



The Washington State University Onion Cultivar Trial: Onion Cultivar Performance 2008-2012

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WSU Onion Cultivar Trial



- Initiated by Gary Pelter in 1984.
- 45-60 onion cultivars and experimental lines from 8-12 seed companies each year.
- Randomized complete block, 3 replicates.
- Hosted by a different grower-cooperator each year.
- Field Day end of August
- Harvest
 - Yield, Bulb Size Profile, Defects
- Storage Evaluations
 - Shape, Firmness, Scale Retention, Single Centers, Various Storage Rots



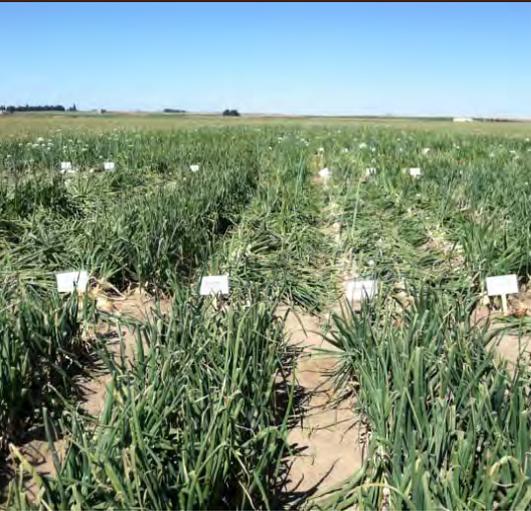


Some Trial Highlights: 1984-2012



- In 29 years, 259 cultivars and 253 experimental lines have been evaluated.
- Trial Average for Total Marketable Yield:
 - 1984-1992 – 25.3 T/A
 - 1993-2001 – 33.2 T/A
 - 2002-2012 – 43.8 T/A
- Trial Average for % Single-Centers
 - 1984-1992 – 28%
 - 1993-2001 – 40%
 - 2002-2011 – 57%
- Defects (double or split bulbs, split skins, off-color, rotted bulbs) usually only 1-5% of the crop each year.

TRIAL LOCATIONS: 2008 to 2012



- **2008** – CARR FARMS
center pivot irrigation, 34” beds
- **2009** – GRIGG FARMS
center pivot irrigation, 34” beds
- **2010** – WEYNS FARMS
drip irrigation, 68” beds
- **2011** – SKONE & CONNORS PRODUCE
drip irrigation, 68” beds
- **2012** – L & L AG PRODUCTION
drip irrigation, 80” beds

5-YEAR TRIAL ENTRIES (2008 to 2012)



1. **Arcero** – Nunhems, USA
2. **Calibra** – Bejo Seeds
3. **Crockett** – Bejo Seeds
4. **Delgado** – Bejo Seeds
5. **Granero** – Nunhems, USA
6. **Gunnison** – Bejo Seeds
7. **Joaquin** – Nunhems, USA
8. **Legend** – Bejo Seeds
9. **Milestone** – American Takii
10. **Montero** – Nunhems, USA
11. **Ranchero** – Nunhems, USA
12. **Rainier (W)** – Seminis Vegetable Seeds
13. **Redwing (R)** – Bejo Seeds
14. **Ruby Ring (R)** – American Takii
15. **Talon** – Bejo Seeds
16. **Tamara** – Bejo Seeds
17. **Vaquero** – Nunhems, USA

4-YEAR TRIAL ENTRIES



1. **Bello Blanco (W)** – Sakata Seeds (2009-2012)
2. **Centerstone** – American Takii (2008, 2010-2012)
3. **NN-65** – Nippon Norin (2009-2012)
4. **Ovation** – Sakata Seed (2009-2012)
5. **Sedona** – Bejo Seeds (2008-2011)
6. **Spanish Medallion** – Sakata Seed (2009-2012)
7. **Swale** – Seminis Vegetable Seeds (2009-2012)
8. **White Cloud (W)** – Crookham Company (2008-2011)

3-YEAR TRIAL ENTRIES



1. **Abilene** – Seminis Vegetable Seeds (2008-2010)
2. **Advantage** – Crookham Company (2010-2012)
3. **Affirmed** – Seminis Vegetable Seeds (2008, 2011-2012)
4. **Barbaro** – Seminis Vegetable Seeds (2010-2012)
5. **Belmar** – Seminis Vegetable Seeds (2010-2012)
6. **Elbrus** – Seminis Vegetable Seeds (2010-2012)
7. **Esteem** – Crookham Company (2010-2012)
8. **Marengo (R)** – Nunhems, USA (2010-2012)
9. **Marquette** – Seminis Vegetable Seeds (2008-2010)
10. **Orizaba (W)** – Seminis Vegetable Seeds (2008, 2010-2011)
11. **Pulsar** – Nunhems, USA (2008-2010)
12. **Salsa (R)** – Nunhems, USA (2008-2010)
13. **Sabroso** – Nunhems, USA (2008-2010)

