

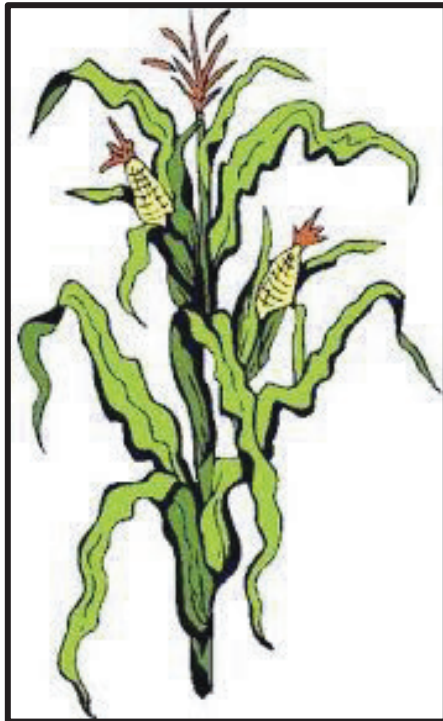
The Georgia Agricultural Experiment Stations
Department of Crop and Soil Sciences
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Georgia

2019 Corn, Sorghum Grain and Silage, and Summer Annual Forages Performance Tests

Daniel J. Mailhot, Dustin Dunn, and
Henry Jordan Jr., *Editors*



Conversion Table

U.S. Abbr.	Unit	Approximate Metric Equivalent
Length		
mi	mile	1.609 kilometers
yd	yard	0.9144 meters
ft or ' in or "	foot inch	30.48 centimeters 2.54 centimeters
Area		
sq mi or mi ²	square mile	2.59 square kilometers
acre	acre	0.405 hectares or 4047 square meters
sq ft or ft ²	square foot	0.093 square meters
Volume/Capacity		
gal	gallon	3.785 liters
qt	quart	0.946 liters
pt	pint	0.473 liters
fl oz	fluid ounce	29.573 milliliters or 28.416 cubic centimeters
bu	bushel	35.238 liters
cu ft or ft ³	cubic foot	0.028 cubic meters
Mass/Weight		
ton	ton	0.907 metric ton
lb	pound	0.453 kilogram
oz	ounce	28.349 grams

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PREFACE

This research report presents the results of the 2019 corn, sorghum and summer annual forage performance trials. Trials were conducted at seven locations throughout Georgia (see map inside back cover), depending on the crop. These included Tifton, Plains, and Midville in the Coastal Plain region, Athens and Griffin in the Piedmont region, Calhoun in the Limestone Valley region, and Blairsville in the Mountain region. Hybrids used for silage were evaluated at Tifton, Athens, Calhoun, and Blairsville.

Information concerning fertilization and cultural practices used in each trial is included with the tables. Plots were harvested using a plot combine, small silage chopper, or flail mower. Yields are expressed as bushels, English tons (2,000 pounds) or pounds per acre. The bushel weights for corn and sorghum are both 56 pounds, but standard moistures are 15.5% for corn and 14% for sorghum. Since data averaged over several years indicate a hybrid's yield potential better than data from only a single year, average yields over several years are included in this report.

The least significant difference (LSD) at the 10% level has been included in the tables to aid in comparing hybrids. If the yields of any two hybrids differ by more than the LSD value, they can be considered different in yield ability. **Bolding** is used in the performance tables to indicate hybrids with yields statistically equal to the highest yielding entry in the test. The model R-square value is included at the bottom of each table column to provide a general indicator of the reliability and precision of its data. The value can range from 0 to 1, and the higher its value, the more precise the data.

Seed companies and retailers are invited to enter the Georgia performance trials. Most hybrids and varieties entered are commercially available in Georgia, but a few experimentals are also entered. Entry of a hybrid in these trials does not imply endorsement or recommendation by the University of Georgia College of Agricultural and Environmental Sciences.

This report is one of four publications presenting the performance of agronomic crops in Georgia. For information concerning the performance of other crops, refer to one of the following research reports: 2018-2019 Small Grain Performance Tests (Annual Publication 100-11); the 2018 Soybean, Sorghum Grain and Silage, and Summer Annual Forages Performance Tests (Annual Publication 103-10); and the 2019 Peanut, Cotton, and Tobacco Performance Tests (Annual Publication 104-11).

This report, along with performance test information on other crops, is also available online at www.swvt.uga.edu. Additional information may be obtained by writing to Dr. Daniel J. Mailhot, Crop and Soil Sciences Department, University of Georgia Griffin, 1109 Experiment Street, Griffin, GA 30223-1797.

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Georgia

2019 Corn, Sorghum Grain and Silage, and Summer Annual Forages Performance Tests

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Corn Grain Tests Results

Statewide Yield Summary: Corn Grain Performance, Georgia, 2019

Company or Brand Name	Hybrid Name	Relative Maturity days	Coastal Plain		Statewide				Overall	
			Irrigated 2019	2-Yr	Dryland 2019	2-Yr	Irrigated 2019	2-Yr	2019	2-Yr
AgraTech	68VT2P	112	268	268	.	.	.	.	.	.
AgraTech	711VT2P	114	280	.	.	.	.	.	.	.
AgraTech	85VT2P	117	284	286	.	.	.	.	.	.
AgriGold	A644-32TRCRIB	114	281	.	101	.	283	.	234	.
AgriGold	A647-46VT2PRO	117	274	.	114	.	279	.	235	.
AgriGold	A648-54STX	118	277	.	119	.	287	.	244	.
AgriGold	A6544VT2RIB	113	282	281	122	157	284	280	238	252
AgriGold	A6659VT2RIB	116	280	278	105	171	284	277	233	248
Armor	A1447 VT2P	114	284	.	.	.	.	.	.	.
Armor	A1778 VT2P/ASR	117	275	.	.	.	.	.	.	.
Augusta	A1367-5222DCEZ	117	277	.	.	.	.	.	.	.
Augusta	A4565-3220GTD	115	260	.	.	.	.	.	.	.
Augusta	A5065-3110GTD	115	287	.	.	.	.	.	.	.
CROPLAN	5340 VT2P	113	274	.	.	.	.	.	.	.
CROPLAN	5678 VT2P	116	278	276	.	.	.	.	.	.
DEKALB	DKC65-99 TRECEPTA	115	250	.	124	.	265	.	226	.
DEKALB	DKC66-18 VT2P	116	250	.	108	.	260	.	220	.
DEKALB	DKC68-69 VT2P	118	270	264	107	164	275	270	229	242
Dyna-Gro	D54VC14	114	277	282	113	.	276	.	231	.
Dyna-Gro	D57VC17	117	277	.	105	.	283	.	237	.
Dyna-Gro	D57VC51	117	273	272	99	.	286	.	236	.
Dyna-Gro	D58VC65	118	286	283	116	.	287	.	241	.
Local Seed	AV7516 YHB	116	280	.	.	.	.	.	.	.
Local Seed	AV8614 YHB	114	285	.	.	.	.	.	.	.
Local Seed	LC0877 VT2P	108	264	.	.	.	.	.	.	.
Local Seed	LC1289 VT2P	112	265	.	.	.	.	.	.	.
Local Seed	LC1488 VT2P	114	264	.	.	.	.	.	.	.
Local Seed	LC1577 VT2P	115	281	272	.	.	.	.	.	.
Local Seed	LC1586 TC	115	258	.	.	.	.	.	.	.
Local Seed	LC1697 SSX	115	260	.	.	.	.	.	.	.
Local Seed	LC1776 VT2P	117	282	280	.	.	.	.	.	.
Local Seed	LC1795 VT2P	117	259	.	.	.	.	.	.	.
Local Seed	LC1878 VT2P	118	263	262	.	.	.	.	.	.
Local Seed	LC1987 VT2P	119	266	261	.	.	.	.	.	.
MorCorn	MC 4255	112	260	.	.	.	.	.	.	.
MorCorn	MC 4319	113	263	261	.	.	.	.	.	.
MorCorn	MC 4725	117	280	280	.	.	.	.	.	.
NK Brand	NK1573-3330	115	237	.	.	.	.	.	.	.
NK Brand	NK1694-3111	116	274	263	.	.	.	.	.	.
NK Brand	NK1808-3111	118	274	269	.	.	.	.	.	.
Phoenix	6507A3	115	248	251	.	.	.	.	.	.
Phoenix	7402A4	118	270	268	.	.	.	.	.	.
Pioneer	P1662YHR	116	281	275	.	.	.	.	.	.
Pioneer	P1870YHR	118	292	286	94	157	295	282	241	250
Pioneer	P1903YHR	119	282	.	.	.	.	.	.	.
SEEDWAY	SW 8109 3111	117	261	.	100	.	276	.	228	.
SEEDWAY	SW6540VT2P RIB	108	247	.	98	.	244	.	204	.
SEEDWAY	SW6790VT2P RIB	113	265	.	117	.	269	.	225	.

Statewide Yield Summary (Continued): Corn Grain Performance, Georgia, 2019

Company or Brand Name	Hybrid Name	Relative Maturity days	Coastal Plain				Statewide			
			Irrigated		Dryland		Irrigated		Overall	
			2019	2-Yr	2019	2-Yr	2019	2-Yr	2019	2-Yr
Terral Seed	REV24BHR99	114	275	273	99	165	283	276	236	248
Terral Seed	REV25BHR26	115	277	276	113	174	279	275	236	250
Terral Seed	REV25BHR80	115	283	.	112	.	287	.	242	.
Terral Seed	REV28BHR18	118	291	288	116	176	299	291	251	262
Average			272	271	109	169	279	279	233	250
LSD at 10% Level			13	11	NS	NS	10	7	11	7
Std. Err. of Entry Mean			5	4	13	8	4	3	4	2
Model R-squared			0.48	0.43	0.54	0.83	0.79	0.60	0.94	0.88

Bolded yields are statistically non-significant ($p = 0.10$ level) from the highest yielding test entry.

"NS" indicates differences are statistically non-significant ($p = 0.10$ probability level).

