

# GRAIN SORGHUM

## Tifton, Georgia:

### Grain Sorghum Hybrid Performance, 2015, Nonirrigated

Company or Brand Name	Hybrid	2-Year Average		Test Wt. lb/bu	50% Bloom <sup>2</sup> days	Plant Ht. in	Lodging %	Disease <sup>3</sup> rating
		Yield <sup>1</sup> bu/acre	Yield bu/acre					
Dyna-Gro	GX13231	<b>74.8</b>	<b>86.5</b>	48.6	63	45	1	2.5
Pioneer	83P17	<b>71.1</b>	<b>81.2</b>	44.5	70	51	0	1.8
Pioneer	84P80	<b>70.3</b>	<b>96.2</b>	48.3	66	39	1	2.8
Alta Seeds	AG3201	<b>68.7</b>	.	46.7	62	46	1	2.5
Athens	103	<b>66.5</b>	<b>79.9</b>	44.3	74	55	1	1.8
SS	SS 655	<b>62.8</b>	<b>78.3</b>	50.2	62	42	2	2.8
Alta Seeds	AG1203	62.6	.	46.1	66	46	1	2.5
Dyna-Gro	M77GR61	61.7	<b>70.2</b>	45.6	69	53	1	2.5
Dyna-Gro	M75GR47	61.3	.	44.6	64	44	1	1.5
SS	SS 540	60.5	.	50.2	63	45	1	1.3
Cedek	SB 8144	59.1	.	47.9	58	37	0	1.8
Athens	104	59.0	<b>56.5</b>	49.6	70	52	1	2.3
Alta Seeds	AG2105	58.5	.	47.9	64	46	2	2.0
SS	SS 800	56.4	<b>65.6</b>	46.8	63	41	2	3.3
Alta Seeds	AG2103	56.3	.	49.9	62	44	5	3.3
Alta Seeds	AG3101	54.7	.	49.7	62	45	7	3.5
Gayland Ward	GW 9417	52.3	<b>70.9</b>	48.2	64	52	2	2.3
DeKalb	DKS53-53	51.9	<b>82.0</b>	44.1	67	48	3	2.8
Dyna-Gro	M77GB52	48.6	<b>63.9</b>	48.8	66	47	1	1.3
Gayland Ward	GW 1160	46.9	<b>76.8</b>	47.3	65	44	1	2.0
Cedek	SB 7144	46.4	.	44.6	61	36	4	2.8
Cedek	SB 5874	34.9	.	43.2	63	39	3	2.8
Average		58.4 <sup>4</sup>	75.7	47.1	65	45	2	2.3
LSD at 10% Level		12.1	N.S. <sup>5</sup>	3.0	2	4	3	0.6
Std. Err. of Entry Mean		5.1	6.1	1.3	1	2	1	0.3

1. Yields calculated at 14% moisture.

2. Days from planting to 50% bloom.

3. Rated 1 = resistant to 5 = susceptible to foliar diseases.

4. CV = 17.5% and df for EMS = 63.

5. The F-test indicated no statistical differences at the alpha = 0.10 probability level; therefore, an LSD value was not calculated.

**Bolding** indicates entries yielding equal to highest yielding entry within a column based on Fisher's protected LSD (P = 0.10).

Planted: April 23, 2015.

Harvested: August 19, 2015.

Seeding Rate: 100,000 seed/acre in 30" rows.

Soil Type: Tifton sandy loam.

Soil Test: P = High, K = High, and pH = 5.9.

Fertilization: Preplant: 65 lb N, 50 lb P<sub>2</sub>O<sub>5</sub>, and 155 lb K<sub>2</sub>O/acre. Sidedress: 140 lb N/acre.

Previous Crop: Corn.

Management: Disked, subsoiled and bedded, and rototilled; Roundup used for burn down; Dual Magnum, Atrazine, Prowl, and Layby Gramoxone used for weed control; Transform and Sivanto used for insect control.

Test conducted by R. Brooke, D. Dunn, B. McCranie, and G. South.