YIELD



G. O. Peltier, 2004

TOTAL USABLE YIELD: Trial Means 2008-2012

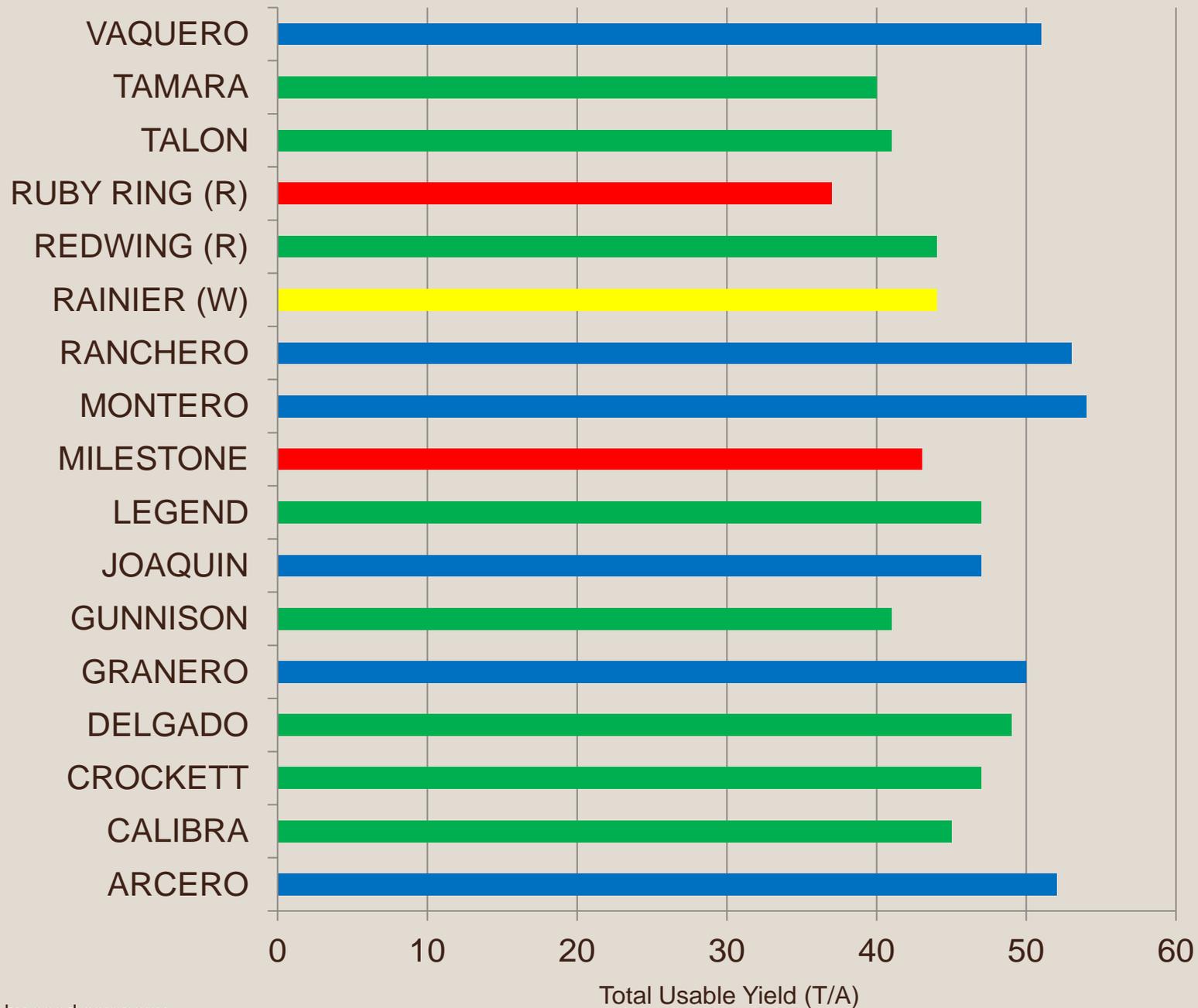


TOTAL USABLE YIELD – TOP TEN

- **MONTERO** 54.2 T/A 5-YR AVERAGE
- **RANCHERO** 52.6 T/A 5-YR AVERAGE
- **ARCERO** 52.4 T/A 5-YR AVERAGE
- **VAQUERO** 50.8 T/A 5-YR AVERAGE
- **GRANERO** 49.8 T/A 5-YR AVERAGE
- **DELGADO** 49.1 T/A 5-YR AVERAGE

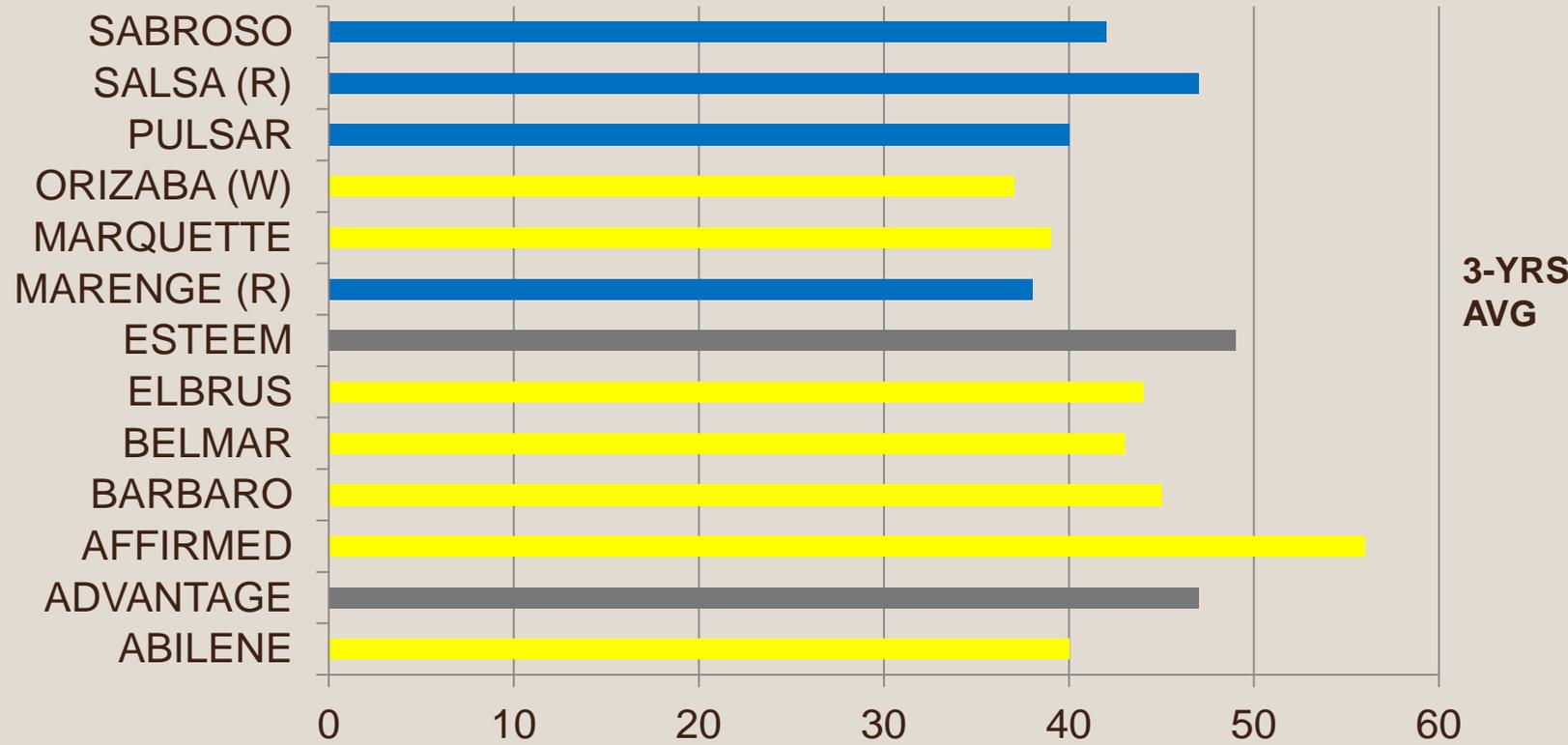
- **OVATION** 57.6 T/A 4-YR AVERAGE
- **SPANISH MEDALLION** 53.2 T/A 4-YR AVERAGE
- **WHITE CLOUD (W)** 46.0 T/A 4-YR AVERAGE

- ***AFFIRMED** 55.8 T/A 3-YR AVERAGE
- **ESTEEM** 49.0 T/A 3-YR AVERAGE
- **SALSA (R)** 47.1 T/A 3-YR AVERAGE



Color-coded by seed company.

Total Usable Yield (T/A)



Color-coded by seed company.

Total Usable Yield (T/A)

SIZE DISTRIBUTION

COLOSSAL (>4")

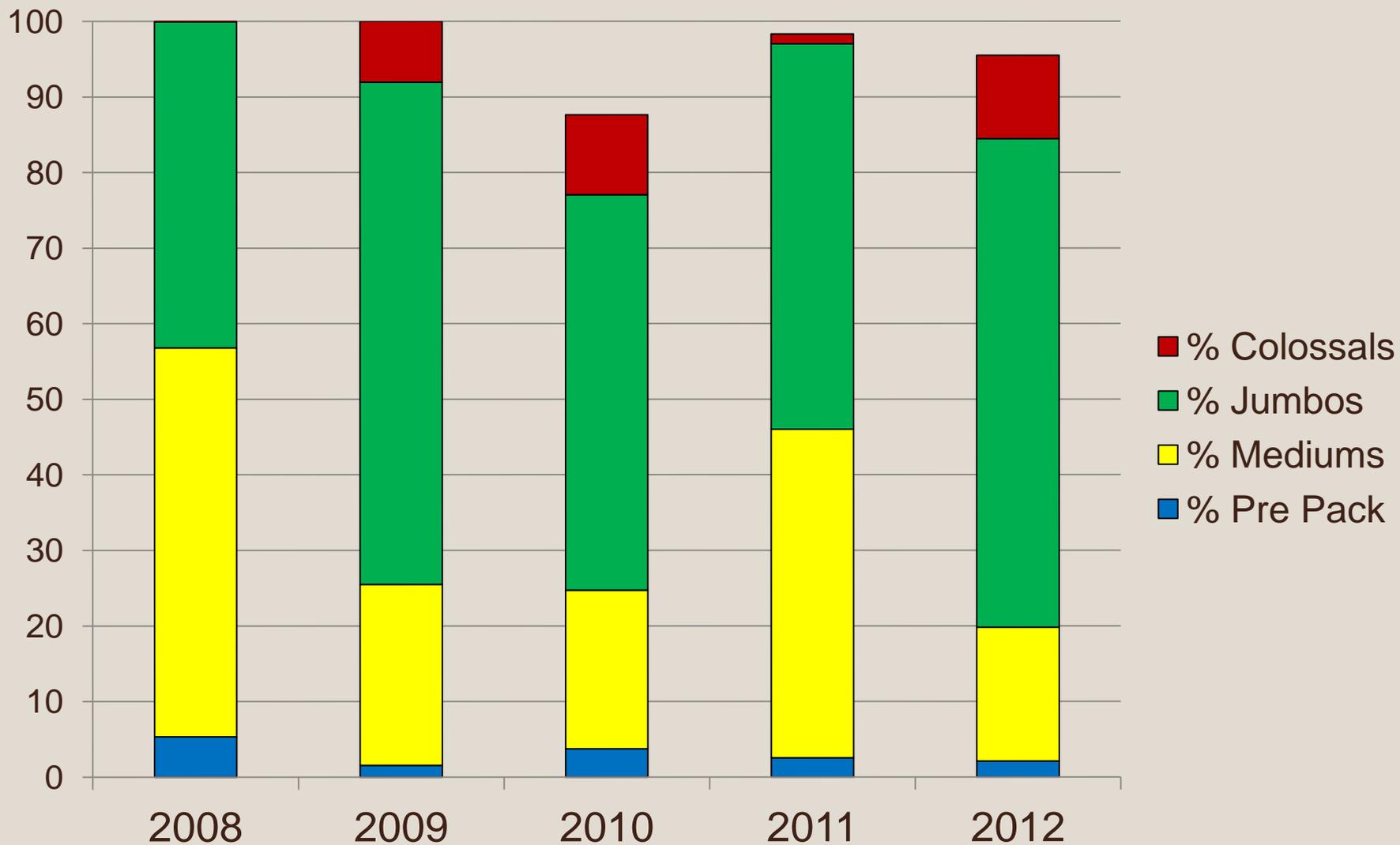
JUMBO (3"- 4")