Coastal Plain Region

Coastal Plain Yield Summary: Corn Grain Performance, Georgia, 2019

Company or Brand Name	Hybrid Name	Relative Maturity days	Coastal Plain	Dryland	Irrigated			Average
			Average	Tifton	Tifton	Plains	Midville		bu/acre
Pioneer	P1870YHR	118	233	56	310	276	292	292
Terral Seed	REV28BHR18	118	242	94	317	271	286	291
Augusta	A5065-3110GTD	115	235	78	308	258	295	287
Dyna-Gro	D58VC65	118	236	84	291	276	292	286
Local Seed	AV8614 YHB	114	229	60	300	262	295	285
AgraTech	85VT2P	117	229	65	284	284	285	284
Armor	A1447 VT2P	114	240	107	294	274	284	284
Terral Seed	REV25BHR80	115	236	97	305	266	278	283
AgriGold	A6544VT2RIB	113	239	109	307	267	273	282
Pioneer	P1903YHR	119	219	28	294	280	272	282
Local Seed	LC1776 VT2P	117	230	73	270	278	297	282
Local Seed	LC1577 VT2P	115	233	88	290	273	281	281
Pioneer	P1662YHR	116	222	46	296	278	269	281
AgriGold	A644-32TRCRIB	114	226	62	294	263	285	281
AgraTech	711VT2P	114	228	71	297	272	272	280
AgriGold	A6659VT2RIB	116	228	72	301	262	277	280
MorCorn	MC 4725	117	221	46	282	268	289	280
Local Seed	AV7516 YHB	116	222	51	305	254	279	280
CROPLAN	5678 VT2P	116	219	41	291	265	279	278
Augusta	A1367-5222DCEZ	117	215	27	299	263	271	277
AgriGold	A648-54STX	118	226	72	284	274	275	277
Dyna-Gro	D54VC14	114	230	89	290	267	274	277
Dyna-Gro	D57VC17	117	227	77	281	261	289	277
Terral Seed	REV25BHR26	115	230	92	293	260	277	277
Armor	A1778 VT2P/ASR	117	228	85	273	266	287	275
Terral Seed	REV24BHR99	114	218	48	284	255	286	275
AgriGold	A647-46VT2PRO	117	227	85	288	243	293	274
NK Brand	NK1694-3111	116	227	85	285	261	276	274
NK Brand	NK1808-3111	118	224	75	283	270	269	274
CROPLAN	5340 VT2P	113	229	93	288	272	262	274
Dyna-Gro	D57VC51	117	221	62	297	252	271	273
DEKALB	DKC68-69 VT2P	118	220	70	277	254	281	270
Phoenix	7402A4	118	216	52	285	248	279	270
AgraTech	68VT2P	112	225	95	285	248	270	268
Local Seed	LC1987 VT2P	119	223	93	280	251	268	266
SEEDWAY	SW6790VT2P RIB	113	225	104	277	255	264	265
Local Seed	LC1289 VT2P	112	222	92	270	251	274	265
Local Seed	LC1488 VT2P	114	219	82	274	242	277	264
Local Seed	LC0877 VT2P	108	219	81	266	258	269	264
Local Seed	LC1878 VT2P	118	221	92	270	231	289	263
MorCorn	MC 4319	113	220	89	275	259	255	263
SEEDWAY	SW 8109 3111	117	211	61	274	232	278	261
Augusta	A4565-3220GTD	115	208	49	279	246	256	260
MorCorn	MC 4255	112	216	85	268	230	283	260
Local Seed	LC1697 SSX	115	217	90	273	244	263	260

Coastal Plain Yield Summary: Corn Grain Performance, Georgia, 2019 (Continued)

Company or Brand Name	Hybrid Name	Relative Maturity days	Coastal Plain	Dryland	Irrigated			
			Average	Tifton	Tifton	Plains	Midville	Average
			----- bu/acre -----					
Local Seed	LC1795 VT2P	117	216	88	250	260	268	259
Local Seed	LC1586 TC	115	212	74	273	259	241	258
DEKALB	DKC65-99 TRECEPTA	115	209	87	256	216	279	250
DEKALB	DKC66-18 VT2P	116	206	74	274	204	271	250
Phoenix	6507A3	115	204	74	273	221	249	248
SEEDWAY	SW6540VT2P RIB	108	204	76	266	217	256	247
NK Brand	NK1573-3330	115	187	39	261	183	267	237
Average			222	74	281	255	276	272
LSD at 10% Level			16	31	16	23	17	13
Std. Err. of Entry Mean			7	13	7	10	7	5
Model R-squared			0.92	0.70	0.61	0.62	0.57	0.48

"NS" indicates differences are statistically non-significant ($p = 0.10$ probability level).

Bolded yields are statistically non-significant ($p = 0.10$ level) from the highest yielding test entry.

Tifton, Georgia: Corn Grain Performance, 2019, Dryland

Company or Brand Name	Hybrid Name	Relative Maturity days	Yield		Ears/ 100 plants no.	Grain Quality ¹ rating	Grain Moisture %	Plant Pop. no.	Lodging %
			2019 ----- bu/acre	2-Yr Avg -----					
AgriGold	A6544VT2RIB	113	109	156	94	2.0	15.2	21,889	0
Armor	A1447 VT2P	114	107	.	88	3.0	16.5	21,675	0
SEEDWAY	SW6790VT2P RIB	113	104	.	89	2.0	16.0	23,491	0
Terral Seed	REV25BHR80	115	97	.	83	2.0	15.3	22,636	0
AgraTech	68VT2P	112	95	153	87	2.0	16.7	21,996	0
Terral Seed	REV28BHR18	118	94	147	75	3.0	14.4	21,996	0
Local Seed	LC1987 VT2P	119	93	137	96	3.0	17.3	22,530	0
CROPLAN	5340 VT2P	113	93	.	85	3.0	16.1	22,423	0
Local Seed	LC1289 VT2P	112	92	.	91	2.0	16.1	22,209	0
Local Seed	LC1878 VT2P	118	92	146	89	3.0	16.4	21,996	1
Terral Seed	REV25BHR26	115	92	151	74	2.0	17.3	22,103	0
Local Seed	LC1697 SSX	115	90	.	78	1.0	16.1	23,491	0
Dyna-Gro	D54VC14	114	89	135	78	2.0	16.3	22,529	0
MorCorn	MC 4319	113	89	138	88	2.0	17.1	22,743	0
Local Seed	LC1577 VT2P	115	88	128	84	3.0	16.0	22,209	0
Local Seed	LC1795 VT2P	117	88	.	82	2.0	16.4	21,889	0
DEKALB	DKC65-99 TRECEPTA	115	87	.	85	3.0	16.5	22,316	0
NK Brand	NK1694-3111	116	85	139	67	2.0	15.7	22,743	0
AgriGold	A647-46VT2PRO	117	85	.	87	2.0	17.4	21,889	0
MorCorn	MC 4255	112	85	.	81	2.0	16.0	22,209	0
Armor	A1778 VT2P/ASR	117	85	.	88	3.0	16.6	22,316	0
Dyna-Gro	D58VC65	118	84	147	84	3.0	16.6	21,355	0
Local Seed	LC1488 VT2P	114	82	.	93	3.0	15.8	21,462	0
Local Seed	LC0877 VT2P	108	81	.	74	2.0	15.4	22,316	0
Augusta	A5065-3110GTD	115	78	.	78	2.0	16.7	22,957	0
Dyna-Gro	D57VC17	117	77	.	84	3.0	17.0	22,957	1
SEEDWAY	SW6540VT2P RIB	108	76	.	78	3.0	15.4	21,889	0
NK Brand	NK1808-3111	118	75	127	86	3.0	16.0	21,569	0
Local Seed	LC1586 TC	115	74	.	74	2.0	16.3	20,501	0
DEKALB	DKC66-18 VT2P	116	74	.	70	3.0	16.5	22,637	0
Phoenix	6507A3	115	74	146	81	3.0	15.5	22,957	0
Local Seed	LC1776 VT2P	117	73	120	80	3.0	16.2	22,209	0
AgriGold	A6659VT2RIB	116	72	147	78	3.0	15.4	23,170	0
AgriGold	A648-54STX	118	72	.	85	2.0	17.0	21,675	0
AgraTech	711VT2P	114	71	.	81	3.0	15.3	21,142	0
DEKALB	DKC68-69 VT2P	118	70	134	84	3.0	17.2	22,850	0
AgraTech	85VT2P	117	65	139	87	3.0	15.9	21,889	0
Dyna-Gro	D57VC51	117	62	120	74	3.0	16.0	22,743	0
AgriGold	A644-32TRCRIB	114	62	.	71	3.0	16.7	21,355	0
SEEDWAY	SW 8109 3111	117	61	.	69	3.0	16.7	22,636	0
Local Seed	AV8614 YHB	114	60	.	69	3.0	15.6	22,316	0
Pioneer	P1870YHR	118	56	123	71	3.0	16.3	22,316	0
Phoenix	7402A4	118	52	119	64	3.0	16.2	22,957	2
Local Seed	AV7516 YHB	116	51	.	69	2.0	13.0	21,569	0
Augusta	A4565-3220GTD	115	49	.	65	4.0	16.4	22,210	0

Tifton, Georgia:
Corn Grain Performance, 2019, Dryland (Continued)

Company or Brand Name	Hybrid Name	Relative Maturity days	Yield		Ears/100 plants no.	Grain Quality ¹ rating	Grain Moisture %	Plant Pop. no.	Lodging %
			2019	2-Yr Avg					
Terral Seed	REV24BHR99	114	48	125	57	2.0	13.7	22,423	0
Pioneer	P1662YHR	116	46	110	46	3.0	14.3	22,530	0
MorCorn	MC 4725	117	46	117	61	3.0	16.4	20,928	0
CROPLAN	5678 VT2P	116	41	120	58	4.0	15.3	20,821	0
NK Brand	NK1573-3330	115	39	.	50	3.0	15.0	21,996	0
Pioneer	P1903YHR	119	28	.	66	4.0	14.9	21,675	0
Augusta	A1367-5222DCEZ	117	27	.	50	4.0	14.1	21,675	1
Average			74 ²	134	77	2.7	15.9	22,172	0
LSD at 10% Level			31	NS	18	-	1.6	1,592	-
Std. Err. of Entry Mean			13	13	8	-	0.7	680	-
Model R-squared			0.70	0.77	0.52	-	0.45	0.32	0.24

1. Grain quality rating: 1 = excellent to 5 = poor.

2. CV = 35.3%, and df for EMS = 153.

"NS" indicates differences are statistically non-significant (p = 0.10 probability level).

Bolded yields are statistically non-significant (p = 0.10 level) from the highest yielding test entry.

Planted: March 29, 2019.

Harvested: August 24, 2019.

Seeding Rate: 24,000 seeds per acre in 36-inch rows.

Soil Type: Tifton loamy sand.

Soil Test: P = High, K = Low, and pH = 6.1.

Fertilization: 60 lb N, 50 lb P₂O₅, and 110 lb K₂O/acre as preplant; 130 lb N/acre as sidedress.

Previous Crop: Grain sorghum.

Management: Conventional tillage. Atrazine, Warrant, Zidua, and Basagran used for weed control.

Test conducted by R. Brooke, K. Cawley, M. Cofield, and D. Dunn.