**Tifton, Georgia:  
Late-Planted Grain Sorghum Hybrid Performance, 2015,  
Nonirrigated**

Company or Brand Name	Hybrid	2-Year Average		Test Wt. lb/bu	50% Bloom <sup>2</sup> days	Plant Ht. in	Lodging %	Disease <sup>3</sup> rating
		Yield <sup>1</sup> bu/acre	Yield bu/acre					
Dyna-Gro	M75GR47	<b>105.2</b>	.	55.2	55	57	0	1.8
Pioneer	83P17	<b>97.0</b>	<b>93.4</b>	56.7	56	63	0	2.0
Athens	101	<b>96.1</b>	<b>77.0</b>	61.5	54	58	0	1.8
Alta Seeds	AG2105	<b>94.4</b>	.	58.4	54	62	0	2.0
SS	SS 540	<b>94.4</b>	.	62.0	53	56	0	1.5
Dyna-Gro	M77GB52	84.7	<b>93.8</b>	58.0	53	59	0	1.5
Pioneer	84P80	74.2	<b>92.6</b>	55.4	54	61	0	2.8
SS	SS 800	69.8	<b>81.5</b>	53.0	50	56	3	3.0
Gayland Ward	GW 9417	65.1	<b>76.6</b>	55.4	54	66	2	2.8
Alta Seeds	AG3201	64.1	.	52.3	51	59	21	3.5
Athens	102	60.0	<b>69.1</b>	47.7	61	62	1	2.5
Alta Seeds	AG3101	58.2	.	52.2	51	65	9	3.3
Dyna-Gro	M77GR61	56.1	<b>70.6</b>	48.5	62	63	0	2.0
Alta Seeds	AG1203	53.3	.	44.0	55	61	1	3.0
Cedek	SB 7144	47.7	.	48.6	50	49	2	2.8
Dyna-Gro	GX13231	45.5	<b>60.4</b>	41.4	55	60	1	2.8
Cedek	SB 8144	43.9	.	49.2	49	48	4	2.8
SS	SS 655	41.6	<b>62.0</b>	53.4	53	58	5	3.0
Gayland Ward	GW 1160	38.9	<b>65.5</b>	47.5	55	54	1	2.0
Cedek	SB 5874	38.5	.	46.3	51	51	8	3.3
Alta Seeds	AG2103	32.8	.	46.1	54	54	9	3.3
Average		64.8 <sup>4</sup>	76.6	52	54	58	3	2.5
LSD at 10% Level		13.4	N.S. <sup>5</sup>	3.1	2	2	5	0.6
Std. Err. of Entry Mean		5.6	4.8	1.3	1	1	2	0.2

1. Yields calculated at 14% moisture.

2. Days from planting to 50% bloom.

3. Rated 1 = resistant to 5 = susceptible to foliar diseases.

4. CV = 17.4% and df for EMS = 60.

5. The F-test indicated no statistical differences at the alpha = 0.10 probability level; therefore, an LSD value was not calculated.

**Bolding** indicates entries yielding equal to highest yielding entry within a column based on Fisher's protected LSD (P = 0.10).

Planted: June 16, 2015.

Harvested: September 18, 2015.

Seeding Rate: 100,000 seed/acre in 30" rows.

Soil Type: Tifton sandy loam.

Soil Test: P = High, K = High, and pH = 5.9.

Fertilization: Preplant: 65 lb N, 50 lb P<sub>2</sub>O<sub>5</sub>, and 155 lb K<sub>2</sub>O/acre. Sidedress: 50 lb N/acre.

Previous Crop: Wheat.

Management: Disked, subsoiled and bedded, and rototilled; Roundup used for burn down; Dual Magnum, Atrazine, Prowl, and Layby Gramoxone used for weed control; Transform and Sivanto used for insect control.

Test conducted by R. Brooke, D. Dunn, B. McCranie, and G. South.