MEDIUM (2.25" – 3")

PRE-PACK (<2.25")



ONION SIZE DISTRIBUTION: Trial Means 2008-2012



% COLOSSAL BULBS – TOP TWELVE

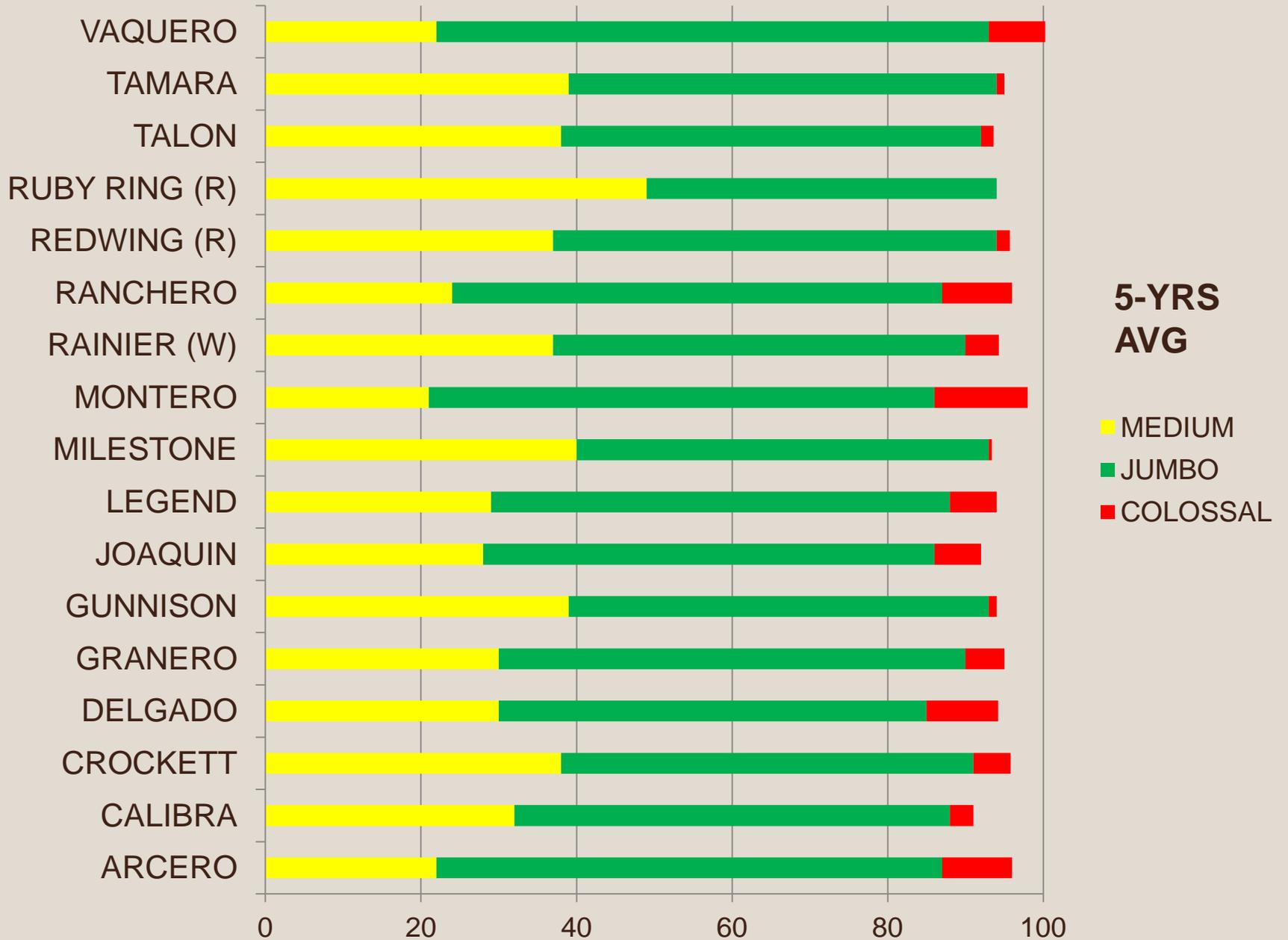
• MONTERO	11.6%	5-YR AVERAGE
• VAQUERO	10.6%	5-YR AVERAGE
• DELGADO	9.2%	5-YR AVERAGE
• RANCHERO	9.0%	5-YR AVERAGE
• *OVATION	21.8%	4-YR AVERAGE
• *SPANISH MEDALLION	24.2%	4-YR AVERAGE
• SWALE	9.8%	4-YR AVERAGE
• WHITE CLOUD (W)	9.4%	4-YR AVERAGE
• *BARBARO	16.4%	3-YR AVERAGE
• BELLO BLANCO (W)	12.9%	3-YR AVERAGE
• ADVANTAGE	12.7%	3-YR AVERAGE
• AFFIRMED	12.0%	3-YR AVERAGE

