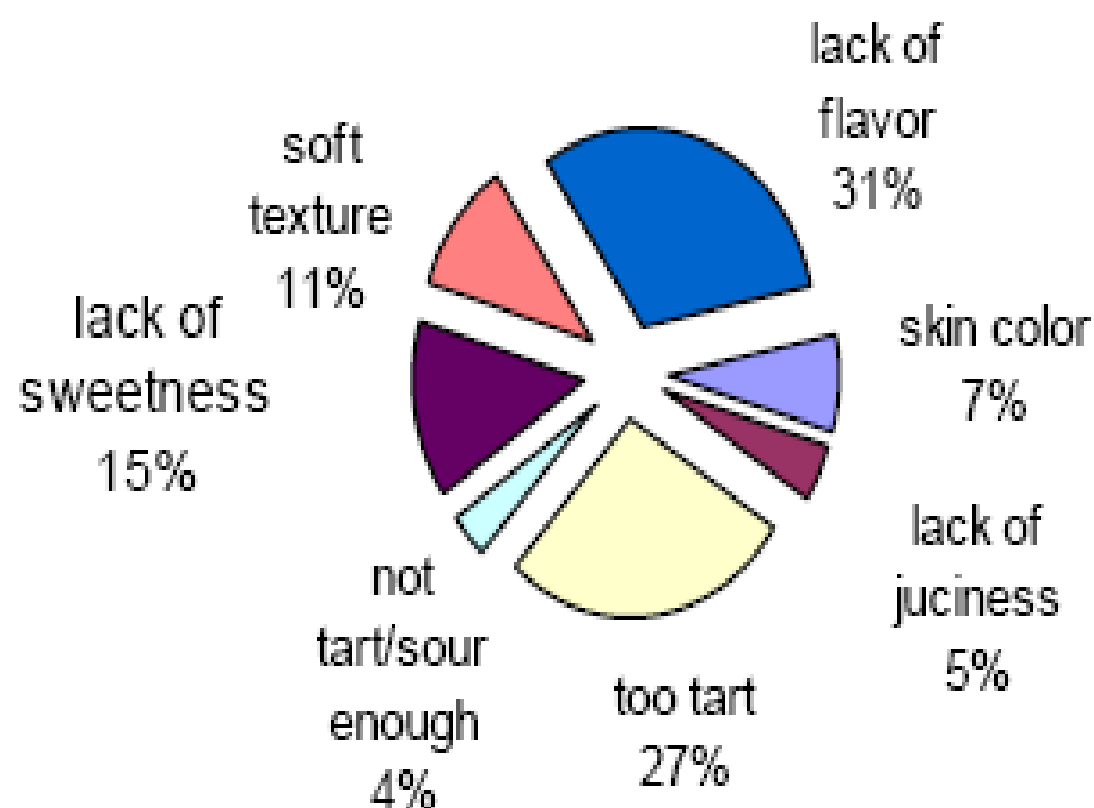
Data: Seavert and Long

Figure 9. Reason consumers preferred favorite cultivar in 2004.

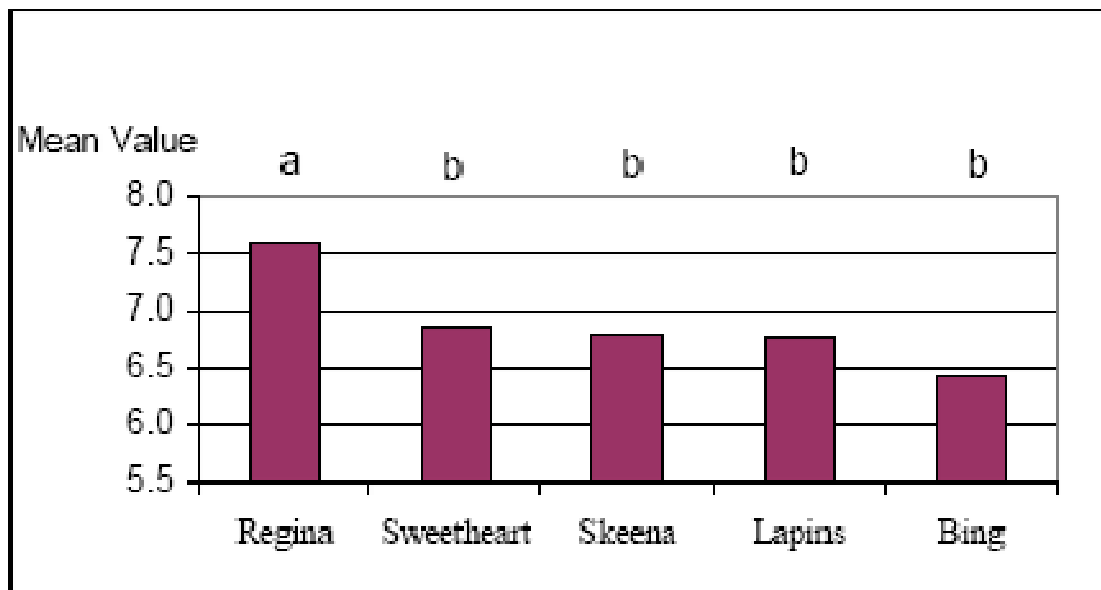
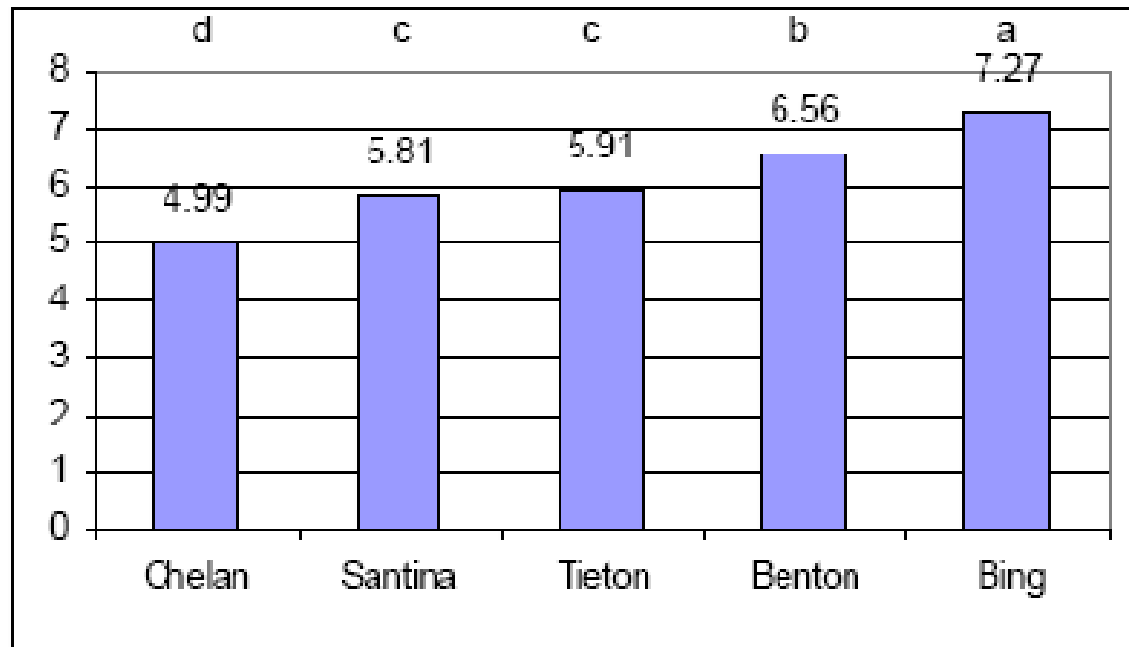


