

## Resistance to Insect and Bird Damage in Sorghum Hybrids, 2016

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A total of 80 (7 for pearl millet and 73 for grain and forage sorghum) hybrids and a pair of sugarcane aphid resistant and susceptible controls were evaluated for resistance to insect and bird damage in Tifton, Georgia. Sugarcane aphid resistance also was evaluated in a separate trial near Griffin, Georgia. In Tifton, a total of 10 insect pests were observed. The insect pests in order of importance are: sugarcane aphid, fall armyworm, corn earworm, sorghum webworm, sorghum midge, leaf-footed bug, corn leaf aphid, stink bugs (southern green and brown stink bugs), and chinch bug. In comparison with sugarcane aphid and fall armyworm damage, damage from other insect pests and birds was relatively low in 2016. Foliar diseases were of minimal importance in this trial and were not included in this report.

Heavy sugarcane aphid infestation was observed at the late seedling stage (or close to flowering) in the experimental plots that were planted on June 9, 2016. Sugarcane aphid infestation occurred later than the previous year (2015), and all grain sorghum entries produced panicles in 2016. Missing values in the “Days to Anthesis” column of Table 1 indicate that these hybrids did not flower by September 25, 2016. Hybrids that did not flower were forage lines and were photoperiod sensitive. In addition to the heavy aphid infestation, fall armyworm damage at the whorl stage in 2016 was high. Thus, the overall insect resistance rankings (i.e., Very Good, Good, Fair, and Poor) for 2016 were based mainly on the combined sugarcane aphid and fall armyworm damage ratings (LSD = 0.42), and adjusted with panicle damage as shown in Table 1.

Fall armyworm damage was rated using the 1-9 scale with 1 = no damage and 9 = all plants in a plot are completely defoliated. Sorghum webworm, midge, and bird damage were ranked before harvest on September 15-16, 2016. Headworm damage (i.e., sorghum webworm and corn earworm) and midge damage were assessed in combination with grain loss according to the following rating scale: 1 = 0-25% empty glumes on any of the sorghum panicles in an experimental plot; 2 = a few empty glumes (26-50%) observed on a panicle; 3 = 51-75% empty glumes on a sorghum panicle; and 4 = majority of sorghum panicles with more than three quarters (> 75%) empty glumes. Finally, bird feeding damage on developing kernels was determined by the presence of partial kernels on panicles, and evidence of splattering of broken developing kernels falling on the top leaves of a plant. Bird damage was rated with the following scale: 1 = less than 10% grain loss; 2 = 11-25% loss; 3 = 26-50% loss; and 4 = > 50% loss of grains per panicle.

Sorghum hybrids were rated for susceptibility to sugarcane aphid infestation and damage in trials at Tifton and near Griffin. At Tifton, sugarcane aphid (SCA) damage was rated multiple times throughout the season, but the ratings recorded on August 28 and September 15-16, 2016 were used for this report, because these two ratings best characterized the aphid damage (leaf discoloration) before regrowth of green tillers appeared. SCA damage in Tifton was ranked using the following 1-5 scale: 1 = no visible aphid damage and only a few winged aphids colonizing the leaves; 2 = a lot of aphids without visible leaf damage symptoms, but with honeydew visible on the surface of lower leaves; 3 = high aphid population with lower leaves covered with honeydew, sooty mold, and aphid exuviae (or whitish-cast skins); 4 = heavy aphid infestation with visible leaf

discoloration; and 5 = sorghum plants were killed by heavy aphid infestation. In Griffin, entries were planted in plots of 2 rows by 20 feet and replicated three times. SCA infestations were counted on 6 leaves per plot on Aug. 15, and plant injury was rated on August 19 and September 1, 2016. Plant injury was rated on a 0–9 scale of Burd et al. (1993) where 0 = no injury and 9 = dead/dying plants. Ratings at both locations, from 2015 and from other sources, were used to classify entries as being susceptible, moderately susceptible, moderately resistant-tolerant, or resistant-tolerant (Table 2).