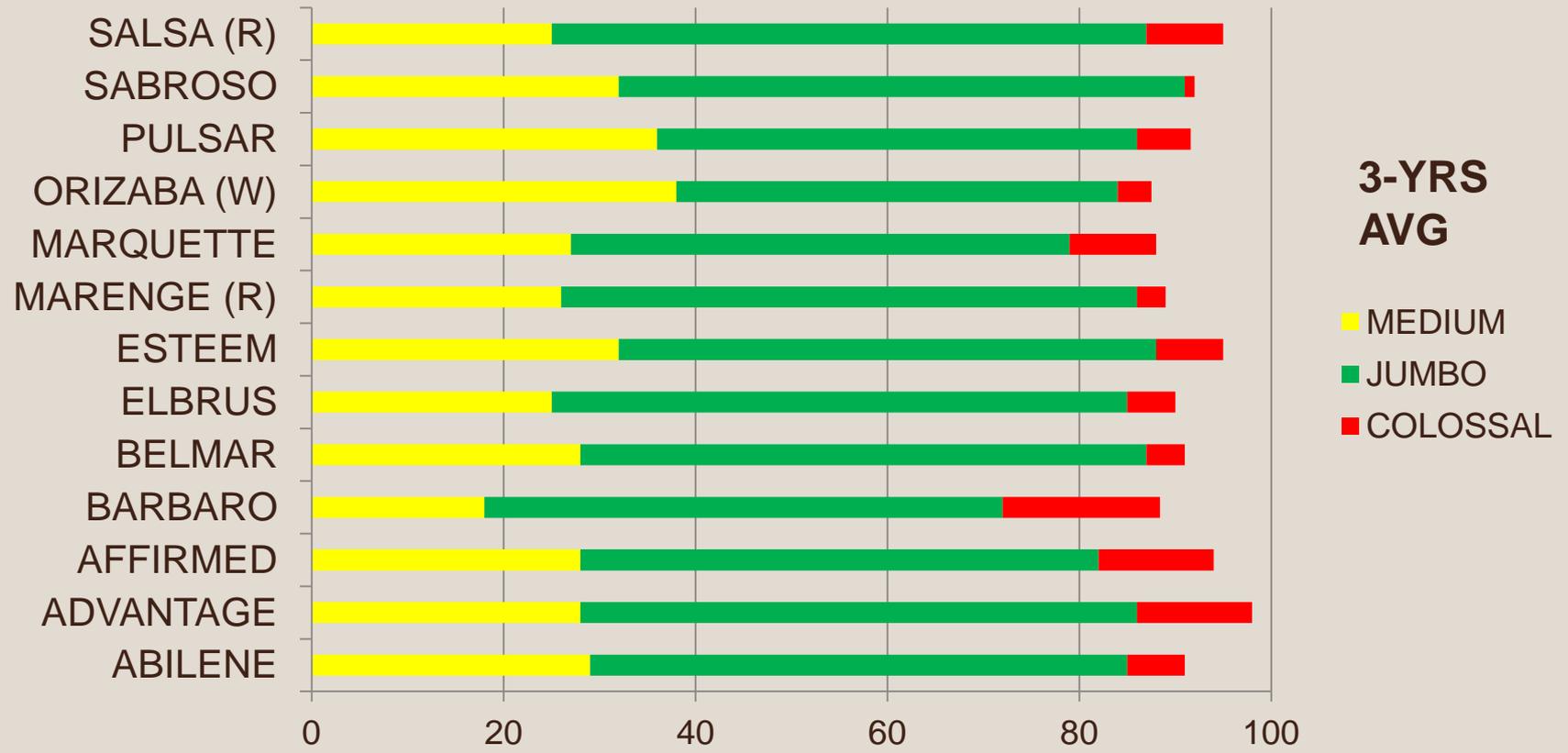
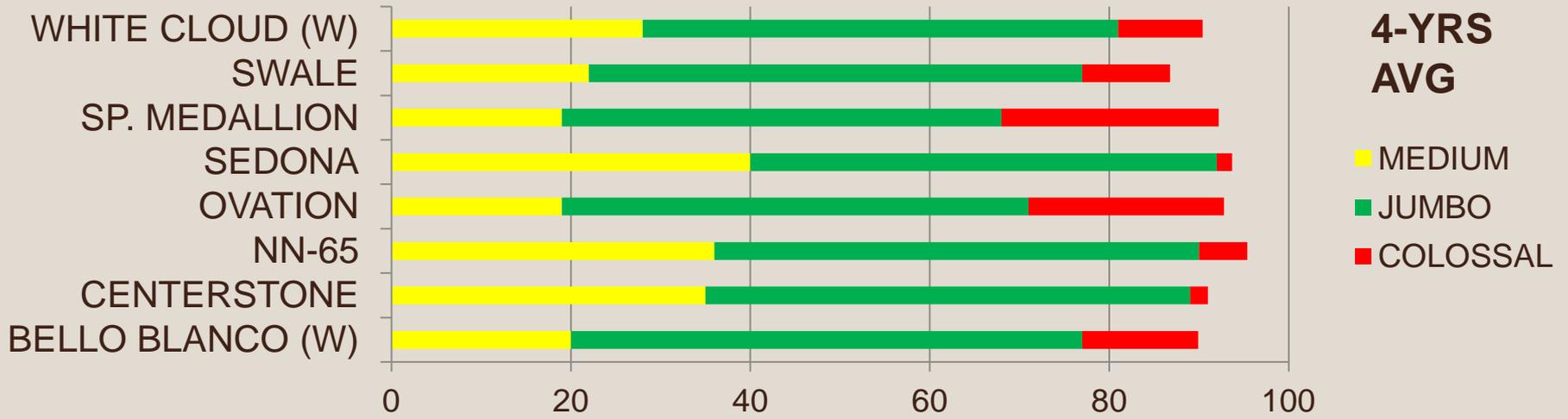
% JUMBO BULBS – TOP TWELVE

• MONTERO	65.3%	5-YR AVERAGE
• ARCERO	65.0%	5-YR AVERAGE
• RANCHERO	63.0%	5-YR AVERAGE
• VAQUERO	60.6%	5-YR AVERAGE
• GRANERO	60.1%	5-YR AVERAGE
• LEGEND	58.7%	5-YR AVERAGE
• JOAQUIN	57.9%	5-YR AVERAGE
• SALSA (R)	61.6%	3-YR AVERAGE
• ELBRUS	59.9%	3-YR AVERAGE
• BELMAR	59.3%	3-YR AVERAGE
• SABROSO	58.5%	3-YR AVERAGE
• ADVANTAGE	58.3%	3-YR AVERAGE

% MEDIUM BULBS – TOP TWELVE

• RUBY RING (R)	48.5%	5-YR AVERAGE
• MILESTONE	40.2%	5-YR AVERAGE
• TAMARA	39.1%	5-YR AVERAGE
• GUNNISON	39.1%	5-YR AVERAGE
• CROCKETT	38.3%	5-YR AVERAGE
• TALON	37.5%	5-YR AVERAGE
• REDWING (R)	36.8%	5-YR AVERAGE
• RAINIER (W)	36.6%	5-YR AVERAGE
• SEDONA	40.4%	4-YR AVERAGE
• NN-65	36.1%	4-YR AVERAGE
• ORIZABA (W)	38.4%	3-YR AVERAGE
• PULSAR	36.4%	3-YR AVERAGE