Data: Seavert and Long

Figure 10. Reason consumers disliked least favorite cultivar in 2004.

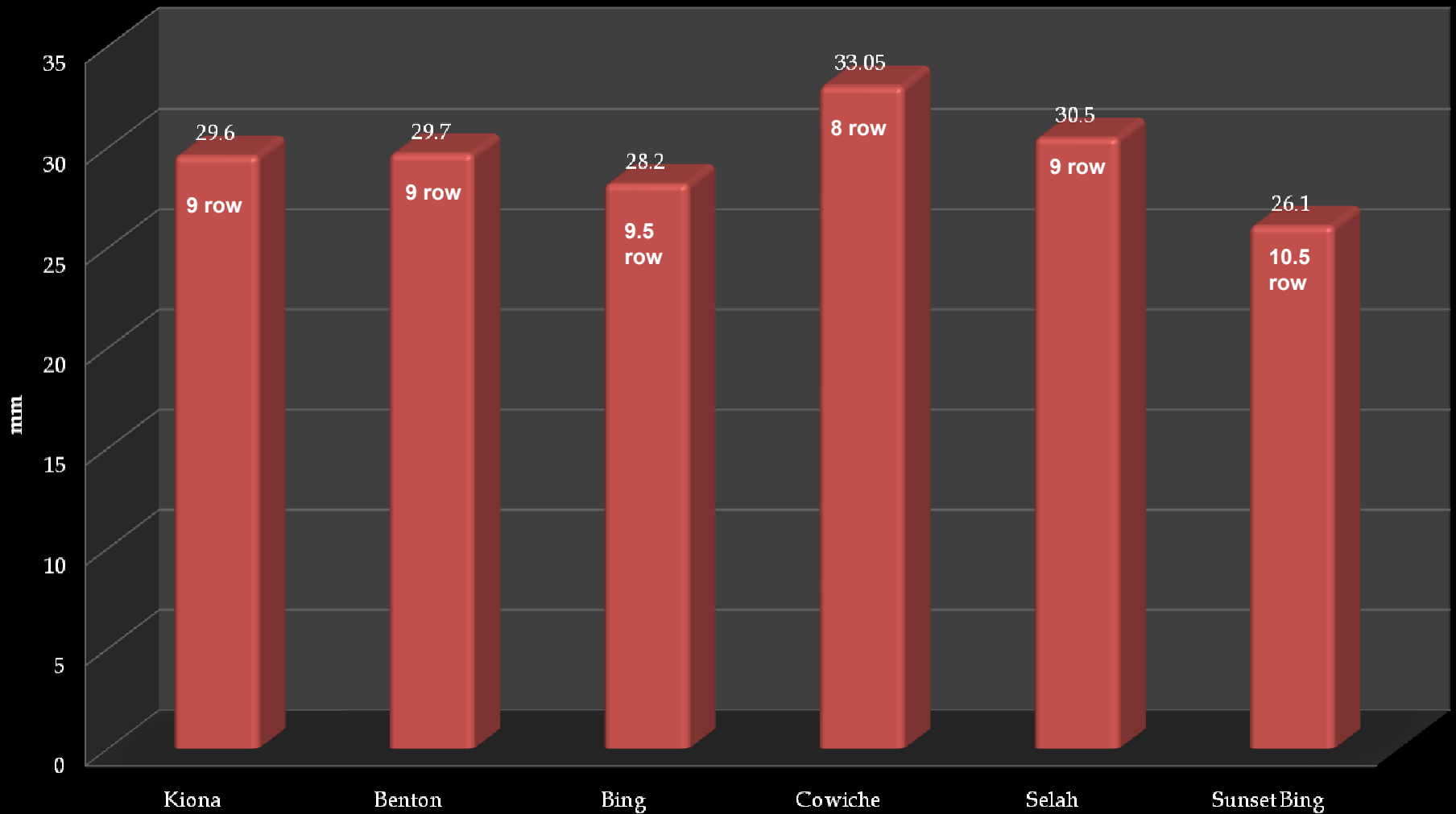


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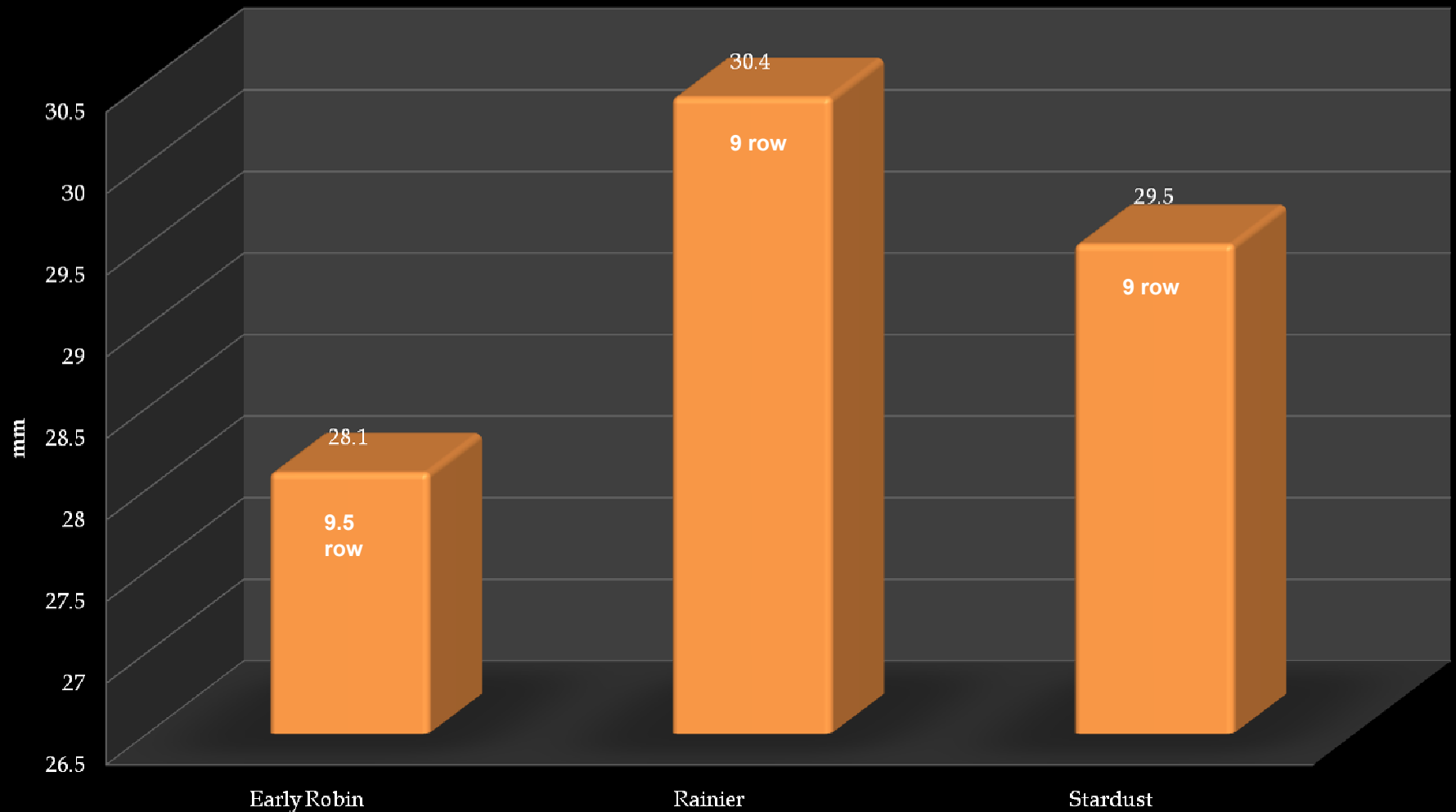


