Table 16. 2014 Race 4 Fusarium wilt infested field evaluation of RBTN entries in Tulare county near Tipton[1], CA., conducted by Univ. of California and USDA/ARS (Hutmacher, et al). Site is a naturally infested field where presence of the race 4 fusarium pathogen has been confirmed in prior pathology studies. Averages and standard deviations (σ) are shown.

	Number of Plants Evaluated	Foliar Disease Severity Index[†]		Vascular Root Staining[‡]		Number of Main Stem Nodes		Plant Height		Plant Percent Survival[§]	σ
Cultivar	#	0-5	**σ**	0-5	**σ**		**σ**	cm	**σ**	PS	**σ**
Ark 0614-49	15	0.40	0.74	1.93	0.70	15.3	0.8	25.6	2.6	89.5	5.8
Ark 0615-38	15	0.40	0.63	1.93	0.80	14.3	3.9	26.1	2.6	85.9	11.1
Ark 0614-34	15	0.73	0.88	2.53	0.52	13.8	3.1	21.2	6.3	73.4	7.2
PD 07066	15	0.47	0.99	2.00	0.93	16.3	2.2	29.1	4.8	82.5	12.3
PD 07116	15	0.80	0.86	1.80	0.68	15.4	1.8	24.6	3.7	88.9	11.1
PD 08039	15	0.53	0.91	1.33	0.90	14.9	1.3	27.8	2.7	82.2	5.8
GA 2009100	15	0.40	0.74	2.13	0.92	15.6	1.6	27.8	2.5	86.7	7.3
GA 2009037	15	0.20	0.56	1.47	0.52	15.6	1.2	27.1	2.2	82.9	8.0
GA 2010074	15	0.60	0.83	2.33	0.90	15.3	1.7	25.4	5.8	89.2	4.6
MD10-6	15	0.73	0.88	1.13	0.83	13.8	2.3	25.5	4.9	89.0	4.3
LA11309062	15	0.53	0.92	1.81	1.01	14.3	4.2	22.3	4.8	81.8	10.5
LA11309040	15	0.87	0.83	2.27	0.80	14.1	1.1	25.6	2.4	85.8	5.6
LA11309005	15	0.73	0.88	1.93	0.80	15.9	1.5	27.7	3.9	86.2	13.5
OA-185	15	0.73	0.96	2.00	0.66	15.1	1.6	26.7	3.7	90.3	3.1
OA-173	15	0.40	0.74	2.13	0.74	15.7	1.6	28.9	3.2	90.1	7.6
PX06520-42-2-1	15	1.13	0.99	2.40	0.63	14.7	2.0	22.7	3.2	75.2	6.5
AU51038	15	0.47	0.92	1.53	0.52	14.4	1.6	24.9	4.4	93.3	6.9
AU91411	15	0.53	0.99	2.13	0.74	14.8	2.3	24.5	4.1	74.0	7.5
AU52034	15	0.20	0.56	1.73	0.88	14.7	1.2	25.2	5.5	93.8	5.4
NM12Y1002	15	0.53	0.64	2.07	0.96	14.5	1.6	24.9	6.1	82.9	9.0
NM12Y1004	15	0.07	0.26	0.80	0.56	14.7	1.1	32.3	3.8	93.5	5.7
NM12Y1005	15	0.00	0.00	0.20	0.41	15.2	1.4	33.6	2.8	92.5	6.5
MS 0043-28 -1	15	0.73	1.03	1.53	0.99	14.9	1.5	28.3	3.7	87.8	5.9
MS 0045-14 -5	15	1.07	1.10	1.67	0.49	13.9	1.5	26.7	4.2	92.9	4.0
MS 0040-19 -4	15	0.73	0.88	2.13	0.84	14.4	1.7	24.1	4.0	85.4	6.3
DP 393 ck	15	0.73	0.80	2.20	0.86	14.1	1.5	26.1	3.9	86.0	10.8
SG 105 ck	15	1.00	0.84	1.80	0.94	15.3	1.5	25.6	3.0	85.7	10.9
FM 958 ck	15	0.46	0.52	0.77	0.60	15.5	2.4	17.6	3.9	81.3	7.0
UA 222 ck	15	0.27	0.70	1.40	0.63	16.1	1.2	23.7	3.9	85.9	6.9
DP 491 ck	15	0.87	1.13	1.87	0.64	14.0	1.9	21.7	6.6	89.9	4.9
Daytona RF*	15	0.33	0.62	2.27	0.59	14.6	1.0	21.9	3.9	72.2	19.3
Phytogen 725RF*	15	0.93	0.96	1.93	1.03	15.0	1.6	23.5	4.1	86.2	20.1
Phy-802RF**	15	0.00	0.00	0.67	0.49	15.8	0.9	26.7	1.6	95.0	4.7
Phy-811RF**	15	0.13	0.35	1.07	0.70	15.9	0.7	25.8	2.3	69.1	3.7

*Daytona RF and Phytogen 725RF - Moderately-Susceptible to Fusarium Race-4 (Acala Checks)

**Phy-802RF & Phy-811RF - Resistant to Fusarium Race-4 (Pima Checks)

[1]Tulare County Fusarium wilt (FOV) race 4 field evaluation planted on May 22 and evaluated during July (approximately 7-8 weeks post emergence)

[†]Foliar disease severity index scale: 0 = no symptoms; 1 = epinasty and slight dwarfing; 2 = 1 to 30% of leaves chlorotic; 3 = 31 to 80% of leaves chlorotic and severe stunting; 4 = 81 to 100% of leaves chlorotic; and 5 = plant death.

[‡]Vascular Root Staining: 0 = no vascular root staining evident, 1 = light vascular root staining evident as spotty areas, 2 = more continuous than 1, but light colored staining covering an area between one quarter and one half of the stem cross-section, 3 = moderate brown/black staining evident in a band encircling most of the stem cross section, 4 = brown/black staining evident across most vascular tissue in stem cross section, and 5 = plant severely damaged or plant death with staining evident throughout a cross-section of root tissue (Ulloa et al. 2006, 2009a).

[§]The percentage of plant survival (PS) was calculated by dividing the total number of surviving plants on sample date by the initial plant count after plant establishment, and multiplying by 100.