Tifton, Georgia: Corn Grain Performance, 2019, Irrigated

Company or Brand Name	Hybrid Name	Relative Maturity days	Yield		Ears/ 100 plants no.	Grain Quality ¹ rating	Grain Moisture %	Plant Pop. no.	Lodging %
			2019 ----- bu/acre	2-Yr Avg -----					
Terral Seed	REV28BHR18	118	317	299	100	2.0	17.0	33,599	1
Pioneer	P1870YHR	118	310	287	100	1.0	17.9	35,663	1
Augusta	A5065-3110GTD	115	308	.	100	2.0	17.0	35,984	3
AgriGold	A6544VT2RIB	113	307	291	101	2.0	16.4	36,197	0
Local Seed	AV7516 YHB	116	305	.	100	2.0	16.9	34,382	4
Terral Seed	REV25BHR80	115	305	.	101	1.0	17.0	35,022	1
AgriGold	A6659VT2RIB	116	301	289	101	2.0	17.3	35,556	0
Local Seed	AV8614 YHB	114	300	.	102	1.0	16.6	35,236	0
Augusta	A1367-5222DCEZ	117	299	.	100	2.0	18.4	35,022	12
AgraTech	711VT2P	114	297	.	99	1.0	16.1	35,449	0
Dyna-Gro	D57VC51	117	297	284	101	1.0	17.2	35,556	0
Pioneer	P1662YHR	116	296	278	99	1.0	17.4	34,275	1
MorCorn	MC 4457	114	296	278	99	3.0	16.5	34,809	0
Pioneer	P1903YHR	119	294	.	100	2.0	17.2	34,168	0
AgriGold	A644-32TRCRIB	114	294	.	99	1.0	17.1	33,741	3
Armor	A1447 VT2P	114	294	.	100	3.0	16.3	35,663	1
Phoenix	6542A4	116	293	.	103	1.0	17.2	34,702	6
Terral Seed	REV25BHR26	115	293	274	99	2.0	16.5	34,702	1
CROPLAN	5678 VT2P	116	291	275	100	2.0	17.0	33,848	2
Dyna-Gro	D58VC65	118	291	283	100	3.0	16.7	35,129	0
Dyna-Gro	D54VC14	114	290	284	99	1.0	16.5	34,488	1
Local Seed	LC1577 VT2P	115	290	276	100	2.0	16.7	35,343	1
MorCorn	MC XP 1953	113	289	.	103	2.0	16.9	35,876	1
CROPLAN	5340 VT2P	113	288	.	100	3.0	16.9	34,702	2
AgriGold	A647-46VT2PRO	117	288	.	103	2.0	17.0	35,770	0
MorCorn	MC XP 1954	113	287	.	101	1.0	18.2	36,197	1
MorCorn	MC 3952	109	286	.	101	3.0	16.4	36,090	0
Phoenix	7402A4	118	285	270	100	2.0	17.7	35,449	1
NK Brand	NK1694-3111	116	285	272	101	2.0	17.1	34,595	20
AgraTech	68VT2P	112	285	276	101	3.0	17.0	35,556	0
Terral Seed	REV24BHR99	114	284	274	104	2.0	16.2	35,236	0
AgraTech	85VT2P	117	284	286	99	2.0	17.4	35,449	2
AgriGold	A648-54STX	118	284	.	101	1.0	17.1	36,090	0
NK Brand	NK1808-3111	118	283	263	100	1.0	18.0	35,983	2
MorCorn	MC 4725	117	282	277	100	2.0	18.0	35,449	2
Dyna-Gro	D57VC17	117	281	.	101	1.0	17.1	35,022	2
MorCorn	MC XP 1951	111	281	.	102	2.0	16.7	34,595	1
Local Seed	LC1987 VT2P	119	280	268	100	2.0	17.0	35,877	0
Augusta	A4565-3220GTD	115	279	.	99	2.0	17.5	34,702	3
MorCorn	MC XP 1962	114	278	.	101	1.0	17.7	35,343	0
SEEDWAY	SW6790VT2P RIB	113	277	.	103	2.0	16.2	35,023	2
Dyna-Gro	D55VC80	115	277	.	101	2.0	17.2	36,731	0
DEKALB	DKC68-69 VT2P	118	277	266	100	1.0	17.6	35,556	1
MorCorn	MC XP 1956	116	276	.	101	2.0	17.5	35,449	1
MorCorn	MC 4319	113	275	265	99	2.0	16.4	35,343	1
Local Seed	LC1488 VT2P	114	274	.	103	1.0	16.3	34,595	1
DEKALB	DKC66-18 VT2P	116	274	.	101	1.0	17.0	35,236	0
Dyna-Gro	CX18117	117	274	.	100	1.0	17.3	35,236	1
SEEDWAY	SW 8109 3111	117	274	.	99	2.0	18.2	34,275	1
Phoenix	6507A3	115	273	265	100	2.0	17.7	35,164	12

Tifton, Georgia: Corn Grain Performance, 2019, Irrigated (Continued)

Company or Brand Name	Hybrid Name	Relative Maturity days	Yield		Ears/100 plants no.	Grain Quality ¹ rating	Grain Moisture %	Plant Pop. no.	Lodging %
			2019	2-Yr Avg					
Armor	A1778 VT2P/ASR	117	273	.	101	1.0	17.2	34,595	2
Local Seed	LC1697 SSX	115	273	.	102	1.0	17.6	36,197	4
Local Seed	LC1586 TC	115	273	.	103	1.0	16.8	33,207	0
MorCorn	MC XP 1857	115	273	.	101	3.0	17.0	34,809	0
MorCorn	MC XP 1959	109	271	.	102	2.0	17.5	34,916	2
MorCorn	MC XP 1957	117	271	.	99	2.0	16.7	34,809	4
Local Seed	LC1776 VT2P	117	270	273	100	2.0	17.2	34,809	1
Local Seed	LC1878 VT2P	118	270	257	103	1.0	16.9	35,450	1
Local Seed	LC1289 VT2P	112	270	.	101	2.0	16.6	34,275	1
MorCorn	MC XP 1963	115	269	.	100	2.0	16.2	33,741	3
MorCorn	MC XP 1955	115	269	.	101	1.0	17.1	35,343	0
MorCorn	MC 4255	112	268	.	103	2.0	16.4	35,449	2
SEEDWAY	SW6540VT2P RIB	108	266	.	101	3.0	15.8	35,343	0
Local Seed	LC0877 VT2P	108	266	.	99	2.0	16.2	35,307	0
MorCorn	MC XP 1861	113	261	.	105	2.0	17.4	33,955	4
NK Brand	NK1573-3330	115	261	.	100	2.0	16.9	35,236	9
MorCorn	MC XP 1859	116	259	.	100	3.0	16.6	34,702	0
MorCorn	MC 4178	111	256	.	98	2.0	16.2	35,129	0
DEKALB	DKC65-99 TRECEPTA	115	256	.	100	3.0	17.8	35,877	0
MorCorn	MC 3966	109	251	.	98	2.0	15.8	35,165	0
Local Seed	LC1795 VT2P	117	250	.	100	1.0	17.4	33,314	5
Phoenix	5352A4	109	250	.	104	2.0	16.6	33,528	13
Average			281 ²	276	101	1.8	17.0	35,061	2
LSD at 10% Level			16	13	2	-	0.8	1,350	-
Std. Err. of Entry Mean			7	6	1	-	0.3	571	-
Model R-squared			0.61	0.52	0.39	-	0.51	0.36	0.50

1. Grain quality rating: 1 = excellent to 5 = poor.

2. CV = 4.9%, and df for EMS = 208.

Bolded yields are statistically non-significant (p = 0.10 level) from the highest yielding test entry.

Planted: March 30, 2019.

Harvested: August 22, 2019.

Seeding Rate: 34,000 seeds per acre in 36-inch rows.

Soil Type: Tifton loamy sand.

Soil Test: P = High, K = Medium, and pH = 6.3.

Fertilization: 130 lb N, 220 lb P₂O₅, and 310 lb K₂O/acre as preplant; 260 lb N/acre as sidedress.

Previous Crop: Soybeans.

Management: Conventional tillage. Atrazine, Warrant, Zidua, and Basagran used for weed control. Irrigated 16 inches.

Test conducted by R. Brooke, K. Cawley, M. Cofield, and D. Dunn.

Plains, Georgia: Corn Grain Performance, 2019, Irrigated

Company or Brand Name	Hybrid Name	Relative Maturity days	Yield		Ears/ 100 plants no.	Grain Quality ¹ rating	Grain Moisture %	Plant Pop. no.	Lodging %
			2019 ----- bu/acre	2-Yr Avg -----					
AgraTech	85VT2P	117	284	284	100	2.0	15.4	34,382	6
Pioneer	P1903YHR	119	280	.	100	2.0	16.1	31,819	17
Pioneer	P1662YHR	116	278	274	99	1.0	15.8	33,848	5
Local Seed	LC1776 VT2P	117	278	271	100	2.0	14.9	34,595	5
Dyna-Gro	D58VC65	118	276	276	100	2.0	14.6	34,915	2
Pioneer	P1870YHR	118	276	275	101	2.0	16.2	33,883	3
AgriGold	A648-54STX	118	274	.	101	2.0	16.1	34,595	18
Armor	A1447 VT2P	114	274	.	100	2.0	14.7	34,702	4
Local Seed	LC1577 VT2P	115	273	269	100	3.0	14.3	33,955	5
AgraTech	711VT2P	114	272	.	100	2.0	14.7	33,955	26
CROPLAN	5340 VT2P	113	272	.	100	2.0	15.1	35,342	8
Terral Seed	REV28BHR18	118	271	273	98	2.0	15.6	32,140	8
NK Brand	NK1808-3111	118	270	275	100	3.0	15.7	33,599	15
MorCorn	MC 4725	117	268	271	102	2.0	15.3	33,029	2
Dyna-Gro	D54VC14	114	267	274	99	3.0	14.2	33,634	2
AgriGold	A6544VT2RIB	113	267	265	100	3.0	14.0	33,314	4
Armor	A1778 VT2P/ASR	117	266	.	98	2.0	15.5	34,489	2
Terral Seed	REV25BHR80	115	266	.	99	2.0	15.3	34,275	18
CROPLAN	5678 VT2P	116	265	271	101	2.0	14.7	33,741	8
AgriGold	A644-32TRCRIB	114	263	.	100	2.0	15.4	33,101	14
Augusta	A1367-5222DCEZ	117	263	.	100	2.0	16.1	32,673	10
AgriGold	A6659VT2RIB	116	262	273	100	2.0	15.4	34,026	6
Local Seed	AV8614 YHB	114	262	.	99	3.0	15.3	32,887	27
NK Brand	NK1694-3111	116	261	248	100	3.0	15.0	34,026	35
Dyna-Gro	D57VC17	117	261	.	100	2.0	15.4	34,702	6
Local Seed	LC1795 VT2P	117	260	.	100	3.0	15.6	33,741	1
Terral Seed	REV25BHR26	115	260	269	100	2.0	14.6	33,741	19
MorCorn	MC 4319	113	259	257	99	2.0	15.6	32,566	1
Local Seed	LC1586 TC	115	259	.	101	2.0	14.8	33,456	3
Local Seed	LC0877 VT2P	108	258	.	99	3.0	13.8	34,275	3
Augusta	A5065-3110GTD	115	258	.	100	1.0	15.8	35,449	23
Terral Seed	REV24BHR99	114	255	262	101	2.0	14.5	33,314	11
SEEDWAY	SW6790VT2P RIB	113	255	.	104	3.0	14.2	34,880	0
Local Seed	AV7516 YHB	116	254	.	101	1.0	15.5	33,100	17
DEKALB	DKC68-69 VT2P	118	254	248	100	2.0	17.3	34,595	7
Dyna-Gro	D57VC51	117	252	269	101	1.0	15.8	34,382	6
Local Seed	LC1289 VT2P	112	251	.	100	3.0	14.7	33,883	8
Local Seed	LC1987 VT2P	119	251	249	100	3.0	16.0	34,915	0
AgraTech	68VT2P	112	248	255	101	2.0	14.7	33,848	3
Phoenix	7402A4	118	248	264	101	2.0	16.0	32,780	22
Augusta	A4565-3220GTD	115	246	.	101	2.0	15.0	33,955	36
Local Seed	LC1697 SSX	115	244	.	100	2.0	15.4	34,488	0
AgriGold	A647-46VT2PRO	117	243	.	101	2.0	15.3	34,595	17
Local Seed	LC1488 VT2P	114	242	.	102	2.0	14.1	34,702	1
SEEDWAY	SW 8109 3111	117	232	.	100	2.0	15.8	32,460	27