Initial sugarcane aphid infestation (30%) in Tifton was observed on July 5, which is nearly four weeks after planting. Aphid population peaked on August 10, when the grain sorghum plants were at flowering stage, and the aphid population crashed quickly after its peak. Although it is similar to the field season of 2015, in which the aphid population quickly crashed after its peak, sugarcane aphid population peaked later in 2016 than in 2015. Thus most of the grain sorghum entries successfully produced panicles in 2016. Although relatively short in duration, the infestation had an impressive aphid population growth rate on sorghum plants in such a short period of time that it caused permanent damage that was visible by leaf discoloration in 2016. Of all sorghum and pearl millet entries, irrespective of their maturity as described in Table 1, the seven pearl millet entries showed the least amount of damage caused by both fall armyworms and sugarcane aphids, which is rated as the best forage crop that showed insect resistance. In addition, photoperiod sensitive forage sorghum had lower aphid damage ratings compared to the grain sorghum. Seven sorghum hybrids are rated Very Good (VG) with the lowest damage ratings. Thirty-six sorghum entries were rated as Good (G), 26 were Fair (F), and 6 were Poor (P). It is worth noting that, with 2+ year ranking data as shown in the table, six grain sorghum hybrids ('83P17', 'GW-9417', 'AG1203', '84P80', 'AG2105', and the resistant control) are the best hybrids for overall resistance to insect and bird damage among the 73 commercial hybrids examined. For selection of hybrids resistance to the sugarcane aphid, several grain type entries showed moderate to good levels of resistance-tolerance (Table 2). Several silage entries also had less damage than susceptible lines but only one forage type ('AS9302') showed moderate resistance-tolerance.

Growers should select insect- and disease-resistant hybrids, the most economical pest management strategy for sorghum production in our region. Producers should be aware that later plantings tend to have increased insect pest and disease pressure. In addition, bird damage can generally be minimized by timely harvest. For further integrated insect management information, please consult with your local county agents and/or Extension Entomologists.

This test was maintained and flowering-date data were collected by P. Tapp, H. Deems, L. Munoz (USDA-ARS, Tifton) and K. Stratton (UGA-Tifton).

**Table 1. Evaluation of Grain Sorghum Hybrids for Resistance to Insect and Bird Damage, 2016, Tifton, Georgia<sup>1</sup>**

Brand	Variety	Maturity	Days to Anthesis <sup>2</sup>	2016			Overall rankings	
				FAW damage <sup>3</sup> rating	Headworm and Midge <sup>4</sup>	Bird <sup>5</sup>	2016	2+ years <sup>6</sup>
<b>Forage Pearl Millet</b>								
Sorghum Partners	Millex 32	E	50	2.1	1.0	1.0	VG	
UGA	Tifleaf 3	O	52	2.6	1.0	1.0	VG	
Southern States	SS 635	L	50	2.6	1.0	1.0	VG	
Alta Seeds	Wonderleaf	O	57	2.5	1.0	1.0	VG	
Athens	HPM 1	L	98	3.4	.	.	VG	
Southern States	SS 1562M (BMR)	E	63	2.3	.	.	VG	
Sorghum Partners	Millex BMR	E	60	3.0	1.0	1.0	VG	
<b>Grain and Forage Sorghum</b>								
Alta Seeds	AS9301	M	56	3.1	1.0	1.0	VG	
Alta Seeds	AS9302	M	52	3.3	1.5	1.0	VG	
Sorghum Partners	SP1615	PS	.	3.6	.	.	VG	
Desert Sun	Buffalo Grain	L	91	4.0	.	.	VG	
Southern States	SS 130 (S)	ML	70	3.3	1.0	1.0	VG	
Sorghum Partners	SP7715	ML	56	3.4	1.3	1.8	VG	
Sorghum Partners	SP1880	L	.	3.9	.	.	VG	
Sorghum Partners	NK300	ME	89	4.2	.	.	G	
Sorghum Partners	SS405 (CHR-FS4)	L	91	4.4	.	.	G	
Walter Moss	4EverGreen	PS	.	4.0	.	.	G	
Walter Moss	MegaGreen	PS	.	3.6	.	.	G	
Southern States	SS 800	L	53	3.4	3.5	1.8	G	F-
Southern States	SS 1515 (F)	ML	64	4.2	.	.	G	
Southern States	SS 655	ML	58	3.7	2.3	1.3	G	F-
Pioneer	83P17	ML	58	3.9	1.3	1.5	G	G
Alta Seeds	AF7401	L	91	4.0	.	.	G	
Alta Seeds	AS6401	L	72	3.9	1.0	1.0	G	
Alta Seeds	AS6402	L	64	3.6	2.5	1.0	G	
Southern States	SS 2010 (BDF)	L	85	4.3	.	.	G	
Alta Seeds	AF8301	M	60	4.1	.	.	G	
Gayland Ward	GW-9417	O	53	3.8	1.0	2.0	G	G
Sorghum Partners	SP7868	ML	62	3.6	1.0	1.3	G	
Alta Seeds	AG1203	ME	53	3.8	1.0	2.3	G	VG-
Athens	105	M	59	3.6	1.0	1.8	G	
Southern Harvest	SH47G4	E	44	3.8	1.3	1.8	G	
Southern Harvest	SH90G6	ML	63	3.3	3.0	1.3	G	
Southern Harvest	SH905F	ML	75	4.1	.	.	G	
Southern Harvest	SH905F BMR	ML	88	3.7	.	.	G	
Sorghum Partners	Sordan Headless	PS	.	3.8	.	.	G	
Desert Sun	Big Kahuna	PS	.	3.8	.	.	G	
Desert Sun	Elite	L	91	3.8	.	.	G	
Desert Sun	DSM 33-948	L	75	3.9	.	.	G	
Southern States	SS 1592GS	ME	53	3.9	1.0	1.0	G	
Southern States	SS 220 (SG X S)	L	59	3.5	1.3	1.0	G	
Sorghum Partners	SP2774BMR	M	63	3.9	1.0	1.0	G	
Sorghum Partners	SP3902BD	L	.	3.9	.	.	G	
Sorghum Partners	SS304	L	80	3.6	1.0	1.0	G	
Sorghum Partners	SP4105	PS	.	3.9	.	.	G	