## Plains, Georgia: Grain Sorghum Hybrid Performance, 2015, Nonirrigated

Company or Brand Name	Hybrid	2-Year		Test Wt. lb/bu	50% Bloom <sup>2</sup> days	Plant Ht. in	Lodging %	Disease <sup>3</sup> rating
		Yield <sup>1</sup> bu/acre	Average Yield bu/acre					
Pioneer	84P80	<b>91.1</b>	<b>78.3</b>	55.8	59	52	0	2.5
Alta Seeds	AG2103	<b>88.2</b>	.	56.5	58	49	0	3.0
Pioneer	83P17	<b>85.5</b>	<b>75.0</b>	50.5	63	55	0	1.8
Alta Seeds	AG3201	<b>84.4</b>	.	52.7	59	54	0	2.5
DeKalb	DKS53-53	<b>82.5</b>	<b>75.8</b>	53.7	58	53	0	3.0
Alta Seeds	AG2105	78.9	.	54.9	57	52	0	2.3
SS	SS 655	78.4	67.1	54.6	58	46	0	3.0
Dyna-Gro	M77GB52	77.8	<b>72.4</b>	54.6	60	50	0	2.0
Dyna-Gro	GX13231	77.8	69.0	53.7	57	48	0	3.5
Alta Seeds	AG1203	77.2	.	53.2	56	50	0	3.3
SS	SS 800	76.0	<b>71.2</b>	53.3	58	53	0	2.0
Alta Seeds	AG3101	75.7	.	55.7	58	58	0	2.3
Gayland Ward	GW 9417	71.8	62.3	54.6	61	56	0	2.0
Dyna-Gro	M75GR47	71.2	.	52.2	57	50	0	2.5
SS	SS 540	70.1	.	55.0	60	53	0	2.0
Cedek	SB 7144	69.1	.	49.1	52	44	0	3.0
Athens	104	69.0	68.4	53.8	62	55	0	2.3
Athens	103	66.2	53.4	50.4	65	59	0	1.5
Dyna-Gro	M77GR61	63.6	67.1	48.8	64	57	0	2.5
Cedek	SB 8144	57.9	.	51.4	52	44	0	2.8
Gayland Ward	GW 1160	56.9	58.0	50.7	60	51	0	2.0
Cedek	SB 5874	55.9	.	49.3	55	49	0	3.0
Average		73.9 <sup>4</sup>	68.2	52.9	58	52	0	2.5
LSD at 10% Level		9.2	7.5	1.4	1	3	0	0.5
Std. Err. of Entry Mean		3.9	3.2	0.6	1	1	0	0.2

1. Yields calculated at 14% moisture.
2. Days from planting to 50% bloom.
3. Rated 1 = resistant to 5 = susceptible to foliar diseases.
4. CV = 10.6% and df for EMS = 63.

**Bolding** indicates entries yielding equal to highest yielding entry within a column based on Fisher's protected LSD (P = 0.10).

Planted: May 7, 2015.  
 Harvested: August 25, 2015.  
 Seeding Rate: 100,000 seed/acre in 30" rows.  
 Soil Type: Greenville sandy clay loam.  
 Soil Test: P = Medium, K = High, and pH = 6.4.  
 Fertilization: Preplant: 0 lb N, 20 lb P<sub>2</sub>O<sub>5</sub>, and 60 lb K<sub>2</sub>O/acre. Sidedress: 55 lb N/acre.  
 Previous Crop: Wheat.  
 Management: Disked twice, chisel plowed, and rototilled; Dual Magnum and Atrazine used for weed control; Sivanto used for insect control.

Test conducted by A. Coy, D. Pearce, W. Jones, R. Brooke, D. Dunn, B. McCranie, and G. South.

**Plains, Georgia:  
Late-Planted Grain Sorghum Hybrid Performance, 2015,  
Nonirrigated**

Company or Brand Name	Hybrid	2-Year		Test Wt. lb/bu	50% Bloom <sup>2</sup> days	Plant Ht. in	Lodging %	Disease <sup>3</sup> rating
		Yield <sup>1</sup> bu/acre	Average Yield bu/acre					
Pioneer	83P17	<b>70.5</b>	<b>61.1</b>	54.7	56	56	0	2.5
SS	SS 540	<b>66.6</b>	.	62.7	55	51	0	1.9
SS	SS 800	<b>60.5</b>	<b>54.5</b>	54.7	50	49	0	2.8
Athens	101	59.6	<b>49.7</b>	63.4	57	47	0	1.5
Pioneer	84P80	58.1	<b>49.6</b>	55.5	55	51	0	3.0
Dyna-Gro	M77GB52	57.5	<b>49.8</b>	63.2	55	50	0	1.5
Dyna-Gro	M77GR61	54.7	<b>50.7</b>	51.6	58	53	0	2.5
Gayland Ward	GW 9417	49.5	<b>44.4</b>	55.4	54	57	1	2.5
Alta Seeds	AG3101	47.0	.	50.4	52	55	0	3.0
Alta Seeds	AG3201	44.9	.	51.6	51	49	0	3.0
Athens	102	43.1	<b>43.4</b>	50.7	57	52	1	2.5
Dyna-Gro	GX13231	43.0	<b>43.7</b>	43.0	55	52	0	3.0
Alta Seeds	AG2105	41.6	.	53.8	56	53	1	2.8
Gayland Ward	GW 1160	41.0	<b>37.5</b>	47.9	55	49	0	2.5
Dyna-Gro	M75GR47	40.8	.	53.0	54	48	0	2.3
Alta Seeds	AG1203	40.1	.	48.9	57	56	0	2.8
Cedek	SB 7144	38.6	.	46.4	48	44	0	2.8
Cedek	SB 5874	34.4	.	45.4	51	44	0	3.0
SS	SS 655	34.0	<b>40.9</b>	53.6	53	47	3	3.0
Alta Seeds	AG2103	31.8	.	54.8	55	46	1	3.0
Cedek	SB 8144	30.9	.	51.9	47	39	0	2.8
Average		47.1 <sup>4</sup>	47.8	53	54	50	0	2.6
LSD at 10% Level		10.5	N.S. <sup>5</sup>	5.4	2	4	N.S.	0.5
Std. Err. of Entry Mean		4.5	3.1	2.3	1	2	1	0.2