**Plains, Georgia:
Corn Grain Performance, 2019, Irrigated (Continued)**

Company or Brand Name	Hybrid Name	Relative Maturity days	Yield		Ears/100 plants no.	Grain Quality ¹ rating	Grain Moisture %	Plant Pop. no.	Lodging %
			2019	2-Yr Avg					
Local Seed	LC1878 VT2P	118	231	247	102	2.0	15.2	33,207	4
MorCorn	MC 4255	112	230	.	99	2.0	15.0	33,741	3
Phoenix	6507A3	115	221	229	103	3.0	14.8	34,168	38
SEEDWAY	SW6540VT2P RIB	108	217	.	98	3.0	13.4	34,595	2
DEKALB	DKC65-99 TRECEPTA	115	216	.	100	4.0	15.4	34,595	4
DEKALB	DKC66-18 VT2P	116	204	.	100	4.0	13.9	34,809	1
NK Brand	NK1573-3330	115	183	.	99	2.0	15.3	33,314	40
Average			255 ²	264	100	2.3	15.1	33,921	10
LSD at 10% Level			23	16	NS	-	0.5	NS	-
Std. Err. of Entry Mean			10	7	1	-	0.2	692	-
Model R-squared			0.62	0.34	0.32	-	0.79	0.33	0.63

1. Grain quality rating: 1 = excellent to 5 = poor.

2. CV = 7.5%, and df for EMS = 148.

"NS" indicates differences are statistically non-significant (p = 0.10 probability level).

Bolded yields are statistically non-significant (p = 0.10 level) from the highest yielding test entry.

Planted: April 3, 2019.

Harvested: August 30, 2019.

Seeding Rate: 34,000 seeds per acre in 36-inch rows.

Soil Type: Greenville sandy clay loam.

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

Fertilization: 55 lb N, 140 lb P₂O₅, and 180 lb K₂O/acre as preplant; 260 lb N/acre as sidedress.

Previous Crop: Soybeans.

Management: Conventional tillage. Atrazine and Warrant used for weed control. Bifenthrin used for insect control. Irrigated 9.7 inches.

Test conducted by R. Brooke, K. Cawley, M. Cofield, D. Dunn, W. Jones, and D. Pearce.

Midville, Georgia: Corn Grain Performance, 2019, Irrigated

Company or Brand Name	Hybrid Name	Relative Maturity days	Yield		Ears/ 100 plants no.	Grain Quality ¹ rating	Grain Moisture %	Plant Pop. no.	Lodging %
			2019 ----- bu/acre	2-Yr Avg -----					
Local Seed	LC1776 VT2P	117	297	295	100	2.5	16.2	34,915	3
Augusta	A5065-3110GTD	115	295	.	100	2.0	16.7	35,022	0
Local Seed	AV8614 YHB	114	295	.	101	2.0	15.6	34,595	3
AgriGold	A647-46VT2PRO	117	293	.	101	1.5	16.7	34,382	1
Pioneer	P1870YHR	118	292	294	101	1.5	16.6	34,702	0
Dyna-Gro	D58VC65	118	292	290	99	1.5	15.7	34,275	0
Local Seed	LC1878 VT2P	118	289	281	101	1.5	16.7	33,848	0
Dyna-Gro	D57VC17	117	289	.	100	1.5	16.4	35,236	0
MorCorn	MC 4725	117	289	293	102	1.5	16.0	33,421	0
Armor	A1778 VT2P/ASR	117	287	.	101	1.5	16.7	33,954	0
Terral Seed	REV24BHR99	114	286	282	103	1.5	15.9	34,595	0
Terral Seed	REV28BHR18	118	286	293	101	2.0	16.5	32,566	0
AgriGold	A644-32TRCRIB	114	285	.	101	1.5	15.8	33,314	0
AgraTech	85VT2P	117	285	287	101	1.5	16.4	33,421	0
Armor	A1447 VT2P	114	284	.	99	1.5	15.7	34,382	0
MorCorn	MC 4255	112	283	.	103	2.5	15.9	35,129	0
DEKALB	DKC68-69 VT2P	118	281	277	101	2.5	16.7	34,809	0
Local Seed	LC1577 VT2P	115	281	273	100	2.5	16.4	34,488	0
CROPLAN	5678 VT2P	116	279	283	100	1.0	15.5	35,449	0
Local Seed	AV7516 YHB	116	279	.	101	1.5	16.2	33,421	2
Phoenix	7402A4	118	279	271	101	1.5	16.8	34,275	0
DEKALB	DKC65-99 TRECEPTA	115	279	.	100	2.5	16.5	35,556	1
Terral Seed	REV25BHR80	115	278	.	102	1.5	15.8	34,382	1
SEEDWAY	SW 8109 3111	117	278	.	100	2.5	16.8	33,100	1
Terral Seed	REV25BHR26	115	277	284	99	1.5	15.5	33,741	0
Local Seed	LC1488 VT2P	114	277	.	103	1.5	15.8	34,915	0
AgriGold	A6659VT2RIB	116	277	273	101	1.5	15.9	32,673	0
NK Brand	NK1694-3111	116	276	269	98	2.0	16.9	35,343	5
AgriGold	A648-54STX	118	275	.	101	1.5	16.8	34,488	0
Local Seed	LC1289 VT2P	112	274	.	102	1.5	16.3	32,780	0
Dyna-Gro	D54VC14	114	274	289	100	1.5	15.6	34,061	0
AgriGold	A6544VT2RIB	113	273	286	102	2.0	15.5	33,741	2
AgraTech	711VT2P	114	272	.	100	1.5	15.5	32,566	2
Pioneer	P1903YHR	119	272	.	99	1.5	15.5	33,100	0
Dyna-Gro	D57VC51	117	271	264	100	1.5	15.4	33,954	0
DEKALB	DKC66-18 VT2P	116	271	.	100	1.5	15.9	34,382	0
Augusta	A1367-5222DCEZ	117	271	.	100	2.5	16.3	34,595	0
AgraTech	68VT2P	112	270	273	100	2.0	16.0	33,848	0
NK Brand	NK1808-3111	118	269	268	97	2.0	16.7	34,382	0
Pioneer	P1662YHR	116	269	272	99	1.5	16.3	34,275	0
Local Seed	LC0877 VT2P	108	269	.	100	2.5	15.6	32,139	0
Local Seed	LC1795 VT2P	117	268	.	100	2.0	15.7	33,741	3
Local Seed	LC1987 VT2P	119	268	267	101	2.0	16.9	35,343	0
NK Brand	NK1573-3330	115	267	.	101	3.0	15.6	34,595	5
SEEDWAY	SW6790VT2P RIB	113	264	.	105	1.5	15.6	35,129	0

Midville, Georgia: Corn Grain Performance, 2019, Irrigated (Continued)

Company or Brand Name	Hybrid Name	Relative Maturity days	Yield		Ears/ 100 plants no.	Grain Quality ¹ rating	Grain Moisture %	Plant Pop. no.	Plant Lodging %
			2019 ----- bu/acre	2-Yr Avg -----					
Local Seed	LC1697 SSX	115	263	.	101	1.5	16.2	34,915	0
CROPLAN	5340 VT2P	113	262	.	102	1.5	15.9	33,741	0
SEEDWAY	SW6540VT2P RIB	108	256	.	101	2.0	15.6	34,702	0
Augusta	A4565-3220GTD	115	256	.	97	2.5	16.4	34,168	2
MorCorn	MC 4319	113	255	260	96	2.5	16.3	35,022	1
Phoenix	6507A3	115	249	260	103	2.5	15.5	33,634	2
Local Seed	LC1586 TC	115	241	.	104	2.0	15.4	33,207	2
Average			276 ²	279	100	1.8	16.1	34,162	1
LSD at 10% Level			17	13	3	NS	0.6	1,285	-
Std. Err. of Entry Mean			7	5	1	0.3	0.3	549	-
Model R-squared			0.57	0.36	0.38	0.52	0.58	0.45	0.29

1. Grain quality rating: 1 = excellent to 5 = poor.

2. CV = 5.1%, and df for EMS = 153.

"NS" indicates differences are statistically non-significant (p = 0.10 probability level).

Bolded yields are statistically non-significant (p = 0.10 level) from the highest yielding test entry.

Planted: April 4, 2019.

Harvested: August 29, 2019.

Seeding Rate: 34,000 seeds per acre in 36-inch rows.

Soil Type: Dothan sandy loam.

Soil Test: P = Medium, K = Medium, and pH = 6.6.

Fertilization: 60 lb N, 137 lb P₂O₅, and 230 lb K₂O/acre as preplant; 240 lb N/acre as sidedress.

Previous Crop: Peanuts.

Management: Conventional tillage. Atrazine and Warrant used for weed control. Telone II used for nematode control. Irrigated 10 inches.

Test conducted by R. Brooke, K. Cawley, M. Cofield, D. Dunn, J. Lanier, R. Milton, and T. Woodward.

