

2015 COLUMBIA BASIN ONION CULTIVAR STORAGE DEMONSTRATION RESULTS

Seed Company & Cultivar	Firmness ¹	Scale Retention ²	Shape Uniformity ³	Bacterial Rot (%)	Black Mold (%)	Fusarium Basal Rot (%)	Internal Dry Scale (%)	Internal Dry Scale Severity ⁴	Single Centered Bulbs (%)
American Takii									
Highlander	2.3	1.3	2.7	2.9	0.8	2.5	43.1	0.1 (1.0)	14.8
Frontier	4.3	3.3	4.0	0.7	0.0	1.3	67.1	0.1 (1.0)	40.1
Trailblazer	4.7	4.0	3.7	1.6	0.9	5.8	56.7	0.1 (1.1)	51.1
Trekker	4.3	4.0	4.3	6.7	2.3	0.0	57.5	0.2 (1.2)	47.3
Milestone	3.7	3.0	3.7	2.2	0.0	10.4	45.6	0.1 (1.1)	61.0
Centerstone	3.7	2.3	3.0	1.6	0.9	6.5	43.5	0.1 (1.1)	44.8
Grand Perfection	3.7	3.7	3.0	0.8	0.0	0.8	45.3	0.1 (1.1)	86.4
Bejo Seeds									
Calibra	4.0	5.0	4.3	1.5	0.0	5.2	42.5	0.1 (1.1)	57.6
Hamilton	5.0	5.0	4.3	5.1	0.0	2.2	36.3	0.1 (1.1)	66.4
Sedona	4.0	3.7	3.3	7.1	1.0	7.0	53.4	0.3 (1.4)	58.7
Legend	5.0	5.0	3.7	0.7	0.0	3.0	34.6	0.1 (1.1)	61.6
Tamara	4.7	5.0	4.0	7.2	1.1	4.8	61.9	0.3 (1.3)	66.7
Gunnison	4.7	5.0	4.0	6.8	1.8	11.7	74.3	0.4 (1.4)	68.7
Red Carpet (R)	3.7	4.0	2.7	4.7	0.0	8.1	42.0	0.1 (1.1)	52.8
Ice Pearl (W)	3.3	4.3	4.0	3.4	0.7	4.0	29.2	0.1 (1.2)	62.1
Antarctica (W)	3.0	3.7	3.3	4.1	1.0	7.6	37.9	0.1 (1.1)	55.4
Crookham Co.									
Scout	3.0	2.7	3.3	2.1	0.7	1.4	58.3	0.1 (1.1)	64.3
Oracle	3.0	4.0	3.7	4.8	0.0	3.4	30.1	0.1 (1.1)	73.0
Morpheus	3.3	3.0	3.7	5.0	1.4	3.8	48.3	0.2 (1.3)	84.9
Purple Haze (R)	4.0	3.3	2.3	4.4	0.0	3.5	55.6	0.1 (1.1)	75.7
Red Beret (R)	3.0	3.0	2.7	2.7	0.0	4.5	39.9	0.2 (1.2)	70.6
Brundage (W)	3.3	3.7	3.3	2.1	0.0	5.3	34.7	0.1 (1.2)	80.9
White Cloud (W)	3.7	3.7	3.7	0.7	1.3	2.7	29.9	0.1 (1.0)	65.3
OLYX08-640	4.7	3.7	3.3	2.1	0.7	1.5	43.9	0.1 (1.1)	84.8
Hazera Seeds									
Cruiser	4.0	4.0	4.0	14.9	0.9	4.7	52.2	0.2 (1.2)	75.9
Nippon Norin									
NO-114	4.3	2.7	4.0	2.4	0.0	4.8	58.2	0.2 (1.1)	69.1

Seed Company & Cultivar	Firmness¹	Scale Retention²	Shape Uniformity³	Bacterial Rot (%)	Black Mold (%)	Fusarium Basal Rot (%)	Internal Dry Scale (%)	Internal Dry Scale Severity⁴⁺	Single Centered Bulbs (%)
Nunhems USA									
Granero	4.0	4.0	4.0	6.9	1.5	8.7	66.0	0.2 (1.1)	80.0
Joaquin	3.7	3.3	3.0	0.7	0.0	5.2	39.3	0.2 (1.2)	87.2
Montero	3.3	3.7	3.3	4.8	1.4	12.3	51.3	0.2 (1.2)	77.0
Cometa (W)	3.0	3.0	3.3	1.5	1.5	2.9	26.9	0.1 (1.0)	82.6
Arcero	3.3	3.3	3.3	1.4	0.0	2.1	33.1	0.1 (1.1)	85.9
Vaquero	3.7	3.3	3.3	0.7	0.0	2.7	46.0	0.1 (1.1)	84.0
Anillo	3.7	4.0	4.0	8.6	2.9	7.3	45.1	0.1 (1.1)	75.7
Oloroso	3.7	5.0	4.0	4.6	2.3	2.8	48.6	0.2 (1.2)	84.0
Marenge (R)	2.7	2.7	3.3	13.6	0.0	6.2	48.1	0.1 (1.1)	50.9
Seminis Veg. Seeds									
16000	3.0	3.0	3.0	5.3	0.0	9.4	41.8	0.1 (1.1)	77.8
Swale	4.0	3.3	4.0	2.3	0.8	6.9	48.7	0.2 (1.2)	78.4
Belmar	4.3	3.3	3.0	4.7	0.7	4.7	41.3	0.2 (1.3)	60.7
Commendable	3.3	3.0	4.0	2.2	0.0	2.1	60.1	0.3 (1.3)	76.2
SV4058NU	2.7	4.0	3.7	1.5	3.4	3.4	42.5	0.1 (1.2)	76.7
SV4643NT (R)	3.3	2.7	2.7	9.1	0.0	2.1	48.4	0.2 (1.2)	41.8
SV6646NW	2.7	3.0	3.3	9.5	0.0	8.8	59.2	0.2 (1.2)	75.6
SV6672NW	3.3	3.3	3.7	3.3	0.0	5.3	68.0	0.2 (1.2)	76.7
AVERAGES	3.7	3.6	3.5	4.2	0.7	4.9	47.4	0.2 (1.1)	67.7
ANOVA									
<i>Cultivar Effects</i>	*	*	*	*	*	*	*	*	*
<i>LSD (P=0.05)</i>	<i>0.87</i>	<i>0.80</i>	<i>0.88</i>	<i>7.15</i>	<i>1.95</i>	<i>5.86</i>	<i>16.72</i>	<i>0.12 (0.19)</i>	<i>14.70</i>