**Table 1. Evaluation of Grain Sorghum Hybrids for Resistance to Insect and Bird Damage, 2016, Tifton, Georgia<sup>1</sup> (Continued)**

Brand	Variety	Maturity	Days to Anthesis <sup>2</sup>	2016			Overall rankings	
				FAW damage <sup>3</sup> rating	Headworm and Midge <sup>4</sup>	Bird <sup>5</sup>	2016	2+ years <sup>6</sup>
<b>Grain and Forage Sorghum - continued</b>								
Sorghum Partners	SP3903BD	ML	84	3.8	.	.	G	
Sorghum Partners	CHR14FB0240	M	64	3.9	1.0	1.0	G	
Sorghum Partners	SP6205	ML	56	4.1	1.0	1.0	G	
Sorghum Partners	SP4105BMR	PS	.	3.7	.	.	G	
DeKalb	DKS 37-07	0	52	4.1	1.0	2.0	G	
Pioneer	84P80	ML	57	3.5	2.3	2.0	F	G-
Alta Seeds	AF7201	ME	51	4.3	1.8	2.0	F	
Alta Seeds	AF7102	E	63	3.5	1.3	1.3	F	
Southern States	SS540	M	54	3.9	1.3	2.0	F	F-
Alta Seeds	AG2103	M	55	3.9	2.5	1.0	F	F-
Alta Seeds	AG2105	M	53	3.8	1.8	1.5	F	G-
DeKalb	DKS51-01	ML	57	3.5	1.3	1.6	F	
Southern Harvest	SH59G4	M	54	3.9	1.8	2.3	F	
Southern Harvest	SH80G4	ML	56	3.6	1.0	1.8	F	
Southern Harvest	SH90044	L	85	4.1	2.0	1.5	F	
Southern States	SS 1597FS	ME	98	4.1	2.0	2.0	F	
Southern States	SS 1652 SS (SG X	M	52	3.8	1.0	1.0	F	
Sorghum Partners	NK6638	M	54	3.8	1.8	1.0	F	
Sorghum Partners	HikaneII	M	56	4.1	1.0	1.0	F	
Southern Harvest	SH65G6	M	53	3.8	2.0	1.3	F	
Desert Sun	DSM 45-480	E	49	4.1	1.0	1.8	F	
Desert Sun	DSM 15-539	E	51	3.7	1.3	1.0	F	
Southern States	SS EXP 021913	M	51	4.3	1.5	1.0	F	
Southern States	SS EXP 45913	ML	53	4.1	1.5	1.3	F	
Sorghum Partners	SP78M30	ML	56	4.0	1.0	2.3	F	
Sorghum Partners	CHROL2042	ML	59	3.7	1.3	1.5	F	
Sorghum Partners	CHROL0029	ML	60	3.9	1.5	1.8	F	
Sorghum Partners	SP2876BMR	M	71	4.0	1.3	1.0	F	
Sorghum Partners	CHR12FS0012	M	55	3.8	1.0	1.0	F	
Sorghum Partners	SP4555	M	57	3.7	1.3	1.0	F	
Aphid Resistant Check	Tx2752 × Tx2783		56	3.6	1.5	1.3	F	G-
Alta Seeds	AG3201	ML	52	4.1	1.5	2.0	P	F
Southern Harvest	Southern Sweet	L	65	3.9	3.0	1.0	P	
Desert Sun	DSM 40-920	ME	53	4.0	1.8	1.5	P	
Desert Sun	DSM 7-502	ME	55	3.8	2.5	1.3	P	
Sorghum Partners	RED TOP +BMR	M	94	3.8	3.3	1.5	P	
Aphid Susceptible Check	Tx2752 × Tx430		57	4.0	1.5	1.5	P	P