1. Yields calculated at 14% moisture.

2. Days from planting to 50% bloom.

3. Rated 1 = resistant to 5 = susceptible to foliar diseases.

4. CV = 19.0% and df for EMS = 60.

5. The F-test indicated no statistical differences at the alpha = 0.10 probability level; therefore, an LSD value was not calculated.

**Bolding** indicates entries yielding equal to highest yielding entry within a column based on Fisher's protected LSD (P = 0.10).

Planted: June 15, 2015.

Harvested: September 21, 2015.

Seeding Rate: 100,000 seed/acre in 30" rows.

Soil Type: Greenville sandy clay loam.

Soil Test: P = Medium, K = High, and pH = 6.4.

Fertilization: Preplant: 0 lb N, 20 lb P<sub>2</sub>O<sub>5</sub>, and 60 lb K<sub>2</sub>O/acre. Sidedress: 55 lb N/acre.

Previous Crop: Wheat.

Management: Disked twice, chisel plowed, and rototilled; Dual Magnum and Atrazine used for weed control; Sivanto used for insect control.

Test conducted by A. Coy, D. Pearce, W. Jones, R. Brooke, D. Dunn, B. McCranie, and G. South.

## Griffin, Georgia: Grain Sorghum Hybrid Performance, 2015, Nonirrigated

Company or Brand Name	Hybrid	Yield <sup>1</sup> bu/acre	2-Year		50% Bloom <sup>2</sup> days	Plant Ht. in	Lodging %	Bird Damage <sup>3</sup> %
			Average Yield bu/acre	Test Wt. lb/bu				
Alta Seeds	AG3101	<b>117.9</b>	.	58.4	58	63	3	.
Dyna-Gro	M77GB52	<b>113.2</b>	<b>84.8</b>	54.8	58	55	88	.
Alta Seeds	AG2105	<b>111.4</b>	.	44.3	58	58	.	5
Gayland Ward	GW 9417	<b>110.9</b>	<b>96.6</b>	56.5	59	60	.	1
Alta Seeds	AG1203	<b>106.1</b>	.	54.4	59	52	5	5
Pioneer	83P17	<b>104.5</b>	<b>91.4</b>	54.8	60	57	.	12
Dyna-Gro	GX13231	<b>101.3</b>	<b>87.3</b>	53.5	59	52	8	.
Dyna-Gro	M77GR61	<b>101.2</b>	<b>76.3</b>	52.0	61	59	.	11
SS	SS 800	99.0	<b>94.4</b>	53.0	56	54	59	4
Alta Seeds	AG2103	98.8	.	53.7	58	50	13	8
Pioneer	84P80	94.5	<b>74.3</b>	52.4	59	56	33	1
Gayland Ward	GW 1160	93.1	<b>73.9</b>	55.4	57	53	.	12
Alta Seeds	AG3201	91.8	.	49.4	57	55	6	3
Dyna-Gro	M75GR47	91.1	.	50.1	58	50	4	7
SS	SS 655	87.1	<b>70.5</b>	53.4	58	51	23	.
Cedek	SB 5874	83.5	.	46.5	55	47	0	9
Athens	103	82.9	<b>62.0</b>	50.9	67	59	.	11
Cedek	SB 8144	79.2	.	48.0	53	44	52	11
Athens	104	68.1	<b>64.9</b>	53.2	61	56	.	9
Cedek	SB 7144	66.8	.	45.2	54	45	31	11
DeKalb	DKS53-53	64.1	<b>67.0</b>	50.9	59	55	9	4
SS	SS 540	56.1	.	49.6	57	53	0	1
Average		91.9 <sup>4</sup>	78.6	51.8	58	54	22	7
LSD at 10% Level		18.1	N.S. <sup>5</sup>	N.S.	1	3	16	4
Std. Err. of Entry Mean		7.6	5.2	3.2	1	1	7	2