North Georgia Region

North Georgia Yield Summary: Corn Grain Performance, Georgia, 2019

Company or Brand Name	Hybrid Name	Relative Maturity days	Overall Average	Dryland	Irrigated			
				Calhoun	Athens	Calhoun	Blairsville	Average
			bu/acre					
Terral Seed	REV28BHR18	118	263	139	320	240	353	304
Dyna-Gro	D57VC51	117	256	136	290	257	342	296
AgriGold	A648-54STX	118	262	167	301	259	321	294
Pioneer	P1870YHR	118	251	131	313	248	313	291
SEEDWAY	SW 8109 3111	117	252	139	293	228	350	290
AgriGold	A6659VT2RIB	116	251	138	285	240	340	288
Terral Seed	REV25BHR80	115	247	126	287	237	339	288
Dyna-Gro	D58VC65	118	253	149	292	231	339	287
Terral Seed	REV24BHR99	114	252	151	304	221	334	286
Dyna-Gro	D57VC17	117	248	134	290	237	330	286
AgriGold	A6544VT2RIB	113	247	135	310	226	318	285
DEKALB	DKC68-69 VT2P	118	247	144	283	235	327	282
DEKALB	DKC65-99 TRECEPTA	115	251	161	275	257	313	282
AgriGold	A644-32TRCRIB	114	246	139	277	249	319	281
AgriGold	A647-46VT2PRO	117	245	143	270	244	324	280
Terral Seed	REV25BHR26	115	241	134	286	219	326	277
Dyna-Gro	D54VC14	114	240	136	284	215	325	275
SEEDWAY	SW6790VT2P RIB	113	236	130	278	213	324	272
DEKALB	DKC66-18 VT2P	116	238	141	258	254	299	270
SEEDWAY	SW6540VT2P RIB	108	209	121	244	207	266	239
Average			247	140	289	236	325	283
LSD at 10% Level			15	19	20	22	17	17
Std. Err. of Entry Mean			6	8	7	8	7	7
Model R-squared			0.94	0.63	0.70	0.86	0.74	0.81

Bolded yields are statistically non-significant (p = 0.10 level) from the highest yielding test entry.

Athens, Georgia: Corn Grain Performance, 2019, Irrigated

Company or Brand Name	Hybrid Name	Relative Maturity days	Yield		Grain Quality ¹ rating	Grain Moisture %	Plant Pop. no.	Lodging %
			2019 ----- bu/acre	2-Yr Avg -----				
Terral Seed	REV28BHR18	118	320	289	2.3	13.9	32,472	1
Pioneer	P1870YHR	118	313	280	2.1	14.5	34,551	3
AgriGold	A6544VT2RIB	113	310	267	2.0	13.0	35,244	1
Terral Seed	REV24BHR99	114	304	271	2.3	13.3	33,363	1
AgriGold	A648-54STX	118	301	.	2.0	13.7	34,848	0
SEEDWAY	SW 8109 3111	117	293	.	2.5	13.7	34,056	2
Dyna-Gro	D58VC65	118	292	.	2.0	12.7	34,551	1
Dyna-Gro	D57VC17	117	290	.	1.9	13.0	34,947	1
Dyna-Gro	D57VC51	117	290	.	2.0	14.3	33,660	0
Terral Seed	REV25BHR80	115	287	.	2.8	13.0	34,452	2
Terral Seed	REV25BHR26	115	286	270	2.4	13.2	33,066	7
AgriGold	A6659VT2RIB	116	285	264	2.0	13.4	35,046	0
Dyna-Gro	D54VC14	114	284	.	2.0	12.5	34,320	2
DEKALB	DKC68-69 VT2P	118	283	260	1.7	13.9	34,320	5
SEEDWAY	SW6790VT2P RIB	113	278	.	2.8	12.6	36,432	6
AgriGold	A644-32TRCRIB	114	277	.	2.3	13.5	32,340	3
DEKALB	DKC65-99 TRECEPTA	115	275	.	2.0	13.7	35,442	1
AgriGold	A647-46VT2PRO	117	270	.	2.0	13.0	34,452	1
DEKALB	DKC66-18 VT2P	116	258	.	2.5	13.0	34,584	4
SEEDWAY	SW6540VT2P RIB	108	244	.	2.3	12.2	33,858	10
Average			289 ²	272	2.2	13.3	34,248	2
LSD at 10% Level			20	NS	0.5	0.8	1,455	-
Std. Err. of Entry Mean			7	8	0.2	0.3	526	2
Model R-squared			0.70	0.63	0.57	0.61	0.58	0.51

1. Grain quality rating: 1 = excellent to 5 = poor.

2. CV = 5.0%, and df for EMS = 41.

"NS" indicates differences are statistically non-significant (p = 0.10 probability level).

Bolded yields are statistically non-significant (p = 0.10 level) from the highest yielding test entry.

Planted: March 28, 2019.

Harvested: September 4, 2019.

Seeding Rate: 34,000 seeds per acre in 30-inch rows.

Soil Type: Chewacla silt loam.

Previous Crop: Soybeans followed by rye cover crop.

Soil Test: P = Medium, K = Medium, and pH = 6.5.

Fertilization: 46 lb N, 241 lb P₂O₅, and 279 lb K₂O/acre as preplant; 355 lb N/acre as sidedress.

Management: Conventional tillage. Atrazine and Roundup used for weed control. Irrigated 15.25 inches.

Test conducted by H. Jordan, G. Ware, C. Fox, J. Griffin, and K. Roach.

Calhoun, Georgia: Corn Grain Performance, 2019, Dryland

Company or Brand Name	Hybrid Name	Relative Maturity days	Yield		Ears/ 100 plants no.	Grain Quality ¹ rating	Grain Moisture %	Plant Pop. no.	Lodging %
			2019	2-Yr Avg					
AgriGold	A648-54STX	118	167	.	100	2.1	13.0	23,754	0
DEKALB	DKC65-99 TRECEPTA	115	161	.	100	1.8	11.5	24,366	0
Terral Seed	REV24BHR99	114	151	204	101	2.4	11.1	23,595	0
Dyna-Gro	D58VC65	118	149	.	100	2.1	11.5	23,890	0
DEKALB	DKC68-69 VT2P	118	144	194	100	1.6	11.8	23,277	0
AgriGold	A647-46VT2PRO	117	143	.	100	1.9	11.5	23,277	0
DEKALB	DKC66-18 VT2P	116	141	.	100	2.0	11.7	23,482	0
AgriGold	A644-32TRCRIB	114	139	.	100	2.0	11.6	22,665	0
SEEDWAY	SW 8109 3111	117	139	.	98	2.3	12.1	21,848	0
Terral Seed	REV28BHR18	118	139	205	100	2.4	11.6	22,052	0
AgriGold	A6659VT2RIB	116	138	194	100	1.6	11.5	23,890	0
Dyna-Gro	D54VC14	114	136	.	99	2.3	11.7	23,345	0
Dyna-Gro	D57VC51	117	136	.	99	1.8	11.3	23,822	0
AgriGold	A6544VT2RIB	113	135	193	100	2.4	11.2	24,094	1
Dyna-Gro	D57VC17	117	134	.	100	1.9	11.3	24,162	2
Terral Seed	REV25BHR26	115	134	197	99	2.1	11.5	23,141	0
Pioneer	P1870YHR	118	131	191	99	2.1	11.6	23,822	0
SEEDWAY	SW6790VT2P RIB	113	130	.	99	2.4	11.8	23,822	0
Terral Seed	REV25BHR80	115	126	.	98	2.3	11.1	22,937	0
SEEDWAY	SW6540VT2P RIB	108	121	.	99	2.1	12.0	22,869	5
Average			140 ²	197	99	2.1	11.6	23,403	0.5
LSD at 10% Level			19	NS	NS	0.4	NS	1,002	-
Std. Err. of Entry Mean			8	7	1	0.1	0.4	420	-
Model R-squared			0.63	0.90	0.32	0.49	0.34	0.48	0.38

1. Grain quality rating: 1 = excellent to 5 = poor.

2. CV = 11.7%, and df for EMS = 57.

"NS" indicates differences are statistically non-significant (p = 0.10 probability level).

Bolded yields are statistically non-significant (p = 0.10 level) from the highest yielding test entry.

Planted: April 4, 2019.

Harvested: September 17, 2019.

Seeding Rate: 24,000 seeds per acre in 30-inch rows.

Soil Type: Etowah loam.

Previous Crop: Soybeans.

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

Fertilization: 70 lb N, 0 lb P₂O₅, and 0 lb K₂O/acre as preplant; 155 lb N/acre as sidedress.

Management: Conventional tillage. Atrazine, Warant, Callisto, and Accent applied for weed control.

Test conducted by H. Jordan, G. Ware, M. Tucker, and T. Turnquist.

Calhoun, Georgia: Corn Grain Performance, 2019, Irrigated

Company or Brand Name	Hybrid Name	Relative Maturity days	Yield		Ears/ 100 plants no.	Grain Quality ¹ rating	Grain Moisture %	Plant Pop. no.	Lodging %
			2019 ----- bu/acre	2-Yr Avg -----					
AgriGold	A648-54STX	118	259	.	100	2.0	11.9	29,737	0
DEKALB	DKC65-99 TRECEPTA	115	257	.	98	2.0	12.5	29,737	0
Dyna-Gro	D57VC51	117	257	.	100	1.7	11.5	29,388	0
DEKALB	DKC66-18 VT2P	116	254	.	101	2.0	11.8	29,853	1
AgriGold	A644-32TRCRIB	114	249	.	101	2.2	12.2	28,227	0
Pioneer	P1870YHR	118	248	260	99	2.0	12.0	28,575	0
AgriGold	A647-46VT2PRO	117	244	.	102	2.0	12.2	29,853	1
AgriGold	A6659VT2RIB	116	240	244	100	1.7	11.7	28,924	0
Terral Seed	REV28BHR18	118	240	271	99	2.3	12.0	26,833	1
Terral Seed	REV25BHR80	115	237	.	102	2.0	12.2	29,505	0
Dyna-Gro	D57VC17	117	237	.	99	2.0	12.1	29,272	0
DEKALB	DKC68-69 VT2P	118	235	242	100	1.8	12.0	28,692	1
Dyna-Gro	D58VC65	118	231	.	99	2.0	12.0	29,040	1
SEEDWAY	SW 8109 3111	117	228	.	99	2.5	12.1	28,808	0
AgriGold	A6544VT2RIB	113	226	263	98	2.2	11.5	29,969	0
Terral Seed	REV24BHR99	114	221	256	99	2.0	11.9	28,343	1
Terral Seed	REV25BHR26	115	219	244	100	1.8	11.8	28,692	0
Dyna-Gro	D54VC14	114	215	.	100	2.0	12.0	28,575	2
SEEDWAY	SW6790VT2P RIB	113	213	.	103	2.5	11.6	30,899	0
SEEDWAY	SW6540VT2P RIB	108	207	.	101	2.0	12.5	29,621	1
Average			236 ²	254	100	2.0	12.0	29,136	0.4
LSD at 10% Level			22	NS	2	0.4	0.5	1,450	-
Std. Err. of Entry Mean			8	10	1	0.1	0.2	520	-
Model R-squared			0.86	0.41	0.52	0.47	0.53	0.56	0.39

1. Grain quality rating: 1 = excellent to 5 = poor.

2. CV = 6.5%, and df for EMS = 38.

"NS" indicates differences are statistically non-significant ($p = 0.10$ probability level).

Bolded yields are statistically non-significant ($p = 0.10$ level) from the highest yielding test entry.

Planted: April 4, 2019.

Harvested: September 17, 2019.

Seeding Rate: 34,000 seeds per acre in 30-inch rows.