Data: Seavert and Long

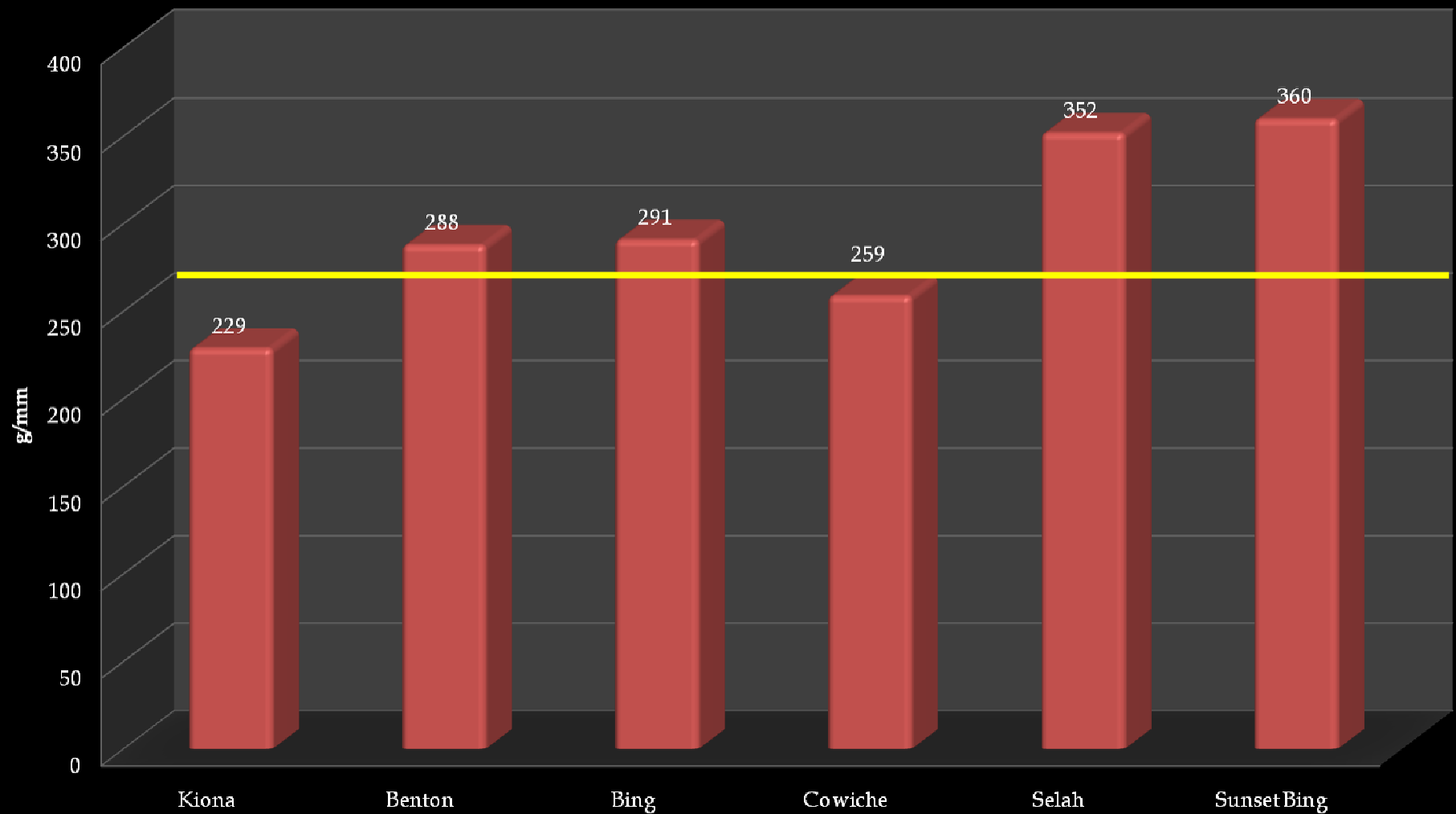
Dark Cherry Size



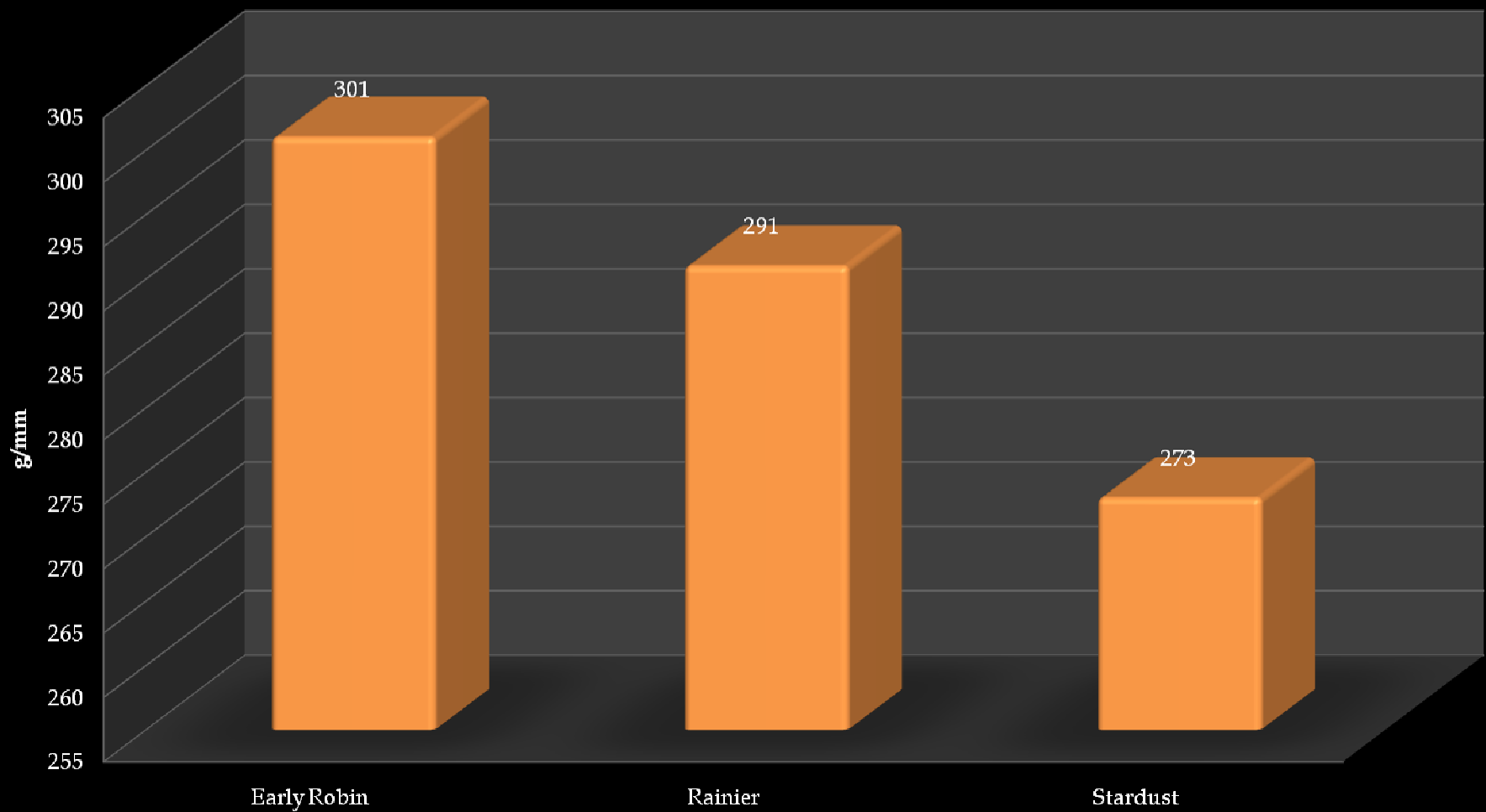
Blush Cherry Size



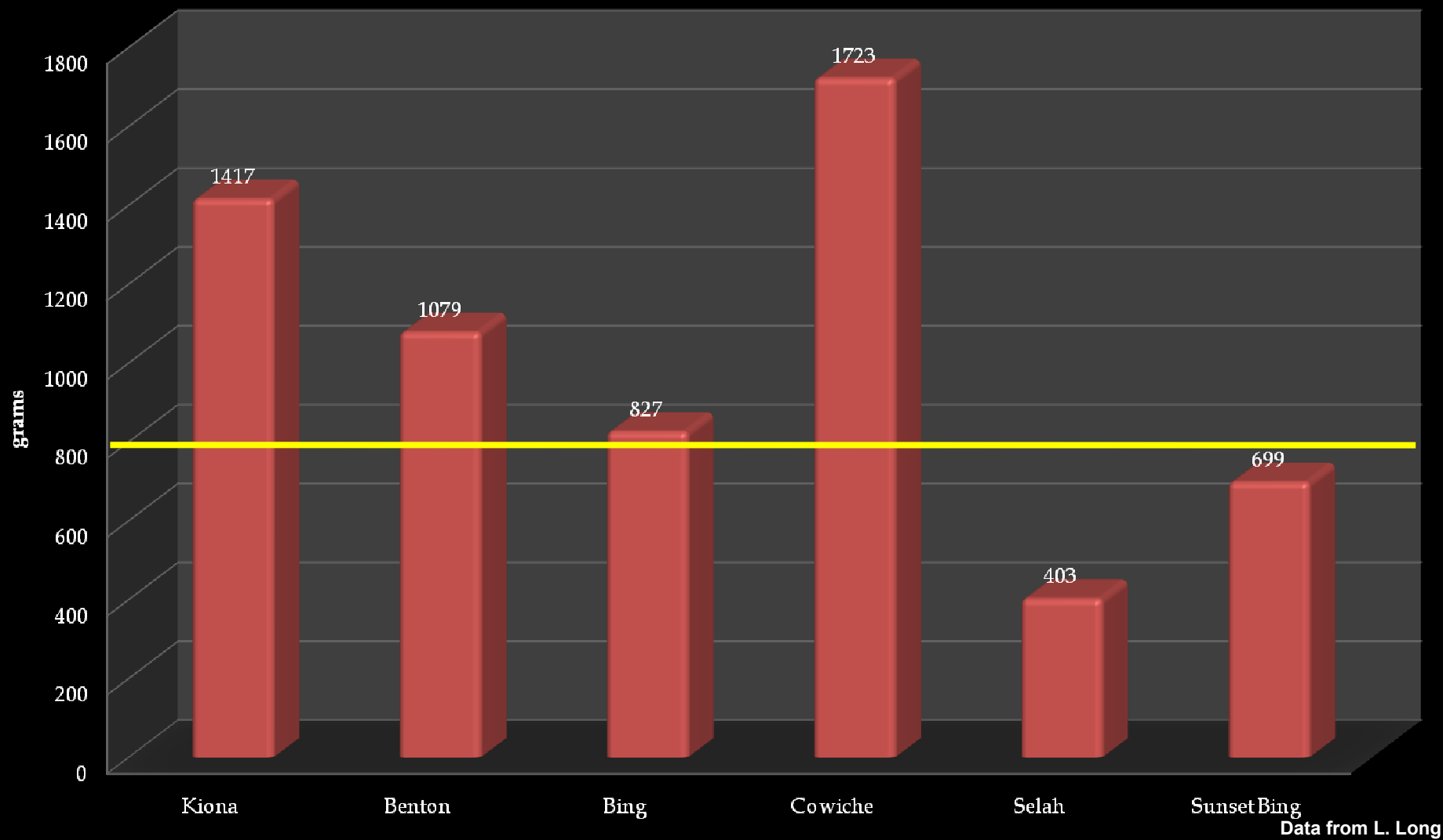
Dark Fruit Firmness



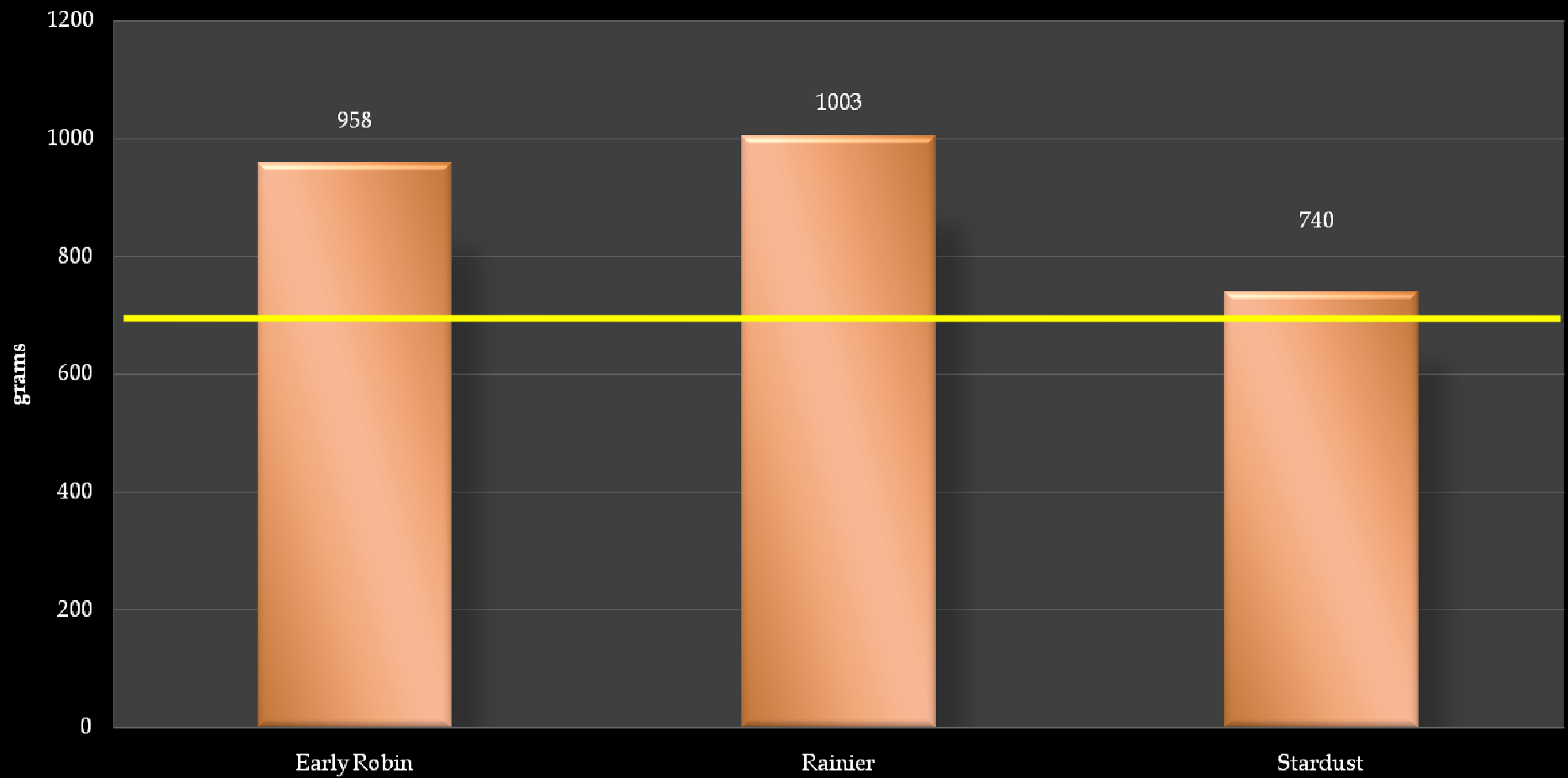
Blush Fruit Firmness



Stem Pull Force



Stem Pull Force



Variety	Days +/- Bing	Pollinizers
Kiona (3)	+ 8	Attika, Selah, Benton, Skeena
Benton	+ 5	Self-fertile
Bing	0	Van, BR, Rainier
Attika	+ 8	Selah, Skeena, Regina
Selah	+ 8	Self-fertile
Skeena	+ 5	Self-fertile
Regina	+ 11	Starks Gold, Sam, Schneiders
Sunset Bing	- 3	Sweetheart, Lapins, Chelan



Chelan

- General Impressions
 - Best early variety in PNW
 - Trusted by commercial buyers
 - Somewhat bland
- Color when ripe
 - Light mahogany to mahogany
- Suggested pollinizers
 - Blk. Rep., Index, Lapins, Sweetheart, Bing
- Suggested rootstocks