1. Yields calculated at 14% moisture.
2. Days from planting to 50% bloom.
3. Percent of grain head damaged.
4. CV = 16.6% and df for EMS = 63.
5. The F-test indicated no statistical differences at the alpha = 0.10 probability level; therefore, an LSD value was not calculated.

**Bolding** indicates entries yielding equal to highest yielding entry within a column based on Fisher's protected LSD (P = 0.10).

Planted: May 26, 2015.  
 Harvested: September 16, 2015.  
 Seeding Rate: 100,00 seed/acre in 30" rows.  
 Soil Type: Cecil clay loam.  
 Soil Test: P = Medium, K = Very High, and pH = 5.8.  
 Fertilization: Preplant: 50 lb N, 100 lb P<sub>2</sub>O<sub>5</sub>, and 150 lb K<sub>2</sub>O/acre. Sidedress: 100 lb N/acre.  
 Previous Crop: Soybeans.  
 Management: Chisel plowed, disked, and rototilled; Dual Magnum and one cultivation used for weed control; Transform used for insect control.

Test conducted by H. Jordan and G. Ware.

**Griffin, Georgia:**  
**Late-Planted Grain Sorghum Hybrid Performance, 2015**  
**Nonirrigated**

Company or Brand Name	Hybrid	2-Year		Test Wt. lb/bu	50% Bloom <sup>2</sup> days	Plant Ht. in	Lodging %
		Yield <sup>1</sup> bu/acre	Average Yield bu/acre				
SS	SS 540	<b>165.0</b>	.	48.9	57	54	0
Dyna-Gro	M77GB52	<b>157.0</b>	<b>90.5</b>	43.3	56	59	4
Pioneer	83P17	<b>156.5</b>	<b>106.4</b>	47.3	59	60	5
Athens	101	142.4	<b>89.6</b>	47.4	57	52	0
Gayland Ward	GW 9417	120.1	<b>89.0</b>	40.8	57	60	94
Dyna-Gro	M75GR47	118.0	.	43.0	57	50	5
Alta Seeds	AG2105	105.4	.	44.7	58	59	46
Alta Seeds	AG3201	93.8	.	32.0	55	51	100
Dyna-Gro	M77GR61	89.9	<b>65.9</b>	40.4	59	61	65
Pioneer	84P80	89.8	.	34.5	58	54	98
Alta Seeds	AG3101	88.6	.	40.1	58	59	99
SS	SS 800	78.2	<b>51.2</b>	37.0	55	51	99
Athens	102	76.2	<b>53.0</b>	35.7	62	60	69
Gayland Ward	GW 1160	75.6	<b>49.9</b>	38.5	56	51	80
SS	SS 655	74.9	<b>51.1</b>	32.0	60	51	100
Cedek	SB 5874	68.1	.	29.2	55	47	100
Alta Seeds	AG2103	67.9	.	32.6	59	52	100
Cedek	SB 8144	64.3	.	29.5	52	45	86
Dyna-Gro	GX13231	56.8	<b>58.9</b>	27.4	57	55	96
Alta Seeds	AG1203	52.5	.	29.7	59	56	97
Cedek	SB 7144	49.7	.	27.0	52	43	100
Average		94.8 <sup>3</sup>	70.5	37.2	57	54	69
LSD at 10% Level		16.5	N.S. <sup>4</sup>	3.2	1	3	14
Std. Err. of Entry Mean		7.0	8.8	1.3	1	1	6

1. Yields calculated at 14% moisture.
2. Days from planting to 50% bloom.
3. CV = 14.7% and df for EMS = 60.
4. The F-test indicated no statistical differences at the alpha = 0.10 probability level; therefore, an LSD value was not calculated.

**Bolding** indicates entries yielding equal to highest yielding entry within a column based on Fisher's protected LSD (P = 0.10).