Soil Type: Etowah loam.

Previous Crop: Soybeans.

Soil Test: P = High, K = High, and pH = 6.1.

Fertilization: 85 lb N, 218 lb P₂O₅, and 285 lb K₂O/acre as preplant; 155 lb N/acre as sidedress.

Management: Conventional tillage. Atrazine, Warant, Callisto, and Accent applied for weed control. Irrigated 8.25 inches

Test conducted by H. Jordan, G. Ware, M. Tucker, and T. Turnquist.

Blairsville, Georgia: Corn Grain Performance, 2019, Dryland

Company or Brand Name	Hybrid Name	Relative Maturity days	Yield		Grain Moisture %	Plant Pop. no.	Lodging %
			2019 ----- bu/acre	2-Yr Avg -----			
Terral Seed	REV28BHR18	118	353	320	16.7	32,175	0
SEEDWAY	SW 8109 3111	117	350	.	17.4	33,264	1
Dyna-Gro	D57VC51	117	342	.	16.8	33,957	0
AgriGold	A6659VT2RIB	116	340	315	16.7	33,957	0
Dyna-Gro	D58VC65	118	339	.	15.5	33,759	0
Terral Seed	REV25BHR80	115	339	.	16.3	33,561	0
Terral Seed	REV24BHR99	114	334	309	15.7	32,967	0
Dyna-Gro	D57VC17	117	330	.	16.7	34,551	1
DEKALB	DKC68-69 VT2P	118	327	331	17.1	33,561	4
Terral Seed	REV25BHR26	115	326	306	15.7	33,363	0
Dyna-Gro	D54VC14	114	325	.	14.3	33,660	0
SEEDWAY	SW6790VT2P RIB	113	324	.	15.0	35,244	0
AgriGold	A647-46VT2PRO	117	324	.	17.1	35,046	0
AgriGold	A648-54STX	118	321	.	16.6	33,759	0
AgriGold	A644-32TRCRIB	114	319	.	16.3	32,373	1
AgriGold	A6544VT2RIB	113	318	307	14.2	33,957	0
Pioneer	P1870YHR	118	313	294	18.2	33,264	0
DEKALB	DKC65-99	115	313	.	16.2	35,244	0
DEKALB	DKC66-18 VT2P	116	299	.	16.9	34,551	0
SEEDWAY	SW6540VT2P RIB	108	266	.	14.1	33,561	0
Average			325 ¹	311	16.2	33,789	0
LSD at 10% Level			17	19	0.6	945	-
Std. Err. of Entry Mean			7	8	0.3	400	1
Model R-squared			0.74	0.53	0.86	0.61	0.33

1. CV = 4.3%, and df for EMS = 51.

Bolded yields are statistically non-significant (p = 0.10 level) from the highest yielding test entry.

Planted: April 25, 2019.

Harvested: October 2, 2019.

Seeding Rate: 34,000 seeds per acre in 30-inch rows.

Soil Type: Suches loam.

Previous Crop: Soybeans.

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

Fertilization: 130 lb N, 60 lb P₂O₅, and 249 lb K₂O/acre as preplant; 240 lb N/acre as sidedress.

Applied 2500 lb dolomitic lime per acre.

Management: Conventional tillage. Atrazine, Zidua, Roundup and Steadfast Q applied for weed control.

Test conducted by H. Jordan, G. Ware, C. Graham, L. Lee, D. Patterson, and D. Rogers.

Silage Test Results

Statewide Summary: Corn Silage Performance, Georgia, 2019

Company or Brand Name	Hybrid Name	Relative Maturity days	Dry Matter Yield				
			Statewide	Tifton	Athens	Calhoun	Blairsville
			----- tons/acre -----				
AgraTech	1024VIP	125	.	14.1	.	.	.
AgraTech	1778VIP	115	.	14.1	.	.	.
AgraTech	85VT2P	117	.	14.1	.	.	.
AgraTech	909VIP	118	.	13.7	.	.	.
AgraTech	998VIP	120	.	12.2	.	.	.
Armor	A1717 VT2P	117	.	14.3	10.6	.	.
Armor	X9116 VT2P	116	.	13.3	.	.	.
CROPLAN	S5700VT2P	117	.	13.9	.	.	.
CROPLAN	S5900VT2P	119	.	13.8	.	.	.
DEKALB	DKC65-99 TRECEPTA	115	11.3	13.4	12.1	10.1	10.3
DEKALB	DKC66-18 VT2P	116	11.2	13.3	11.7	10.7	9.8
DEKALB	DKC68-69 VT2P	118	12.7	14.8	13.8	10.8	11.9
DEKALB	DKC69-16 SS	119	12.9	14.4	12.3	12.1	12.7
DEKALB	DKC70-64 SS	120	12.7	13.1	12.3	11.3	14.0
Dyna-Gro	D55QC73	115	.	15.4	14.3	.	.
Dyna-Gro	D57VC17	117	.	14.2	13.4	.	.
Dyna-Gro	D58QC72	118	.	14.2	13.1	.	.
Dyna-Gro	D58VC65	118	.	14.3	11.3	.	.
Local Seed	LC1586 TC	115	.	13.7	.	.	.
Local Seed	LC1688 SSX	116	.	12.5	.	.	.
Local Seed	LC1776 VT2P	117	.	13.8	.	.	.
Local Seed	LC1878 VT2P	118	.	14.9	.	.	.
Local Seed	LCX17-94	117	.	13.9	.	.	.
NK Brand	NK1573-3330	115	.	14.5	.	.	.
NK Brand	NK1694-3111	116	.	14.4	.	.	.
NK Brand	NK1808-3111	118	.	14.3	.	.	.
Pioneer	P1662YHR	116	12.6	14.9	14.5	9.7	11.2
Pioneer	P1847VYHR	118	13.0	14.2	14.4	9.6	12.9
Pioneer	P1870YHR	118	.	15.0	.	.	.
Pioneer	P1903YHR	119	13.2	13.3	14.7	11.0	14.2
Terral Seed	REV24BHR99	114	12.4	13.5	13.6	10.3	12.3
Terral Seed	REV25BHR26	115	12.1	14.5	12.9	10.2	11.9
Terral Seed	REV26F87SX	116	12.3	13.6	11.6	10.8	12.8
Terral Seed	REV27F95PWE	117	13.4	13.9	14.1	10.7	14.2
Terral Seed	REV28BHR18	118	13.1	15.1	13.6	10.5	12.3
Average			12.5	14.0	13.0	10.6	12.3
LSD at 10% Level			0.8	1.0	2.0	NS	1.6
Std. Err. of Entry Mean			0.3	0.4	0.8	0.5	0.7
Model R-squared			0.53	0.51	0.46	0.39	0.62

"NS" indicates differences are statistically non-significant ($p = 0.10$ probability level).

Bolded yields are statistically non-significant ($p = 0.10$ level) from the highest yielding test entry.

Elemental Analysis of Corn Hybrids for Silage Tifton, Georgia, 2019

Company or Brand Name	Hybrid Name	Relative Maturity days	Calculated Milk lbs/ac	Dry Yield tons/ac	Ash	P	K	Ca	Mg	S
					----- % DM -----					
AgraTech	1024VIP	125	43,994	14.1	5.01	0.22	1.30	0.35	0.26	0.10
AgraTech	1778VIP	115	48,142	14.1	4.60	0.23	1.23	0.28	0.21	0.10
AgraTech	85VT2P	117	48,216	14.1	4.88	0.26	1.13	0.22	0.14	0.11
AgraTech	909VIP	118	47,877	13.7	4.68	0.26	1.39	0.28	0.20	0.11
AgraTech	998VIP	120	40,770	12.2	4.90	0.23	1.22	0.32	0.24	0.10
Armor	A1717 VT2P	117	49,870	14.3	4.02	0.25	0.95	0.20	0.12	0.10
Armor	X9116 VT2P	116	44,568	13.3	4.94	0.25	1.49	0.22	0.14	0.11
CROPLAN	S5700VT2P	117	47,070	13.9	4.16	0.24	0.97	0.24	0.17	0.10
CROPLAN	S5900VT2P	119	47,665	13.8	4.59	0.26	1.05	0.21	0.13	0.11
DEKALB	DKC65-99 TRECEPTA	115	46,599	13.4	4.66	0.26	1.09	0.23	0.16	0.11
DEKALB	DKC66-18 VT2P	116	44,734	13.3	4.33	0.24	1.00	0.23	0.16	0.10
DEKALB	DKC68-69 VT2P	118	50,971	14.8	5.05	0.25	1.29	0.30	0.22	0.12
DEKALB	DKC69-16 SS	119	49,085	14.4	4.77	0.25	1.09	0.22	0.16	0.11
DEKALB	DKC70-64 SS	120	43,745	13.1	4.85	0.26	1.34	0.27	0.19	0.11
Dyna-Gro	D55QC73	115	53,161	15.4	4.72	0.25	1.25	0.23	0.15	0.11
Dyna-Gro	D57VC17	117	48,487	14.2	4.81	0.26	1.27	0.21	0.13	0.10
Dyna-Gro	D58QC72	118	49,477	14.2	4.95	0.27	1.23	0.22	0.14	0.12
Dyna-Gro	D58VC65	118	48,508	14.3	4.52	0.26	1.18	0.19	0.11	0.11
Local Seed	LC1586 TC	115	48,695	13.7	4.66	0.26	1.23	0.23	0.16	0.11
Local Seed	LC1688 SSX	116	43,430	12.5	4.53	0.24	1.09	0.26	0.20	0.10
Local Seed	LC1776 VT2P	117	48,209	13.8	4.61	0.26	1.08	0.19	0.12	0.11
Local Seed	LC1878 VT2P	118	51,768	14.9	4.24	0.26	1.14	0.22	0.15	0.10
Local Seed	LCX17-94	117	47,686	13.9	4.87	0.27	1.31	0.25	0.17	0.11
NK Brand	NK1573-3330	115	49,275	14.5	4.54	0.25	1.23	0.21	0.13	0.10
NK Brand	NK1694-3111	116	51,876	14.4	4.40	0.25	1.11	0.18	0.12	0.10
NK Brand	NK1808-3111	118	48,444	14.3	4.90	0.25	1.29	0.24	0.15	0.11
Pioneer	P1662YHR	116	54,083	14.9	4.55	0.26	1.14	0.21	0.14	0.11
Pioneer	P1847VYHR	118	50,212	14.2	4.39	0.25	1.13	0.22	0.15	0.10
Pioneer	P1870YHR	118	52,400	15.0	4.78	0.27	1.29	0.21	0.13	0.11
Pioneer	P1903YHR	119	47,016	13.3	4.37	0.25	1.13	0.22	0.15	0.10
Terral Seed	REV24BHR99	114	46,556	13.5	4.84	0.25	1.34	0.22	0.15	0.10
Terral Seed	REV25BHR26	115	50,512	14.5	4.72	0.26	1.19	0.25	0.17	0.11
Terral Seed	REV26F87SX	116	46,376	13.6	4.86	0.26	1.23	0.26	0.19	0.11
Terral Seed	REV27F95PWE	117	45,217	13.9	5.19	0.25	1.34	0.28	0.19	0.11
Terral Seed	REV28BHR18	118	52,559	15.1	4.69	0.27	1.18	0.19	0.12	0.11
Average			48,207	14.0	4.67	0.25	1.20	0.23	0.16	0.11
LSD at 10% Level			2,199	1.0	NS	0.01	NS	0.05	0.04	NS
Std. Err. of Entry Mean			919	0.4	0.24	0.01	0.13	0.02	0.02	--
Model R-squared			0.91	0.51	0.60	0.81	0.48	0.79	0.78	0.61

"NS" indicates differences are statistically non-significant (p = 0.10 probability level).