 - Mazzard
 - Gisela 6 or 12
 - Avoid Mahaleb



Timing	Size	Firmness	Cracking
(-)11-13	10½-9½	306 g/mm	Will crack
	Small	Good	but < Bing

Chelan



- Management of the fruit
 - Pollination/fruit set: Moderate
 - Mildew: Resistant (very?)
 - Sunburn: None
- Management of the tree: Chelan is an ugly tree!
 - Pruning:
 - Head every branch to eliminate clustering
 - Eliminate droopy branches
 - Keep vigor in the tree
 - Nutrition:
 - Tends to loose vigor. Pump it up!
 - Tree spacing: 10x16 on Mazzard



Tieton

- General Impressions
 - Beautiful
 - Very large
 - Very Low productivity
 - Easily doubles
 - Very bland
- Color when ripe:
 - Light mahogany to mahogany
- Suggested pollinizers
 - Bing, Rainier, Van, Lapins
- Suggested rootstocks
 - Gisela 6 or 12, Maxma 14
 - Avoid Mahaleb



Timing	Size	Firmness	Cracking *
-6 to -9	9½ - 8½ Big cherry	269 g/mm but can be very soft	Cracks easily

Tieton

- **Management of the fruit**
 - Pollination/fruit set: crops very light even on dwarfing rootstock.
 - Mildew: Susceptible
 - Sunburn: None
- **Management of the tree: Tieton is a beautiful tree with no fruit!**
 - Pruning:
 - Prune to set heavy crop.
 - Or cut it down and replace with something else!
 - Nutrition:
 - Increase nutrients that set fruit.
 - Tree spacing: 8x16 on dwarfing



Kiona (PC 8007-2)

- Released by WSU
- Approximate Tieton
- Obtains sugar early
- Good flavor light red to marbled color
- Firmness issue (283 g/mm at -11 days)
- 55% cracks in 2009
- Unique allele S_4S_9 :
 - Skeena



Harvest timing days +/-Bing	Size (mm)	Firm. (g/mm)	Stem Pull (g)	2009 Growth Cracks
-6 to -11 days	29.6	229	1417	55%

Kiona (PC 8007-2)



Benton (Columbia)

- Released by WSU
- Bing timing or earlier
- Some rain resistance
- Large and shiny
- Excellent flavor
- Blooms late (+6)
- Self-fertile (100%?)
 - We use Skeena pollenizers
- Moderate productivity



Timing days +/-Bing	Size (mm)	Firm. (g/mm)	Rain crack resist.
-0 to -4 days -2 average	9 row	288	Moderate- Better than Bing

Benton (Columbia)

- **Management of the fruit**
 - **Pollination/fruit set:**
 - **Moderate cropping (< Bing)**
 - **Probably best to choose a dwarfing rootstock.**
 - **Mildew: Unknown**
 - **Sunburn: Unknown**
- **Management of the tree: Benton branches are twisted.**
 - **Pruning: Still learning**
 - **Nutrition: Bing nutrition seems to work thus far.**
 - **Tree spacing:**
 - **10x16 on Mazzard**
 - **8x16 on Gi-6**
 - **Water: seems susceptible to wet feet. We lost $\frac{3}{4}$ acre out of 12 to wet feet.**