Planted: June 30, 2015.  
Harvested: November 24, 2015.  
Seeding Rate: 100,000 seed/acre in 30" rows.  
Soil Type: Cecil sandy clay loam.  
Soil Test: P = Low, K = High, and pH = 6.0.  
Fertilization: Preplant: 30 lb N, 60 lb P<sub>2</sub>O<sub>5</sub>, and 90 lb K<sub>2</sub>O/acre. Sidedress: 100 lb N/acre.  
Previous Crop: Wheat.  
Management: Chisel plowed, disked, and rototilled; Dual Magnum and Atrazine used for weed control; Belt, Prevaton, and Transform used for insect control.

Test conducted by H. Jordan and G. Ware.

## Grain Sorghum Hybrid Resistance to Insect and Bird Damage, 2015

Xinzhi Ni, Karen R. Harris-Shultz, Joseph E. Knoll,  
Michael D. Toews, and G. David Buntin

A total of 26 grain sorghum hybrids (24 commercial grain sorghum hybrids and a pair of sugarcane aphid resistant and susceptible controls) were evaluated for resistance to insect and bird damage in Tifton, Georgia. A total of 10 insect pests were observed. The insect pests in order of importance are: sugarcane aphid, sorghum webworm, sorghum midge, leaf-footed bug, fall armyworm, corn earworm, corn leaf aphid, stink bugs (southern green and brown stink bugs), and chinch bug. In comparison with sugarcane aphid population and its damage, sorghum webworm, midge and bird damage were relatively low in 2015. Due to low populations, fall armyworm, corn earworm, leaf-footed bug, stink bug, and chinch bug damage data were not included in this report. In addition, diseases were of minimal importance in this trial.

Heavy sugarcane aphid infestation at the seedling stage was observed in the experimental plots that were planted on June 5, 2015. In fact, sugarcane aphid infestation, which generally occurred between mid-July and early August, was so severe that it halted normal plant development before flowering, resulting in 14 hybrids not producing panicles. Missing values in the “Days to Anthesis” column of the following table indicate the hybrids did not produce panicles from main stems. Any panicles from delayed tillers after aphid population crash were not included in the table. Most of these hybrids aborted their panicle development at the flag leaf (or boot) stage. Results from 2015 showed that sugarcane aphid infestation at the seedling stage is much more serious than the post flowering infestation observed in late August 2014.

Although sugarcane aphid damage was rated multiple times throughout the season, the rating recorded on August 7, 2015, was used for this report because this rating best characterized the aphid damage (leaf discoloration) before regrowth of green tillers appeared. Sugarcane aphid damage was ranked using the following scale: Very Good (VG) = no visible aphid damage, and only a few aphids colonizing the leaves; Good (G) = a lot of aphids without damage symptoms, but with honeydew visible on the surface of lower leaves; Fair (F) = high aphid population with lower leaves covered with honeydew, sooty mold, and aphid exuviae (or whitish-caste skins); and Poor (P) = sorghum plants were killed by aphid infestation, or did not produce viable panicles on main stems. Sorghum webworm, midge, and bird damage were ranked before harvest on September 11, 2015. Both sorghum webworm and midge damage were assessed in combination with grain loss according to the following rating scale: Very Good (VG) = 0-15% empty glumes on any of the sorghum panicles in an experimental plot; Good (G) = a few empty glumes (16-30%) observed on a panicle; Fair (F) = 31-75% empty glumes on a sorghum panicle; and Poor (P) = majority of sorghum panicles with more than three quarters (>75%) empty glumes. Finally, bird feeding damage on developing kernels was determined by presence of partial kernels on panicles and evidence of splattering of broken developing kernels falling on top leaves of a plant. Bird damage was rated with the following scale: Very Good (VG) = less than 10% grain loss; Good (G) = 11-25% loss; Fair (F) = 26-50% loss; and Poor (P) = > 50% loss of grains per panicle.