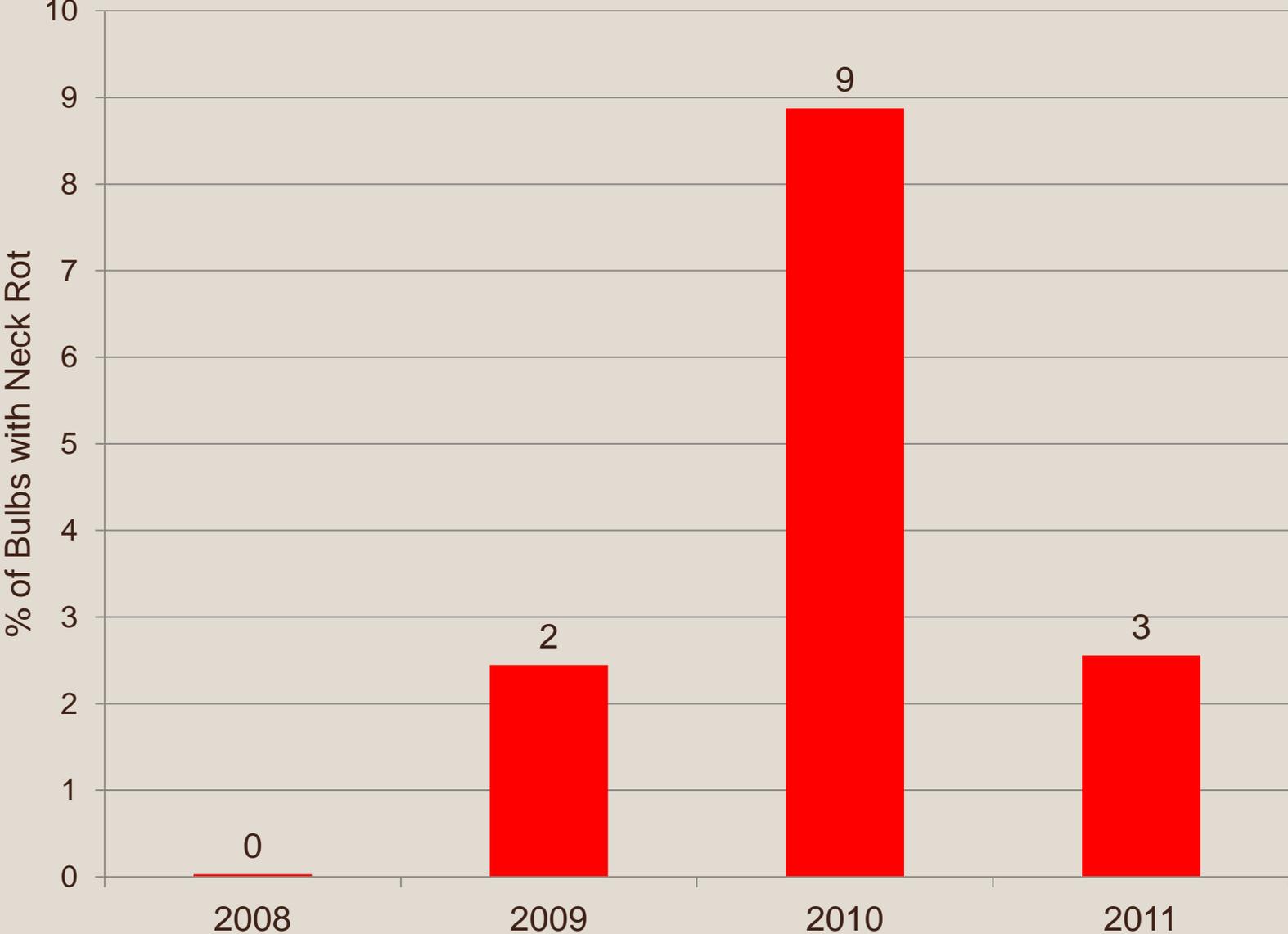
STORAGE EVALUATIONS

NECK ROT

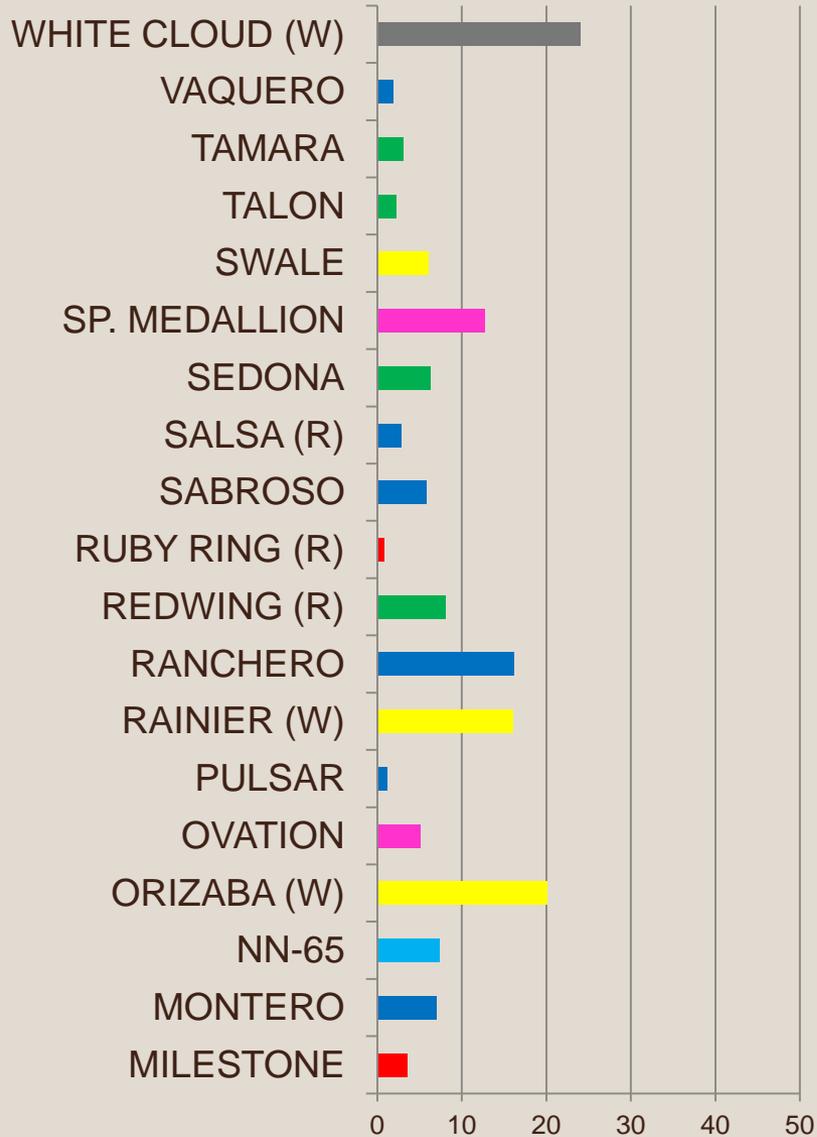
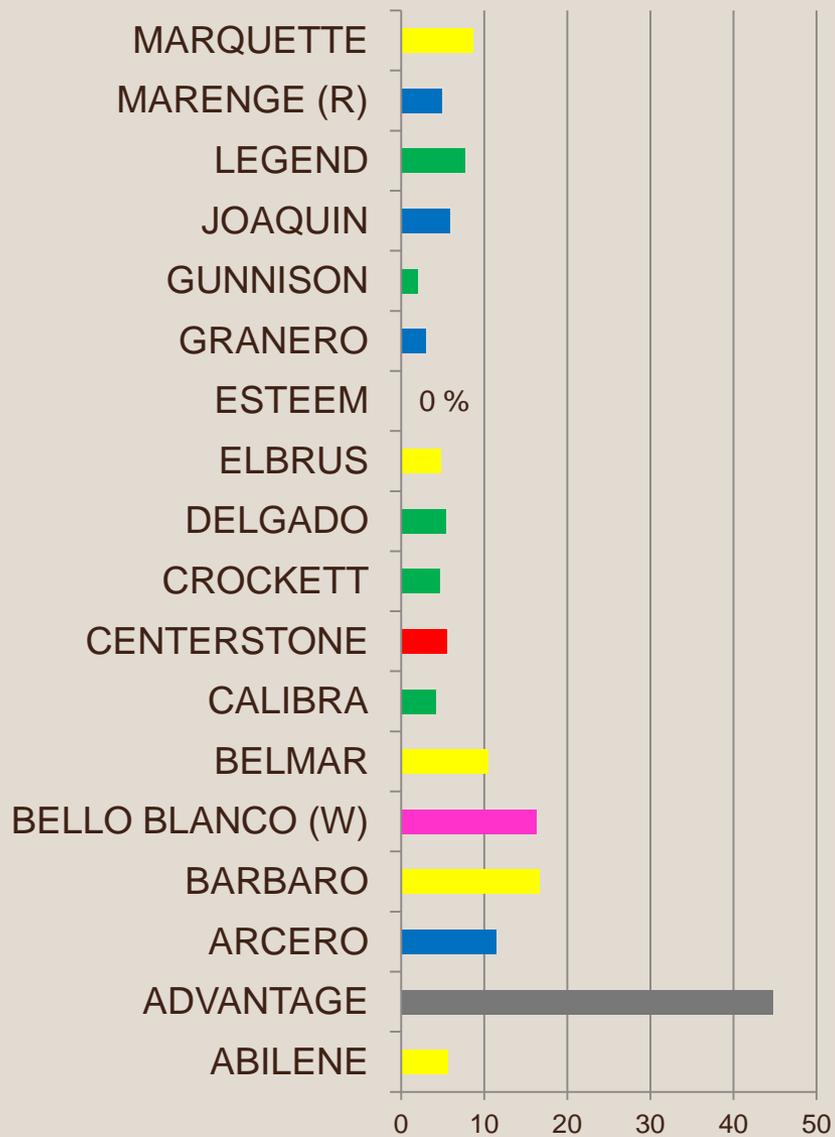