Cowiche (PC 7903-2)

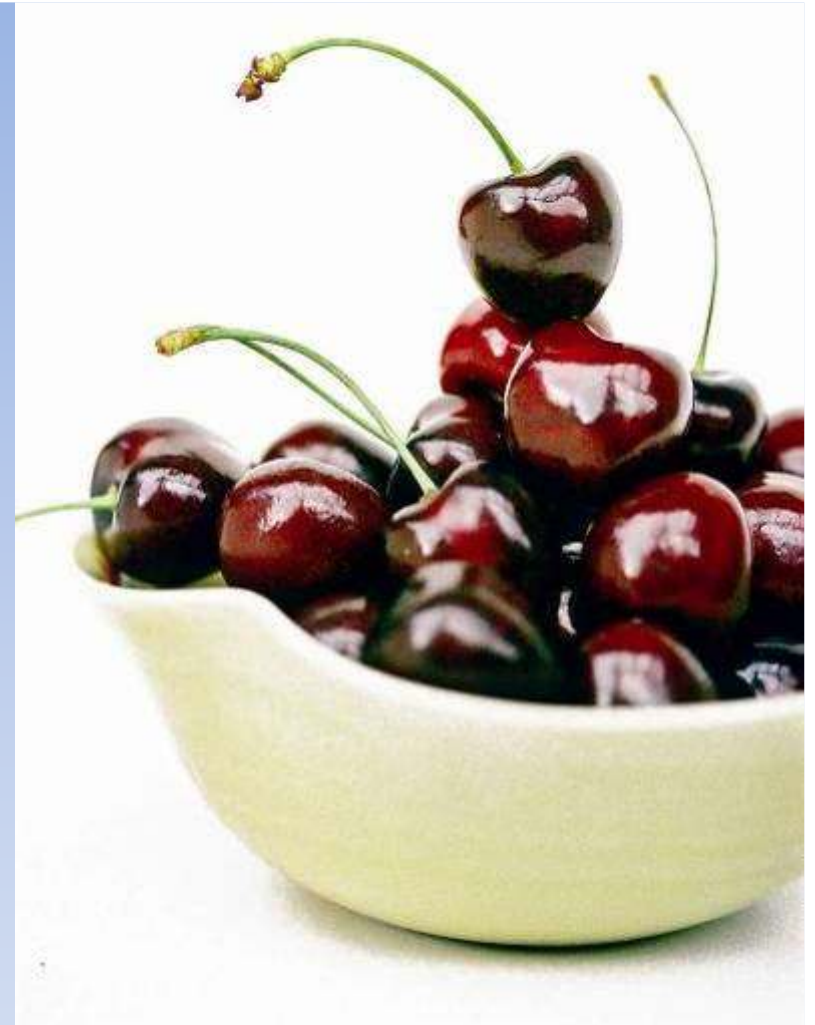
- Released by WSU
- Excellent flavor or bland- depends on who you're asking.
- Birds love this cherry
- Reports of pitting
- Unique allele S_5S_9 :
 - Bing, Van, Rainier



Harvest timing days +/-Bing	Size (mm)	Firm. (g/mm)	Rain crack resist.
+9 days	8 row Huge!	313 Good	Unknown

Attika

- General Impressions
 - Excellent flavor
 - Ships well
 - Rain tolerant
 - Frost sensitive
- Color when ripe
 - Mahogany
- Suggested pollinizers
 - Skeena, Benton, Sandra Rose, Regina
- Suggested rootstocks
 - Mazz, Gisela 6 or 12



Timing	Size	Firmness	Cracking
+ 6 to + 9	9½ - 9 r Large	290 g/mm Good	Resistant

Selah (Liberty Bell)

- Released by WSU
- Excellent flavor
- Flavor develops early
- Stems fall off
- Significant growth cracks
- Undeveloped embryos
- Self-fertile
- Moderate productivity on Mazzard



Harvest timing days +/-Bing	Size (mm)	Firm. (g/mm)	Rain cracking
+5 to +14 days +10	8 Row Huge!	352 Good	Cracks due to growth and likely very rain crack susceptible 33% growth in field 50% box after packing

Selah



Pruning Selah and Tieton at Omeg Orchards



Lapins



- General Impressions
 - 2nd most popular – 17%
 - Low pack outs
 - Pitting
 - Buyers and growers giving up on it
- Color when ripe
 - Light mahogany
- Suggested pollinizers
 - Self-fertile
- Suggested rootstocks
 - Mazzard



Timing	Size	Firmness	Rain Cracking
+10 to 15	9½ - 9 r Large	277 g/mm Good	Resistant

Lapins

- Management of the fruit
 - Pollination/fruit set: Sets heavy
 - Mildew: Very susceptible
 - Sunburn: None
- Management of the tree: Lapins is very vigorous!
 - Pruning:
 - Eliminate weak branches with a heavy fruit set.
 - Head back braches hanging below 60 degrees to prevent cluster formation.
 - Eliminate fruiting part of branch that has a fruiting cluster to prevent square fruit.
 - Eliminate branches that are grater than 50% of leader size.
 - Only head new growth when needed to form new fruiting branch or when you have a flat limb to prevent fruit clusters in the future.
 - Nutrition:
 - Tends to have too much vigor. Reduce N applications.
 - Tree spacing: 10x16 on Mazzard



Skeena

- General Impressions
 - High quality fruit
 - Desired in marketplace
 - Fewer problems than Lapins so replacing Lapins
 - Susceptible to rain
 - Stem retention may be problem some years
 - Self-fertile
- Color when ripe
 - Light mahogany to mahogany
- Suggested Pollinizers
 - Self-fertile
- Suggested rootstocks
 - Mazzard or Dwarfing