1. The test plots were maintained with irrigation.
2. Days from planting to 50% bloom. The missing values denote no panicles were developed from the main stem, and thus they were not rated for damage by head-feeding insects or birds.
3. Fall armyworm resistance was rated following the 1-9 scale of 1 = no damage and 9 = complete defoliation.
4. Sorghum webworm and midge resistance: 1 = 0-25%; 2 = 26-50%; 3 = 51-75%; and 4 = >75% glumes are without grains on a panicle.
5. Bird-feeding resistance: 1 = less than 10% loss; 2 = 11-25% loss; 3 = 26-50% loss; and 4 = over 50% loss.
6. The "+" or "-" signs denote the inconsistency of damage ranking among the years.

**Table 2. Evaluation of Sorghum Hybrids for Resistance to Sugarcane Aphid (SCA) Infestation and Injury, Tifton and Griffin, GA 2016.**

Brand	Variety	Combined SCA rating <sup>1</sup>	Aphids per leaf Griffin trial Mean HSD	Plant Injury Rating <sup>2</sup>		
				Griffin		Tifton
				rating 0-9 scale	HSD	rating 1-5 scale
<b>GRAIN TYPES</b>						
Southern Harvest (Meherrin Ag)	SH90G6	S	756.7 a	3.50 c-g		4.4
Sorghum Partners	SP7868	S	674.6 ab	4.17 bcd		4.3
Desert Sun	DSM 7-502 (white seed)	S	624.4 abc	3.67 c-f		4.6
Southern States	SS 655	S	611.1 abc	4.67 abc		3.5
Alta Seeds	AG2105*	S	568.9 a-d	3.67 c-f		4.4
Pioneer	84P80	S	487.8 a-e	4.00 b-e		4.5
Alta Seeds	AG2103	S	450.3 a-e	4.50 a-d		4.5
Desert Sun	DSM 15-539	S	415.6 a-e	5.67 ab		4.9
Southern States	SS 540*	S	367.9 a-e	4.00 b-e		4.5
Alta Seeds	AG3201	S	351.1 a-e	4.00 b-e		4.6
Desert Sun	DSM 40-920 (white seed)	S	302.2 a-e	3.33 c-g		4.8
Southern States	SS 800	S	282.2 a-e	4.50 a-d		4.1
Southern States	SS EXP 021913	S	241.1 a-e	3.17 c-h		5.0
Gayland Ward	GW 9417	S	218.9 b-e	3.67 c-f		4.4
Southern States	SS EXP 45913	S	218.3 b-e	3.17 c-h		4.6
DeKalb	DKS51-01	S	211.1 b-e	3.33 c-g		4.5
Southern Harvest (Meherrin Ag)	SH59G4	S	204.6 b-e	3.50 c-g		4.4
Chromatin	KS 585 (very susceptible)	VS	203.3 b-e	6.18 a		5.0
Southern Harvest (Meherrin Ag)	SH65G6	MS	168.9 b-e	3.17 c-h		4.6
Sorghum Partners	NK6638	MS	141.4 b-e	3.50 c-g		4.8
Southern Harvest (Meherrin Ag)	SH80G4	MS	133.4 cde	3.33 c-g		4.5
Southern Harvest (Meherrin Ag)	SH47G4	MS	129.3 cde	4.67 abc		3.5
Pioneer	83P17*§	MR	119.6 cde	2.83 c-h		4.1
Desert Sun	DSM 45-480	?	117.2 cde	3.67 c-f		4.6
Athens	105	?	64.3 cd	3.17 c-h		4.4
Alta Seeds	AG1203*§	MR?	56.8 cd	3.17 c-h		4.3
Sorghum Partners	SP7715§	MR	22.6 e	2.17 efgh		4.3
DeKalb	DKS 37-07*§	R	19.0 e	3.00 c-h		4.4
Sorghum Partners	SP78M30§	R	14.9 e	1.83 fgh		4.5
Chromatin Inc	CHROL0029	?	14.1 e	2.67 d-h		4.1
Southern States	SS 1592GS (white seed)	?	12.8 e	1.33 h		4.4
Chromatin Inc	CHROL2042	?	4.3 e	1.67 gh		4.4
	LSD		269.5	0.95		0.4
<b>SILAGE TYPES</b>						
Gayland Ward	Silo-Pro Dwarf BMR	S	861.2 a	4.00 b-f		.¶
Southern States	SS 1597FS	S	854.4 a	5.00 a-e		3.9
Sorghum Partners	RED TOP +BMR	S	778.9 ab	4.67 a-f		4.3
Sorghum Partners	SS405	S	680.0 ab	4.50 a-g		3.5
Sorghum Partners	Hikane II	S	676.7 ab	4.83 a-f		4.8
Alta Seeds	AF7201	S	640.0 ab	5.83 a		4.4
Sorghum Partners	SP2876BMR	S	586.7 ab	4.33 a-g		4.5
Sorghum Partners	SP1615	S?	566.7 ab	4.33 a-g		3.1
Gayland Ward	EXP 10216	S	501.1 ab	5.50 abc		.¶
Southern Harvest (Meherrin Ag)	SH905F BMR	S	494.4 ab	3.67 d-g		4.0
Sorghum Partners	Sordan Headless	S	464.0 ab	4.17 a-g		3.8
Sorghum Partners	SP2774BMR	S	430.6 ab	4.17 a-g		4.3
Sorghum Partners	SP3902BD	S	428.9 ab	4.50 a-g		3.7
Sorghum Partners	CHR14FB0240	S	414.4 ab	4.33 a-g		4.4
Sorghum Partners	SP4105	S	413.3 ab	4.67 a-g		3.8

