

ONION HYBRID PERFORMANCE, 2003

Paul Hendrickson and Matt Swanson

Methods: The study was conducted at the NDSU Carrington Research Extension Center on a loam soil with a 7.8 pH and 3.2% organic matter. Pelleted and raw seed were planted on May 2, 2003, in 3-inch paired rows on 18-inch centers at 167,000 seeds/A while sets were planted by hand in 12-inch rows at 130,000 bulbs per acre. The experimental design was a randomized complete block design with four replicates. Best management practices were used for fertility, weed, disease, and insect control. Hybrids were lifted 0 to 14 days after the half-down date. All hybrids were lifted and harvested by September 29. The onions were topped and cured in a forced air

drier. Split and diseased bulbs were graded as culls regardless of diameter.

Results: Variability within the trial was high due to onion theft prior to harvest. Because of this, some plots were deleted from the data set to try and reduce the variability. Onion yields ranged from 79.3 to 985.0 cwt/A (Table). With the exception of the onions started as sets, less than 25% of the total yield was from onions smaller than three inches in diameter. Onion sets performed poorly again this year. Onion yields were 86 and 88% lower when Sabroso and Vaquero hybrids were started as sets vs. seed. The Sabroso and Vaquero sets also had the highest percentage of split bulbs.

Table. Onion maturity, yield, and grade. Carrington, ND, 2003

	Seed Source ^a	Appl Code ^b	Days to 1/2 down	Yield					Total	Culls	# of bulbs 1000s/A	Single Centers %	Split bulbs
				<2.25"	2.25-3"	3-4"	4-4.5"	>4.5"					
Brahma	SS	R	124	6.2	86.7	859.2	29.2	3.7	985	2.8	140.4	48	0
Daytona	BE	P	143	0.8	38.4	656.6	204	6.2	905.8	6	107.2	29	1
Delgado	BE	P	139	2.1	31.5	570.4	204	77.5	885.5	16.5	103	18	1
DPSX1170	DP	R	131	7.1	142	441.5	51.9	0	642.5	17.4	105.9	5	1
DPSX1171	DP	R	141	10.2	61.5	339.6	101.6	39.2	552.2	20.2	80.3	63	3
DPSX1172	DP	R	144	5.4	18.1	257.7	101	39.9	422.2	22	53.1	35	3
Expression	BE	P	127	5.6	66.8	548.3	67.9	6.2	694.7	86.2	107.2	0	6
Gunnison	BE	P	134	5	11.8	758	61.9	0	836.7	5	106.2	38	0
Kodiak	DP	R	135	5.1	64.5	289	29.7	54.5	442.9	31.3	71	2	3
Lorenzos	VL	R	126	17.2	55.4	549.4	21.6	0	643.6	12.5	100.8	18	1
Mesquite	DP	R	150	5	15.2	228	50.1	25.4	323.8	30.2	42.7	43	3
Prince	BE	P	132	3.6	59.4	550.2	6.1	0	619.4	0	93	20	0
Sabroso	SS	R	138	4.2	12.2	408	168.6	44.8	637.8	7.7	74	28	1
Sabroso	DVG	SETS	96	28.9	36.5	0	7.7	6.2	79.3	21.1	44.2	32	9
SR7002ON	SS	R	130	0	24.6	292.7	212.9	96.2	626.4	32.7	71.1	58	0
SX7000ON	SS	R	125	9.1	125	696.7	51.7	4.8	887.3	0	138.4	55	0
Tamara	BE	P	125	9.5	71.9	762.5	4.8	0	848.7	0	127.9	25	0
Tequila	DP	R	147	1.2	16.8	233.4	116.7	67.5	435.6	17.6	44.5	31	6
Tesoro	SS	R	125	6.8	89.8	695.8	51.3	0	843.7	4.8	119.8	38	1
Teton	SE	P	131	6.1	49.7	589.9	200.1	7	852.8	13.9	102.6	38	0
Vaquero	SS	P	137	3.2	33.4	524.5	189.2	50.4	800.6	0	97.6	50	0
Vaquero	DVG	SETS	109	18.3	52.6	27.3	7.7	6.2	112.1	57.1	56.3	65	19
Winston	BE	P	131	5.9	52.9	494.6	64.7	0	618	9.8	85.3	25	1
LSD (P=.05)			9.5	13.13	54.65	207.4	97.55	53.23	230.1	44.07	35.68	26.6	8

^aBE=Bejo Seeds, DP=D. Palmer Seed Co., Inc., DVG=Dutch Valley Growers, Inc., SS=Sunseeds, and VL=Vilmorin

^bRS=raw seed, PS=pelleted seed.