Photos by Lindsey du Toit

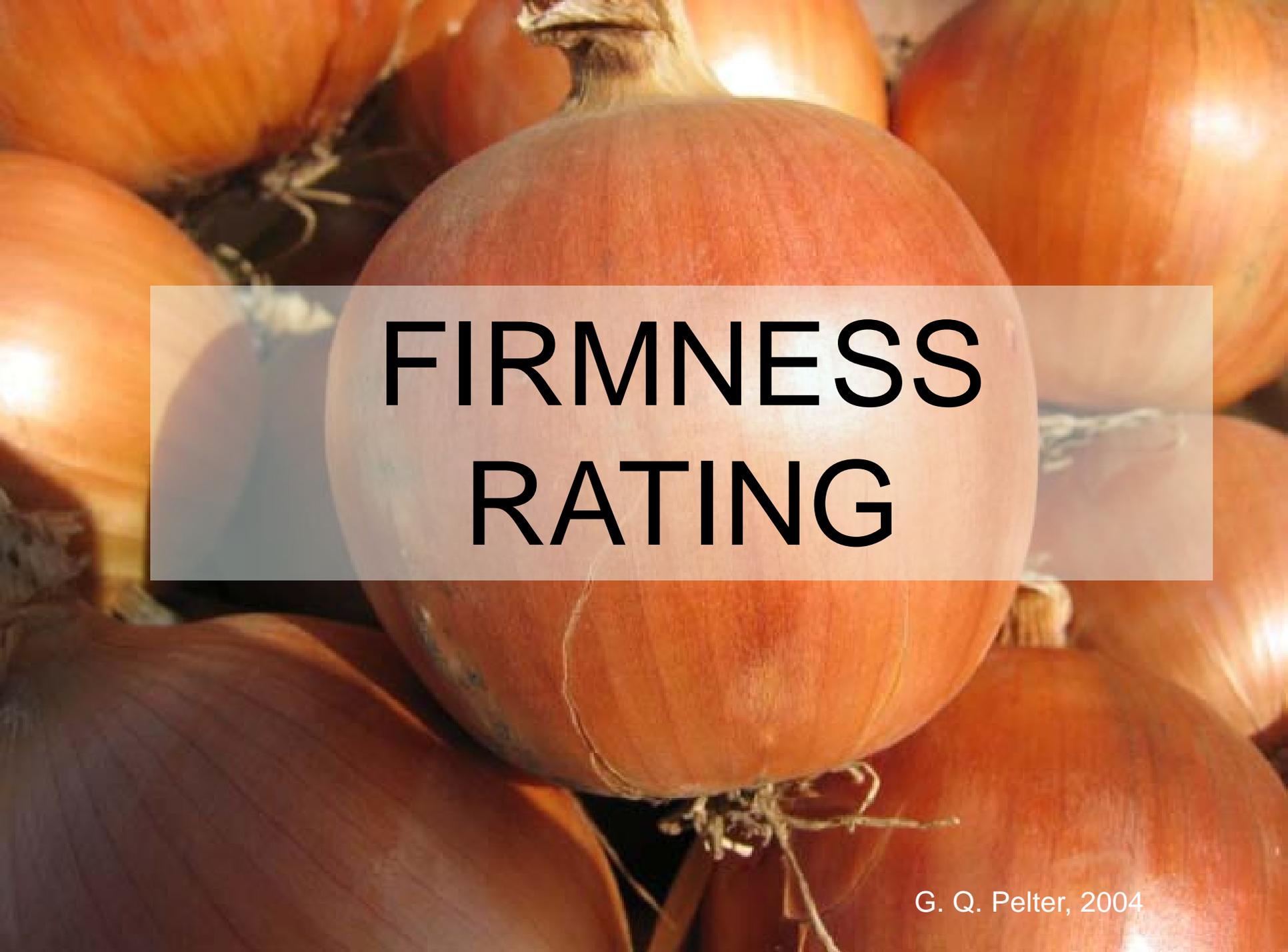
% NECK ROT: 2008-2011



% Neck Rot – 2010 Storage Evaluation



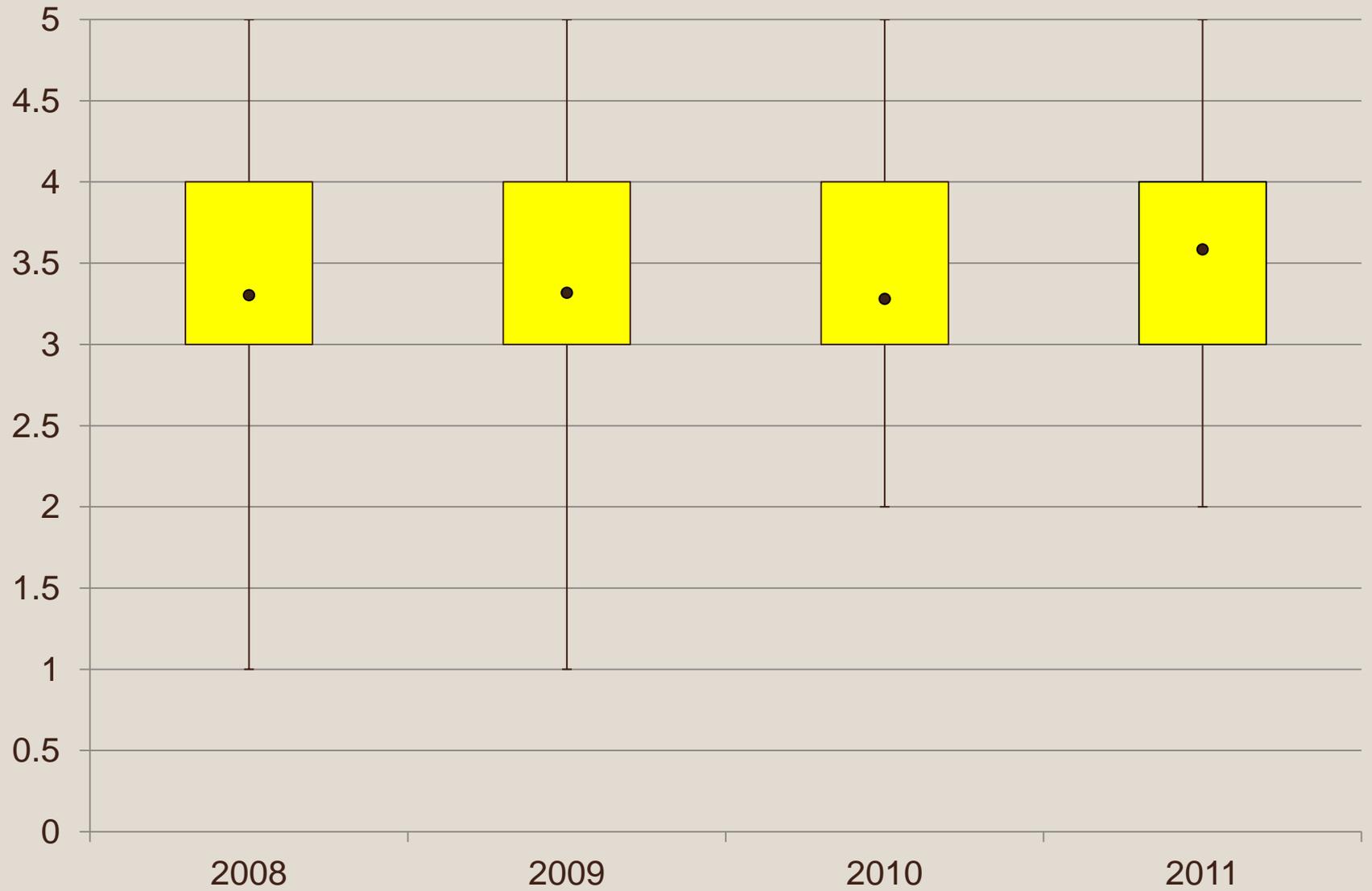
Color-coded by seed company.