**Table 2. Evaluation of Sorghum Hybrids for Resistance to Sugarcane Aphid (SCA) Infestation and Injury, Tifton and Griffin, GA 2016. (Continued)**

Brand	Variety	Combined SCA rating <sup>1</sup>	Aphids per leaf Griffin trial Mean HSD	Plant Injury Rating <sup>2</sup>		
				Griffin		Tifton
				rating 0-9 scale	HSD	rating 1-5 scale
<b>SILAGE TYPES - continued</b>						
Sorghum Partners	SP1880	<b>S</b>	408.9 ab	5.00 a-e		3.4
Gayland Ward	GW 400 BMR	<b>S</b>	403.3 ab	5.33 a-d		.¶
Gayland Ward	GW 600 BMR	<b>S</b>	379.0 ab	4.00 b-g		.¶
Moss	4Ever Green	<b>MS?</b>	365.0 ab	3.00 g		4.3
Desert Sun	BUFFALO GRAIN	<b>MS</b>	364.4 ab	3.50 efg		3.3
Sorghum Partners	SP4105BMR	<b>MS</b>	346.7 ab	4.17 a-g		3.6
Sorghum Partners	SP3903BD	<b>S</b>	325.6 ab	5.67 ab		4.1
Alta Seeds	AF8301*	<b>MS</b>	311.4 ab	3.50 efg		3.7
Southern Harvest (Meherrin Ag)	SH905F	<b>MS?</b>	307.0 ab	3.00 g		3.6
Desert Sun	BIG KAHUNA	<b>S</b>	283.8 ab	3.67 d-g		4.3
Sorghum Partners	SS304	<b>MS</b>	267.8 ab	3.83 c-g		3.6
Gayland Ward	GW 2120	<b>S</b>	257.8 ab	4.50 a-g		.¶
Sorghum Partners	NK300*	<b>MS</b>	255.6 ab	3.67 d-g		3.8
Sorghum Partners	CHR12FS0012	<b>S</b>	251.1 ab	5.17 a-e		4.8
Alta Seeds	AF7401*	<b>MR</b>	169.9 ab	3.50 efg		3.8
Desert Sun	ELITE	<b>MR</b>	137.2 ab	3.13 fg		3.8
Southern States	SS 1515F*	<b>MR</b>	128.1 ab	3.50 efg		3.8
Alta Seeds	AF7102	<b>MS?</b>	88.9 b	4.33 a-g		4.5
Southern States	SS 2010 BDF*	<b>R</b>	49.4 b	3.50 efg		3.8
	LSD		374.4	0.91		0.4
<b>FORAGE TYPES</b>						
Southern Harvest (Meherrin Ag)	SOUTHERN HONEY	<b>S</b>	1047.8 a	4.83 ab		4.3
Gayland Ward	Sweet Forever BMR	<b>S</b>	687.8 ab	5.00 ab		.¶
Southern States	SS 220 (SG X S)	<b>S</b>	528.9 ab	4.83 ab		4.5
Alta Seeds	AS9301	<b>S</b>	467.3 ab	5.83 a		4.4
Gayland Ward	Nutra-King BMR	<b>S</b>	466.7 ab	5.33 ab		.¶
Alta Seeds	AS6401	<b>S</b>	422.2 ab	4.67 ab		3.8
Moss	Mega Green	<b>S</b>	418.9 ab	4.00 ab		3.6
Sorghum Partners	SP4555	<b>S</b>	408.9 ab	4.83 ab		4.5