Bolded yields are statistically non-significant (p = 0.10 level) from the highest yielding test entry.

Silage analysis conducted by Dairyland Laboratories, Arcadia, WI.

"Calculated Milk" reprinted from Quality Factors table, based on UW Milk 2006 model.

Tifton, Georgia: Evaluation of Corn Hybrids for Silage, 2019, Irrigated

Company or Brand Name	Hybrid Name	Relative Maturity days	Forage Yield		Dry Matter %	Grain Portion %	Plant Pop. no.	Dry Yield 2-Yr Avg tons/acre
			Dry tons/acre	Green ¹				
Dyna-Gro	D55QC73	115	15.4	43.9	43.6	48	34,378	14.6
Terral Seed	REV28BHR18	118	15.1	43.3	49.3	58	33,097	14.7
Pioneer	P1870YHR	118	15.0	42.7	45.7	58	35,872	14.2
Pioneer	P1662YHR	116	14.9	42.7	48.3	55	35,018	14.5
Local Seed	LC1878 VT2P	118	14.9	42.5	52.9	58	34,591	.
DEKALB	DKC68-69 VT2P	118	14.8	42.3	46.8	53	35,445	13.6
Terral Seed	REV25BHR26	115	14.5	41.6	44.6	56	35,018	14.5
NK Brand	NK1573-3330	115	14.5	41.3	47.3	55	36,300	.
NK Brand	NK1694-3111	116	14.4	41.0	45.7	55	33,951	13.8
DEKALB	DKC69-16 SS	119	14.4	41.0	47.3	56	34,591	14.1
Armor	A1717 VT2P	117	14.3	40.9	47.5	55	34,164	.
Dyna-Gro	D58VC65	118	14.3	40.8	46.0	58	35,445	13.4
NK Brand	NK1808-3111	118	14.3	40.8	45.9	51	34,378	14.4
Dyna-Gro	D58QC72	118	14.2	40.7	43.9	55	31,815	13.9
Dyna-Gro	D57VC17	117	14.2	40.6	48.8	56	34,378	.
Pioneer	P1847VYHR	118	14.2	40.5	44.9	53	35,445	14.5
AgraTech	1778VIP	115	14.1	40.4	43.0	48	35,018	14.7
AgraTech	85VT2P	117	14.1	40.3	47.5	56	35,232	.
AgraTech	1024VIP	125	14.1	40.2	37.4	43	33,524	14.4
Terral Seed	REV27F95PWE	117	13.9	39.8	44.5	50	35,232	14.0
CROPLAN	S5700VT2P	117	13.9	39.6	44.8	54	34,591	14.0
Local Seed	LCX17-94	117	13.9	39.6	44.6	54	35,659	.
Local Seed	LC1776 VT2P	117	13.8	39.3	50.2	59	36,086	.
CROPLAN	S5900VT2P	119	13.8	39.3	41.4	51	36,299	13.8
AgraTech	909VIP	118	13.7	39.3	43.1	50	32,883	13.3
Local Seed	LC1586 TC	115	13.7	39.3	45.5	53	33,951	.
Terral Seed	REV26F87SX	116	13.6	39.0	42.7	50	35,659	.
Terral Seed	REV24BHR99	114	13.5	38.6	48.3	54	34,591	.
DEKALB	DKC65-99 TRECEPTA	115	13.4	38.3	49.9	56	36,513	.
Armor	X9116 VT2P	116	13.3	38.0	49.1	54	31,815	.
DEKALB	DKC66-18 VT2P	116	13.3	38.0	50.5	59	35,872	.
Pioneer	P1903YHR	119	13.3	37.9	44.6	55	30,961	.
DEKALB	DKC70-64 SS	120	13.1	37.3	41.6	45	33,097	.
Local Seed	LC1688 SSX	116	12.5	35.6	46.7	53	33,310	.
AgraTech	998VIP	120	12.2	34.8	40.2	38	35,018	.
Average			14.0 ²	40.1	45.8	53	34,548	14.1
LSD at 10% Level			1.0	3.0	1.8	2	2,190	NS
Std. Err. of Entry Mean			0.4	1.2	0.8	1	933	0.6
Model R-squared			0.51	0.51	0.86	0.96	0.41	0.17

1. Green yields are standardized to 35% dry matter.

2. CV = 5.8%, and df for EMS = 86.

Bolded yields are statistically non-significant (p = 0.10 level) from the highest yielding test entry.

Planted: March 30, 2019.

Harvested: July 25, 2019.

Seeding Rate: 34,000 seeds per acre in 36-inch rows.

Soil Type: Tifton sandy loam.

Soil Test: P = High, K = Medium, and pH = 6.3.

Fertilization: 130 lb N, 220 lb P₂O₅, and 310 lb K₂O/acre as preplant; 260 lb N/acre as sidedress.

Previous Crop: Soybeans.

Management: Conventional tillage. Atrazine, Warrant, Zidual, and Basagran applied for weed control. Telone II applied for nematode control. Irrigated 16 inches.

Test conducted by R. Brooke, K. Cawley, M. Cofield, and D. Dunn.

Athens, Georgia: Evaluation of Corn Hybrids for Silage, 2019, Irrigated

Company or Brand Name	Hybrid Name	Relative Maturity days	Forage Yield		Dry Matter %	Plant Pop. no.	Dry Yield 2-Yr Avg tons/acre
			Dry tons/acre	Green ¹ tons/acre			
Pioneer	P1903YHR	119	14.7	42.0	39.0	34,584	.
Pioneer	P1662YHR	116	14.5	41.5	39.4	34,056	12.6
Pioneer	P1847VYHR	118	14.4	41.1	36.6	35,244	12.4
Dyna-Gro	D55QC73	115	14.3	40.8	37.4	34,254	.
Terral Seed	REV27F95PWE	117	14.1	40.3	39.0	32,274	13.1
DEKALB	DKC68-69 VT2P	118	13.8	39.3	36.1	35,112	12.5
Terral Seed	REV28BHR18	118	13.6	38.9	38.7	33,264	11.7
Terral Seed	REV24BHR99	114	13.6	38.9	41.1	34,452	.
Dyna-Gro	D57VC17	117	13.4	38.2	39.7	36,036	.
Dyna-Gro	D58QC72	118	13.1	37.4	34.0	34,056	.
Terral Seed	REV25BHR26	115	12.9	36.9	32.8	33,264	11.4
DEKALB	DKC69-16 SS	119	12.3	35.2	32.7	34,848	11.2
DEKALB	DKC70-64 SS	120	12.3	35.0	38.7	34,320	.
DEKALB	DKC65-99 TRECEPTA	115	12.1	34.5	36.5	35,376	.
DEKALB	DKC66-18 VT2P	116	11.7	33.4	41.8	34,254	.
Terral Seed	REV26F87SX	116	11.6	33.1	31.9	35,838	.
Dyna-Gro	D58VC65	118	11.3	32.2	38.0	32,208	.
Dyna-Gro	CX19617	117	10.6	30.3	39.9	33,858	.
Average			13.0 ²	37.2	37.4	34,292	12.1
LSD at 10% Level			2.0	5.6	4.8	1,362	1.1
Std. Err. of Entry Mean			0.8	2.3	1.9	549	0.5
Model R-squared			0.46	0.46	0.48	0.58	0.61

1. Green yields are standardized to 35% dry matter.

2. CV = 12.1%, and df for EMS = 46.

Bolded yields are statistically non-significant ($p = 0.10$ level) from the highest yielding test entry.

Planted: March 28, 2019.

Harvested: August 1, 2019, with 2,801 Growing Degree Units accumulated.

Seeding Rate: 34,000 seeds per acre in 30-inch rows.

Soil Type: Chewcla silt loam.

Previous Crop: Soybeans followed by rye cover.

Soil Test: P = Medium, K = Medium, and pH = 6.5.

Fertilization: 46 lb N, 241 lb P₂O₅, and 279 lb K₂O/acre as preplant; 355 lb N/acre as sidedress.

Management: Conventional tillage. Atrazine and Roundup applied for weed control.
Irrigated 14.5 inches.

Test conducted by H. Jordan, G. Ware, B. Weldy, C. Fox, J. Griffin, and K. Roach.

Calhoun, Georgia: Evaluation of Corn Hybrids for Silage, 2019, Irrigated

Company or Brand Name	Hybrid Name	Relative Maturity days	Forage Yield		Dry Matter %	Plant Pop. no.	Dry Yield 2-Yr Avg tons/acre
			Dry tons/acre	Green ¹ tons/acre			
DEKALB	DKC69-16 SS	119	12.1	34.5	47.4	31,878	12.2
DEKALB	DKC70-64 SS	120	11.3	32.3	44.7	33,264	.
Pioneer	P1903YHR	119	11.0	31.4	44.9	32,472	.
Terral Seed	REV26F87SX	116	10.8	30.9	44.0	32,670	.
DEKALB	DKC68-69 VT2P	118	10.8	30.8	46.0	32,868	10.8
Terral Seed	REV27F95PWE	117	10.7	30.6	46.1	33,462	9.8
DEKALB	DKC66-18 VT2P	116	10.7	30.5	48.3	33,858	.
Terral Seed	REV28BHR18	118	10.5	30.1	44.7	32,274	.
Terral Seed	REV24BHR99	114	10.3	29.4	53.5	32,868	.
Terral Seed	REV25BHR26	115	10.2	29.3	45.2	32,868	.
DEKALB	DKC65-99 TRECEPTA	115	10.1	28.9	49.6	33,858	.
Pioneer	P1662YHR	116	9.7	27.6	47.5	33,462	10.0
Pioneer	P1847VYHR	118	9.6	27.4	46.0	33,264	10.4
Average			10.6 ²	30.3	46.9	33,000	10.6
LSD at 10% Level			NS	NS	NS	NS	1.1
Std. Err. of Entry Mean			0.5	1.4	2.2	484	0.4
Model R-squared			0.39	0.39	0.43	0.38	0.37

1. Green yields are standardized to 35% dry matter.

2. CV = 9.5%, and df for EMS = 32.

"NS" indicates differences are statistically non-significant ($p = 0.10$ probability level).