¹**Firmness** 1 to 5 scale

5 = Rock hard bulbs

1 = Soft bulbs

³**Shape** 1 to 5 scale

5 = Highly uniform shape

1 = Extremely variable

²**Scale Retention** 1 to 5 scale

5 = Complete scales, no cracks/shrink

4 = Complete scales, some cracks

3 = Marketable, partial balding

2 = 50-75% incomplete skins

1 = Unacceptable scale retention, non-marketable

⁴**Internal Dry Scale Severity** 0 to 3 scale

3 = Dry scale extending past the upper 1/3 of the edible portion of bulb

2 = Dry scale from the neck down 1/2-inch or more, but not more than 1/5 the bulb

1 = Dry scale visible on the edible portion of the bulb

0 = No visible dry scale on the edible portion of the bulb

⁺Internal dry scale severity ratings are shown first as the average severity for all bulbs, and (in parentheses) as the average severity for only the bulbs that had any visible dry scale ranging from a low severity of 1 to a high severity of 3.

Storage Evaluation Overview:

Bulbs were harvested on August 31, 2015 after field curing. Fifty bulbs were collected and bagged from each plot. Bulbs were held in bins in a commercial storage facility until evaluation on February 10, 2016. The values reported in the table are the average results from three replicates. The results were subjected to an analysis of variance (ANOVA) and pairwise comparison of cultivar means using the Fisher's protected least significant difference method, LSD (P=0.05).

Participating Companies:

American Takii, Inc., 301 Natividad Rd., Salinas, CA 93906
Bejo Seeds, Inc., 1972 Silver Spur Place, Oceano, CA 93445
Crookham Company, P.O. Box 520, Caldwell, ID 83606.
Hazera Seeds, 1200 N El Dorado Pl. #D440, Tucson, AZ 85715
Nippon Norin Seed Co., 3219 Mariner Lane, Longmont, CO 90503
Nunhems USA, 8850 59th Ave. NE, Brooks, OR 97305
Seminis Vegetable Seeds, 32537 Apple Valley Rd, Parma, ID 83660

Thanks to everyone who participated in the storage evaluation:

Bryan Bair, Nunhems USA	Kerick Bauman, L&L Ag
Josh Carter, Keithly Williams Seeds	Todd Clark, Keithly Williams Seeds
Casey Crookham, Scottseed	Mike Derie, WSU Mount Vernon
Lindsey du Toit, WSU Mount Vernon	Rene Emch, Nunhems USA
Steve Graton, Champion Seeds	Sage Haegen, Hazera Seeds
Curtis Mokler, Keithly Williams	Barbara Holmes, WSU Mount Vernon
Ron Hull, Osborne Seed	Wally Huppert, Carr Farms
Kevin Kudsk, L&L Ag	Leonard Kurika, WSU Mount Vernon
Curtis Mokler, Keithly Williams Seeds	Michael Navarrete, Seminis
Richard Navarrete, Seminis	Trace Pafford, American Takii
Josh Robertson, Keithly Williams Seeds	Brett Ross, Keithly Williams Seeds
Travis Whitney, Nunhems USA	Ceely Wild, Nunhems USA
Sarah Zeagher, WSU Mount Vernon	

Special thanks to Lorin Grigg and Grigg and Sons Farm for hosting the 2015 WSU Onion Cultivar Trial. Thanks also to Wally Huppert and Carr Farms for storing the onions until evaluation. Thank you to Sage Haegen and Hazera Seeds for hosting the storage evaluation day.

If you have questions or comments:

Tim Waters
WSU Franklin & Benton Co. Extension
1016 N. 4th
Pasco, WA 99301
509-545-3511
twaters@wsu.edu

Carrie Wohleb
WSU Grant & Adams Co. Extension
1525 E. Wheeler Rd.
Moses Lake, WA 98837
509-754-2011 x.4313
cwohleb@wsu.edu