Gayland Ward	Super Sugar(DM)*	<b>S</b>	408.9 ab	4.17 ab		.¶
Gayland Ward	Super Sugar	<b>S</b>	403.3 ab	5.00 ab		.¶
Southern Harvest (Meherrin Ag)	SH90044	<b>S</b>	375.9 ab	3.33 b		.¶
Gayland Ward	Sweet Six BMR Dry Stalk	<b>S</b>	323.3 ab	5.50 ab		.¶
Southern Harvest (Meherrin Ag)	SOUTHERN SWEET	<b>S</b>	312.2 ab	4.17 ab		4.5
Sorghum Partners	SP6205	<b>S</b>	310.0 ab	4.33 ab		4.0
Southern States	SS 1652 SS (SG X S)	<b>S</b>	256.7 b	5.33 ab		4.5
Alta Seeds	AS6402*	<b>MS</b>	247.8 b	3.83 ab		4.3
Desert Sun	DSM 33-948	<b>MS</b>	210.0 b	3.83 ab		3.9
Southern States	SS 130 (S)	<b>MS</b>	154.4 b	5.33 ab		3.8
Alta Seeds	AS9302*	<b>MR</b>	43.1 b	3.67 ab		4.1
	LSD		406.4	1.17		0.4

**Table 2. Evaluation of Sorghum Hybrids for Resistance to Sugarcane Aphid (SCA) Infestation and Injury, Tifton and Griffin, GA 2016. (Continued)**

Brand	Variety	Combined SCA rating <sup>1</sup>	Aphids per leaf Griffin trial Mean HSD	Plant Injury Rating <sup>2</sup>		
				Griffin		Tifton
				rating 0-9 scale	HSD	rating 1-5 scale
<b>PEARL MILLET</b>						
Sorghum Partners	Millex 32	R	0.0	0.00		1.0
UGA	Tifleaf 3	R	0.0	0.00		1.0
Southern States	SS 635	R	0.0	0.00		1.0
Alta Seeds	Wonderleaf	R	0.0	0.00		1.6
Athens	HPM 1	R	0.0	0.00		1.0
Southern States	SS 1562M (BMR)	R	0.0	0.00		1.0
Sorghum Partners	Millex BMR	R	0.0	0.00		1.0

Analysis by sorghum type. Means with the same letter are not significantly different Tukey HSD grouping

1. Overall rating: S = susceptible, MS = moderately susceptible, MR = Moderately resistant-tolerant, R = resistant/tolerant; ? = Overall rating is not clear due to differences between locations.

2. Griffin scale: 0 = no damage, 9 = dead/dying plants. Tifton scale: 1 = no or few aphids and no injury, 5 = many aphids and dying plants.

¶ Not included at this location.

\* Less susceptible in 2015 also.

§ Listed as having some resistance by LSU (Pub. 3523, LSUAgCenter.com).