The heavy sugarcane aphid infestation occurred at the seedling stage for a period of approximately four weeks before flowering, and then the aphid population crashed in early August, 2015. Although relatively short in duration, the infestation with high aphid population permanently stopped main stem growth of 14 sorghum hybrids. Only four of the 26 hybrids consistently produced normal panicles from all four replications of the trial. These four hybrids were 'GW 9417' from Gayland Ward, 'GX13231' from Dyna-Gro, 'AG1203' from Alta Seeds, and an aphid resistant control received from the Multi-State Sugarcane Aphid Task Force (shared by Dr. Buntin). Overall, 'GX13231' and 'AG1203' had the least aphid damage and the largest panicles, leading to a Very Good rating. It is important for us to point out that we are not sure whether the seeds of these best performing hybrids were treated with insecticide(s) or not. Nine hybrids flowered normally with relatively moderate aphid damage ratings, leading to a Good rating. One hybrid, 'SB 8144', had relatively high aphid damage, resulting a Fair rating. The remaining 14 hybrids suffered severe aphid damage resulting a Poor rating. Among the 12 hybrids that produced panicles, sorghum webworm and midge damage was not high, and they were ranked from Very Good to Fair. Bird damage on the panicles of the 12 hybrids was very low, and they were ranked between Very Good and Good.

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, the 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 Penny Tapp, Aaron Pryor, Erick Vinicius Galvão, Oluwasegun Olorunyolemi, and Tyler Lusk from the Crop Genetics and Breeding Research Unit, USDA-ARS and by David Griffin from the Department of Entomology, University of Georgia-Tifton Campus.



## Evaluation of Grain Sorghum Hybrids for Resistance to Insect and Bird Damage, 2015, Tifton, Georgia<sup>1</sup>

Company or Brand Name	Hybrid	Maturity <sup>2</sup>	Days to Anthesis <sup>3</sup>	Aphid Resistance <sup>4</sup>		Webworm and Midge Resistance <sup>5</sup>		Bird-feeding resistance <sup>6</sup>	
				2015	2 years	2015	2+ years	2015	2+ years
Alta Seeds	AG1203	ME	52*	VG		G		VG	
Alta Seeds	AG2103	M	-	P					
Alta Seeds	AG2105	M	54	G		F		VG	G+
Alta Seeds	AG3101	ML	-	P					
Alta Seeds	AG3201	ML	52	G					G
Athens	101	ME	-	P	F-				
Athens	102	M	56	G	G	F	G-	VG	G+
Athens	103	ML	-	P	F-				G
Athens	104	ML	-	P	F				
Cedek	SB 7144	ME	50	G		F		VG	
Cedek	SB 8144	ME	57	F		G		G	
Cedek	SB 8874	ME	-	P					
DeKalb	DKS53-53	M	-	P	F-				VG-
Dyna-Gro	GX13231	ME	52*	VG	VG	VG	G	VG	
Dyna-Gro	M75GR47	M	-	P					
Dyna-Gro	M77GB52	ML	52	G	G	F	G	VG	VG-
Dyna-Gro	M77GR61	ML	-	P	F				
Gayland Ward	GW 1160	ME	-	P	F				
Gayland Ward	GW 9417	M	57*	G	G	F	G-	VG	
Pioneer	83P17	M	56	G	VG-	F	G-	VG	
Pioneer	84P80	M	65	G	G	F	G-	VG	
SS	SS 540	E	-	P					
SS	SS 655	ML	-	P	F-				
SS	SS 800	L	-	P	F-				
Aphid Resistant Check	Tx2752 × Tx2783		58*	G		G		VG	
Aphid Susceptible Check	Tx2752 × Tx430		-	P					

- The test plots were maintained with irrigation.
- Maturity denotes early (E), moderately early (ME), medium (M), moderately late (ML), and late (L) of the grain sorghum hybrids, which was provided by the company.
- Days from planting to 50% bloom, and the four entries with \* denotes these entries flowered and produced grains consistently in all four replications. Dashes indicate the lines that did not produce a panicle and were thus not rated for head feeding insect or bird damage.
- Aphid resistance: Very Good (VG) = no aphid or few aphids colonizing the leaves; Good (G) = a lot of aphids without damage symptoms, but honeydew was visible on the surface of lower leaves; Fair (F) = high aphid population shown by lower leaves covered with honeydew that has attracted predators, bees and wasps. In addition, sooty mold and aphid exuviae are abundant; and Poor (P) = plants with aborted heads caused by heavy aphid infestations at the seeding stage. The "+" or "-" signs of 2-year data denote the inconsistency of damage rankings.
- Sorghum webworm and midge damage: Very Good (VG) = 0-15%, Good (G) = 16-30%, Fair (F) = 31-75%, and Poor (P) = >75% glumes are without grains on a panicle.
- Bird-feeding resistance: Very Good (VG) = less than 10% loss; Good (G) = 11-25% loss; Fair (F) = 26-50% loss; and Poor (P) = over 50% loss.