Timing	Size	Firmness	Cracking
+ 12 to 15	9½ - 8½ r Large	322 g/mm Very Firm	Susceptible > Bing

Skeena

Management of the fruit

- Pollination/fruit set: Moderate to heavy crops.
- Mildew: Very susceptible
- Sunburn: Very susceptible



Management of the tree:

- Pruning:
 - Maintain long branches on top part of tree to provide some shade to bottom part of the tree.
 - Grow suckers on top part of fruiting branches to provide shade.
 - Head tip of every branch to maintain stiff fruiting branch, eliminate droopy branches that have fruit exposed to direct sunlight.
 - Make stub cuts for limb renewal.
 - Remove 1/3 of new growth when needed to form new branch.
- Nutrition:
 - Tends to need more N than Bing.
 - Keep vigorous to avoid sunburn.
- Tree spacing:
 - 10x16 on Mazzard
 - 8x16 on Dwarfing

Regina

- General Impressions
 - Highest returns
 - “Never any adjustments”
 - Good resistance to rain
 - Mazzard: Low productivity
 - Gi 6: 5th leaf – 8.2 t/ac
 - Multiple pollinizers
- Color when ripe
 - Mahogany to dark Mahogany
- Suggested Pollinizers
 - Sam, Schneiders, Starks Gold, Hedelfingen, Attika
- Suggested Rootstocks
 - Gisela 6 or 12, Krymsk



Timing	Size	Firm.	Cracking
+ 14-17	9½ - 9 r Large	314 g/mm Firm	Very Resistant

Regina

Management of the fruit

- Pollination/fruit set: Light cropper. Add more bees.
- Mildew: Resistant (very?)
- Sunburn: None

Management of the tree: Regina is a great central leader tree!

- Pruning:
 1. Make renewal cuts to maintain fruit on young wood.
 2. Allow fruit to grow on droopy branches. Regina is about the only variety that sizes fruit on droopy branches.
 3. Maintain top part of the tree shorter than the bottom for light interception and even ripening.
 4. On new growth remove 1/3 of every branch to maintain good fruit to leaf ratio and vigor.
- Nutrition: Watch N levels. Tends to go juvenile if too much N is applied. Apply bloom nutrients for crop set.
- Tree spacing: 8x16 on dwarfing

Sweetheart

- General Impressions
 - Best of the very late varieties
 - Problem with pitting but so far not affecting sales
- Self fertile
- Color when ripe
 - Light mahogany
- Suggested Rootstocks
 - Mazzard



Timing	Size	Firmness	Cracking
+20 to 22	10 – 9 r Small	348 g/mm Firm	Resistant

Sweetheart

Management of the fruit

- Pollination/fruit set: Heavy cropper.
- Mildew: Very Susceptible
- Sunburn: None

Management of the tree

Pruning:

- **Eliminate weak branches with out new growth.**
- **Must maintain adequate leaf to fruit ratio for fruit size.**
- **Head back 1/3 of new growth to maintain vigor and prevent clustering**
- **Eliminate weak lateral branches that have a heavy fruit bud set because they grow small cherries.**
- **Make renewal cuts throughout the tree to maintain fruit buds on 2 and 3 year old wood.**
- **Fruit on long hanging branches will not grow.**
- Nutrition: keep N high to maintain vigor.
- Tree spacing: 8x16 on dwarfing

Sunset Bing

- Sport of Bing
- Sweetheart timing
- Significant growth cracks in 2009
- Doesn't taste great even though it has high brix
- Future uncertain



Harvest timing days +/-Bing	Size (mm)	Firm. (g/mm)	Cracking
+18 to 23	10 row	360 Good	Significant growth cracks

Early Robin

- Discovered in a Rainier block in Washington
- Allows spread of blush harvest
- Very sweet – little acid
- Good rain crack resistance
- Good firmness and size
- Self-infertile S_1S_3 ?



Harvest timing days +/-Rainier	Bloom timing +/- Bing	Size (mm)	Firm. (g/mm)	Cracking
-13 to -17	+1	28.1 Good	301 Good	Some resistance

Early Robin

- Management of the fruit
 - Pollination/fruit set: Moderate crops on dwarfing roots
 - Mildew: ?
 - Sunburn: None
- Management of the tree: grows a nice central leader tree
Pruning:
 1. Maintain branches in the top part of the tree shorter than the bottom part to allow good light interception for coloring of fruit.
 2. Maintain a branch renewal program every year to grow fruit on young wood.
 3. Eliminate branches greater than 50% in diameter off main leader to prevent shading and to maintain tree structure.
 4. Expose fruit to sun light for fruit coloring.
 - Nutrition:
 - Similar to Bing
 - Tree spacing: 8x16 on Gi 12



Stardust

- Released from Summerland program
- Self-fertile
- Good but not excellent flavor
- Doesn't color well
- Potential to extend blush season
- Rarely grown in US



Harvest timing days +/- Rainier	Bloom timing +/- Bing	Size (mm)	Firm. (g/mm)	Cracking
+8 to +12	+2 to +8	9 Row Good	273 OK	???

Omeg Orchards



SINCE 1908

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Winners:

- Chelan
- Early Robin ★
- Bing ★
- Rainier
- Skeena ★
- Regina ★
- Sweetheart

Maybe's:

- Benton
- Attika
- Kiona
- Cowiche
- Stardust

Losers:

- Tieton
- Lapins
- Selah
- Sunset Bing

Winners for Fruit Stands:

- Chelan
- Early Robin
- Bing
- Rainier
- Skeena
- Regina
- Sweetheart
- Tieton
- Lapins
- Benton
- Attika

Maybe's:

- Kiona
- Cowiche
- Stardust

Losers:

- Selah
- Sunset Bing

Thank you!

- To learn more goto:
 - Omegorchards.com
 - Goodfruit.com
 - Google:
 - Wasco County Extension
 - Lynn Long
 - Matt Whiting