FIRMNESS RATING

G. Q. Pelter, 2004

FIRMNESS RATING: 2008-2011

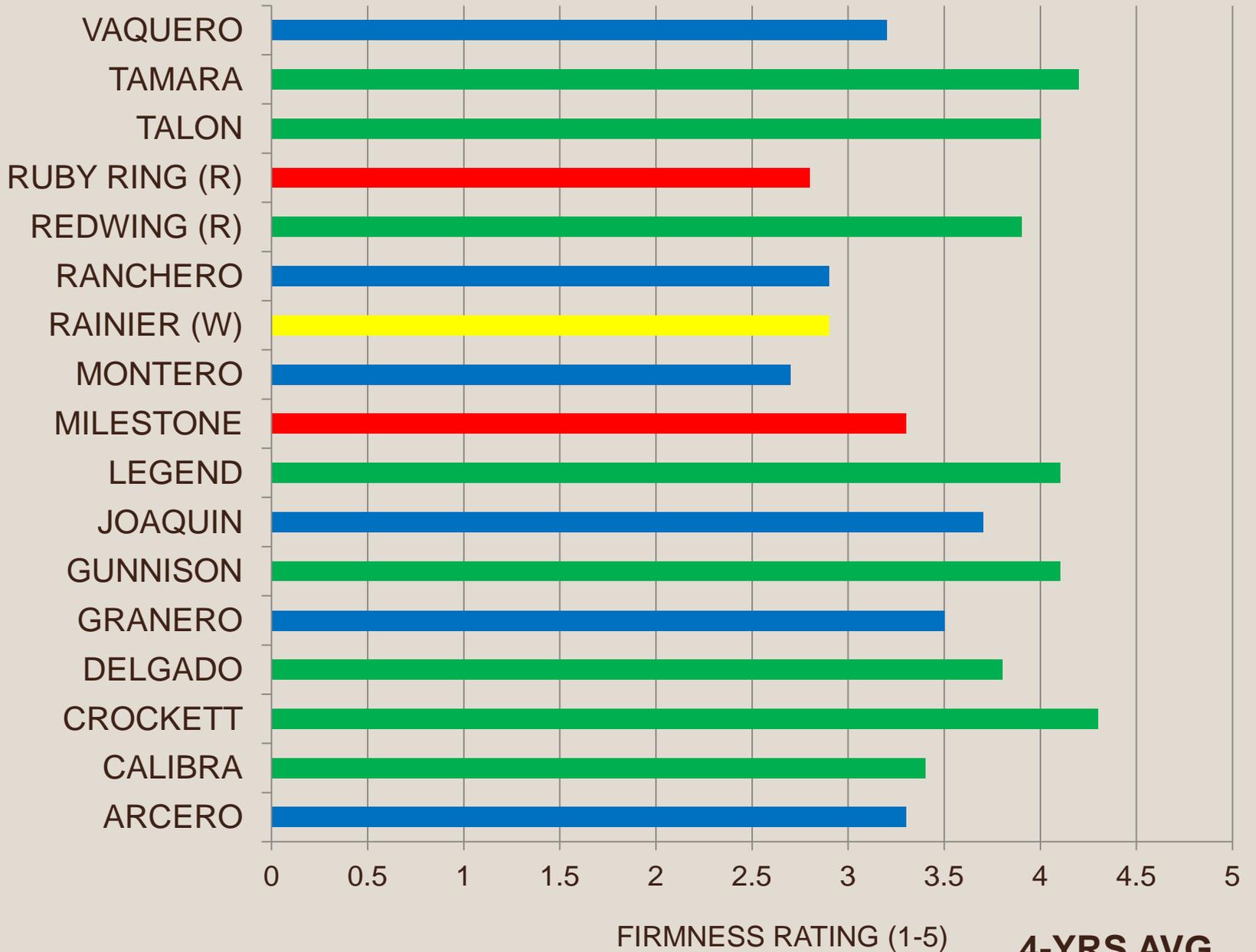


BEST FIRMNESS RATINGS

- **CROCKETT** 4.3 4-YR AVERAGE
- **TAMARA** 4.2 4-YR AVERAGE
- **GUNNISON** 4.1 4-YR AVERAGE
- **LEGEND** 4.1 4-YR AVERAGE
- **TALON** 4.0 4-YR AVERAGE

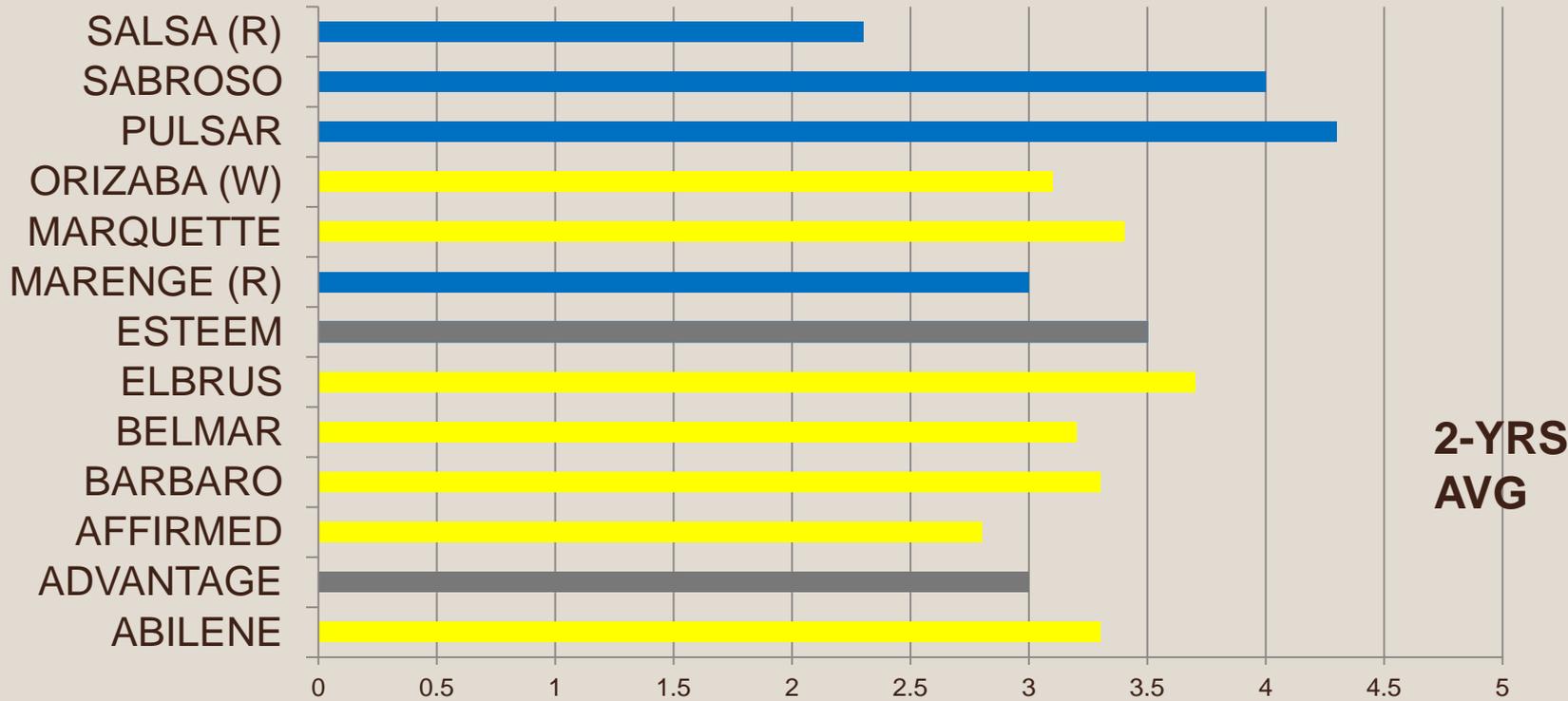
- **PULSAR** 4.3 2-YR AVERAGE
- **SABROSO** 4.0 2-YR AVERAGE





Color-coded by seed company.

4-YRS AVG



Color-coded by seed company.

SINGLE CENTERS

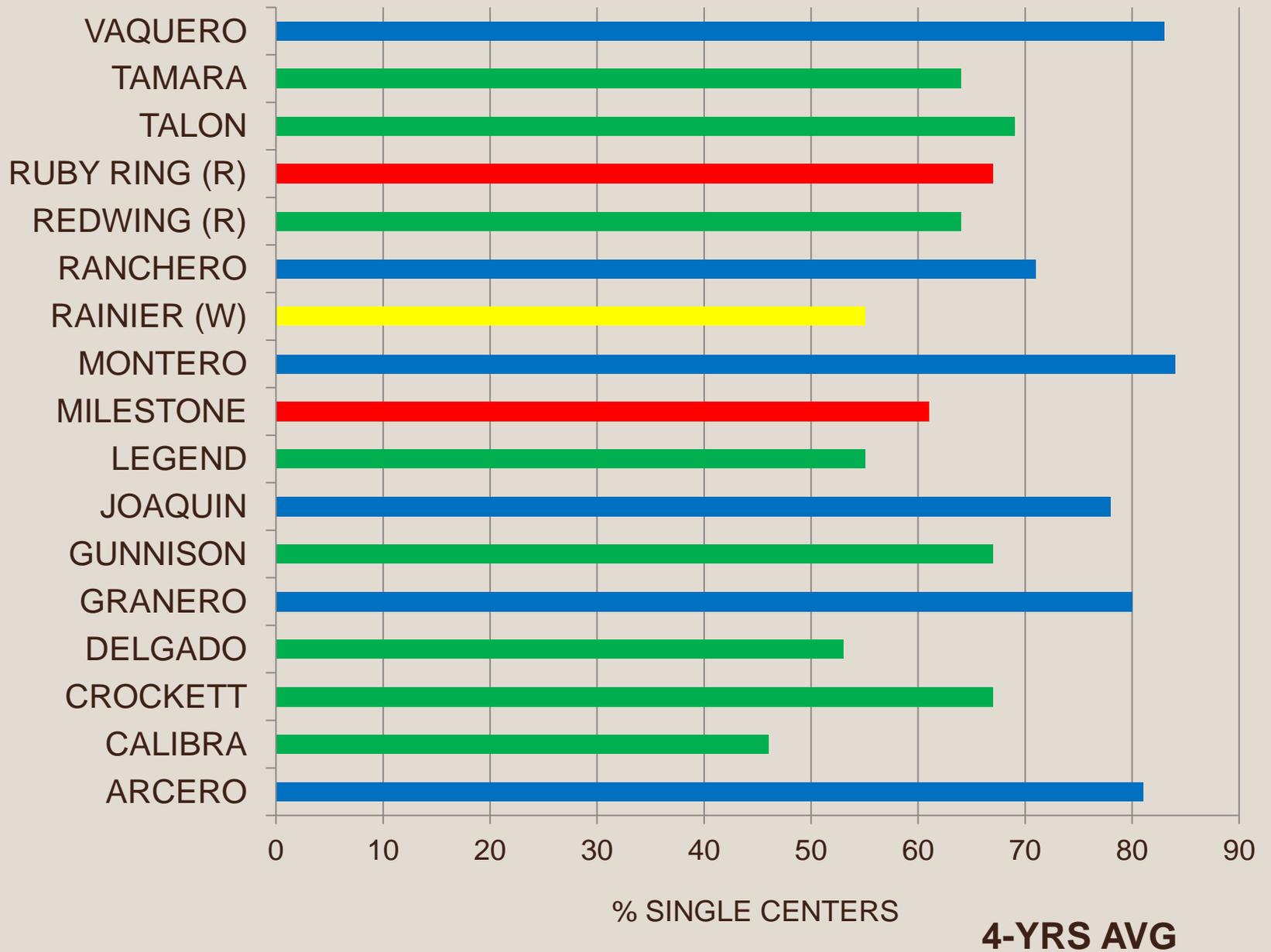


% SINGLE CENTERS: 2008-2011



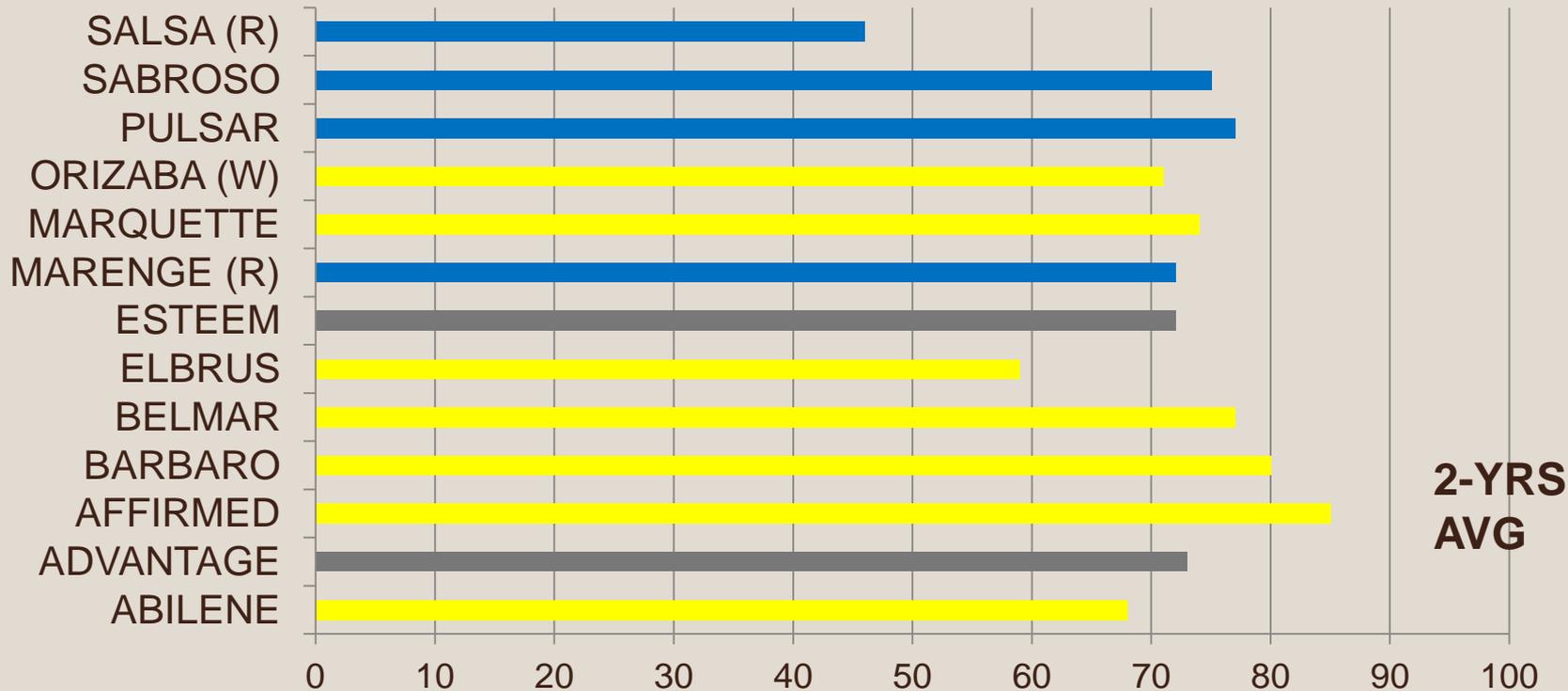
SINGLE CENTERS %

• MONTERO	84%	4-YR AVERAGE
• VAQUERO	83%	4-YR AVERAGE
• ARCERO	81%	4-YR AVERAGE
• GRANERO	80%	4-YR AVERAGE
• JOAQUIN	77%	4-YR AVERAGE
• SWALE	78%	3-YR AVERAGE
• NN-65	78%	3-YR AVERAGE
• PULSAR	76%	3-YR AVERAGE
• AFFIRMED	85%	2-YR AVERAGE
• BARBARO	80%	2-YR AVERAGE
• BELMAR	77%	2-YR AVERAGE



Color-coded by seed company.

4-YRS AVG



Color-coded by seed company.

WASHINGTON STATE UNIVERSITY EXTENSION



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Thanks