Bolded yields are statistically non-significant ($p = 0.10$ level) from the highest yielding test entry.

Planted: April 4, 2019.

Harvested: August 9, 2019, with 2,984 Growing Degree Units accumulated.

Seeding Rate: 34,000 seeds per acre in 30-inch rows.

Soil Type: Etowah loam.

Previous Crop: Soybeans.

Soil Test: P = High, K = High, and pH = 6.3.

Fertilization: 36 lb N, 92 lb P₂O₅, and 120 lb K₂O/acre as preplant; 310 lb N/acre as sidedress.

Management: Conventional tillage. Atrazine, Warant, Callisto, and Accent applied for weed control. Irrigated 7.5 inches.

Test conducted by H. Jordan, G. Ware, B. Weldy, M. Tucker, and T. Turnquist.

Blairsville, Georgia: Evaluation of Corn Hybrids for Silage, 2019, Dryland

Company or Brand Name	Hybrid Name	Relative Maturity days	Forage Yield		Dry Matter %	Plant Pop. no.	Dry Yield 2-Yr Avg tons/acre
			Dry tons/acre	Green ¹ tons/acre			
Pioneer	P1903YHR	119	14.2	40.6	33.6	33,264	.
Terral Seed	REV27F95PWE	117	14.2	40.5	33.2	32,670	14.0
DEKALB	DKC70-64 SS	120	14.0	40.0	32.7	34,254	.
Pioneer	P1847VYHR	118	12.9	36.7	32.2	33,858	12.5
Terral Seed	REV26F87SX	116	12.8	36.6	30.5	34,056	.
DEKALB	DKC69-16 SS	119	12.7	36.2	31.4	33,462	12.4
Terral Seed	REV28BHR18	118	12.3	35.2	31.1	32,274	.
Terral Seed	REV24BHR99	114	12.3	35.1	32.5	33,462	.
Terral Seed	REV25BHR26	115	11.9	33.9	31.2	34,056	.
DEKALB	DKC68-69 VT2P	118	11.9	33.9	33.7	33,264	11.5
Pioneer	P1662YHR	116	11.2	31.9	31.3	32,868	11.3
DEKALB	DKC65-99 TRECEPTA	115	10.3	29.4	34.6	34,254	.
DEKALB	DKC66-18 VT2P	116	9.8	28.0	32.4	34,056	.
Average			12.3 ²	35.2	32.3	33,523	12.3
LSD at 10% Level			1.6	4.5	NS	NS	1.2
Std. Err. of Entry Mean			0.7	1.9	0.8	594	0.5
Model R-squared			0.62	0.62	0.29	0.30	0.36

1. Green yields are standardized to 35% dry matter.

2. CV = 10.8%, and df for EMS = 36.

"NS" indicates differences are statistically non-significant (p = 0.10 probability level).

Bolded yields are statistically non-significant (p = 0.10 level) from the highest yielding test entry.

Planted: April 25, 2019.

Harvested: August 28, 2019, with 2,599 Growing Degree Units accumulated.

Seeding Rate: 34,000 seeds per acre in 30-inch rows.

Soil Type: Suches loam.

Previous Crop: Soybeans.

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

Fertilization: 130 lb N, 60 lb P₂O₅, and 249 lb K₂O/acre as preplant; 240 lb N/acre as sidedress; 2500 lb dolomitic lime/acre.

Management: Conventional tillage. Atrazine, Zidua, Roundup, and Steadfast Q applied for weed control.

Test conducted by H. Jordan, G. Ware, B. Weldy, C. Graham, L. Lee, D. Patterson, and D. Rogers.

Insect Screening Results

Multiple Insect Resistance in 68 Commercial Corn Hybrids, 2019

Xinzhi Ni, Michael D. Toews, and G. David Buntin

Commercial corn hybrids were screened for ear- and kernel-feeding insect resistance under field conditions at Tifton, GA, and the results are summarized in the following table. A total of 68 transgenic Bt hybrids were included in this year's trial. While 27 hybrids belonged to mid- to full- season categories, the majority (41) were short-season hybrids. Of all hybrids tested, 18 were rated Very Good (VG), the highest rating for multiple insect resistance in 2019; 11 were Good (G); 22 were Fair (F); and 17 were Poor (P). One hybrid (A648-54STX) was developed utilizing SmartStax™ technology; two hybrids have YHR traits (also known as Optimum® Intrasect™); 16 hybrids have Genuity VT Double PRO (VT2P) traits; and four hybrids have the VT2P trait with refuge in bag (RIB). RIB hybrids are a blend of 95% transgenic seeds with 5% non-transgenic seeds as a strategy for management of insect resistance to Bt genes. But regulations require that in cotton-growing areas, which includes all of Georgia, all Bt corn hybrids, both pure Bt seed and the RIB products, have a 20% non-Bt seed planting as a refuge. Please see the bag tag and seed dealers for details about the Bt corn refuge requirements. SmartStax™ combined multiple transgenic technologies to control both above- and below-ground insect pests, as well as for herbicide tolerance. The Optimum® Intrasect™ insect protection traits (or YHR) include a combination of two insect protection traits – Herculex® I and YieldGard® Corn Borer, while the VT2P trait contains a stack of two Bt genes, which target foliar- and ear-feeding lepidopteran pests. Corn rootworms and corn borers were not present at Tifton during the test.

Overall insect damage on corn ears in 2019 was similar to observed damage in 2017 and 2018. The six types of ear- and/or kernel-feeding insects in order of damage severity were: corn earworm and fall armyworm, stink bugs, maize weevil, the pink scavenger caterpillar, and sap beetles. Corn earworm and fall armyworm damage was determined by measuring by the length (cm) of feeding damage from the tip of the ear toward the base. Feeding penetration by natural infestation of these lepidopteran pests (from the means of the five sampled ears per plot) was between 0 and 4.1 cm per ear, which was less than the damage observed in 2018 (0-5.6 cm). Kernel-feeding insect damage was assessed by percentage (%) of damaged kernels per ear. The number of kernels per ear were estimated by multiplying the number of kernels per row by the number of rows from a representative ear for each plot. Stink bug damage at the plot level in 2019 was higher (0-8.5% or 44 kernels per ear) than observed in 2018 (0-5% or 23 kernels per ear). Kernel damage by maize weevil (0-3.3% or 23 kernels per ear) and the pink scavenger caterpillar 0-2.46% (13 kernels per ear) was also higher in 2019 than in 2018 (0-0.5% or 3 kernels per ear; and 0-1% or 6 kernels per ear, respectively). Multiple species of sap beetles were recorded in 2019. Sap beetle damaged kernels were 0-1.15% (or 7 kernels per ear), which is much less than 0-6.76% (or 40 kernels per ear) observed in 2018. Flowering time of all entries was between 54 and 60 days after planting. In comparison to the previous year (63-69 days after planting), the early flowering in 2019 reflected the relatively warm and dry weather conditions before pollination at the Tifton location.

Because corn husk tightness and extension are considered important traits for ear- and kernel-feeding insect resistance, the husk features of the sampled ears were examined. Husk tightness was assigned using a scale of 1 to 5, in which 1 = very loose and 5 = very tight. Average ratings for husk tightness were between 4 and 5, which were all considered medium to tight for husk tightness rating. Husk extension ranged from 0 to 6.2 cm. Also, husk extension was negatively correlated to overall insect damage ratings, while husk tightness was positively correlated to overall insect damage rating in 2019. This finding demonstrated that husk features are varied among years, which might be influenced by environment conditions. Multiple insect resistance was categorized in four groups according to the insect damage ratings on corn cobs and kernels; they are very good (VG), good (G), fair (F), and poor (P). VG represents the least amount of insect damage, while P represents the greatest amount of insect damage. The rankings of all hybrids for multiple insect resistance in the table were based on the results of a principal component analysis using flowering date, husk tightness and extension along with ear damage (by corn earworm and fall armyworm penetration listed in table) and kernel damage (by stink bugs, pink scavenger caterpillar, maize weevil, and sap beetles). Data in this report are not indicative to yield. Yield data are available on the UGA Statewide Variety Testing webpage found at: www.swvt.uga.edu.

Hybrids resistant to multiple insects are highly recommended for planting and are one of the most economical insect management strategies, especially in late plantings. Increased insect damage can lead to yield loss, as well as quality loss related to ear rot and aflatoxin contamination. Consult with your local county agent and/or Extension entomologist for additional control recommendations for a specific pest in your area.

The trial was planted on the University of Georgia Gibbs Research Farm near Tifton, GA on March 29 and harvested on August 7, 2019. Experimental plots were thinned to 20,000 plants per acre and maintained following local Extension publication-recommended agronomic practices. This trial was managed and data collection was conducted by Penny Tapp (USDA-ARS, Tifton), Ashleigh Burgess, Hannah Barry and Maribeth Tomberlin (UGA, Tifton).

Ear-Feeding Insect Resistance in 68 Commercial Corn Hybrids, Tifton, Georgia, 2019

Company or Brand Name	Hybrid Name	Days to Anthesis ¹	Husk Extension	Husk Tightness rating ²	2019 FAW+CEW Damage ³	2019 Kernel Damage ⁴	Overall Resistance to Insect Damage ⁵	
							2019	2 or more years
Mid/Full-Season⁶ (27 Entries)								
Dyna-Gro	D57VC51	59	1.65	T	0.55	1.61	VG	G
Pioneer	P1870YHR	57	1.25	T	0.1	1.86	VG	G+
MorCorn	MC 4725	56	0.65	T	0.3	1.81	VG	VG-
AgraTech	85VT2P	57	0.47	T	0.37	0.93	VG	G+
Local Seed	LC1987 VT2P	58	0.25	T	0.48	1.61	VG	F+
NK Brand	NK1808-3111	57.5	1.85	T	0.25	1.34	VG	F+
Phoenix	7402A4	57	0.15	T	0.38	1.27	VG	G
Local Seed	LC1878 VT2P	54	1.4	T	0.35	2.02	VG	VG-
Dyna-Gro	CX18117	58	1.35	T	0.65	1.27	VG	
Local Seed	AV7516 YHB	55	0.45	T	0.18	0.34	VG	
CROPLAN	5678 VT2P	56	0.3	T	1.2	4.93	G	G
Pioneer	P1662YHR	55	2.45	T	1.08	2.3	G	G
AgriGold	A648-54STX	57	0	T	0.9	1.08	G	
DEKALB	DKC66-18 VT2P	57	1.55	T	0.58	3.25	G	
Phoenix	6542A4	58	4.35	M	0.25	1.48	F	G-
Terral Seed	REV28BHR18	58	1.55	T	0.65	1.27	F	G-
Dyna-Gro	D58VC65	55	2.85	T	0.4	0.97	F	F
AgriGold	A6659VT2RIB	60	3.2	T	0.68	1.26	F	G-
DEKALB	DKC68-69 VT2P	55	3.15	T	0.25	0.75	F	G-
Armor	A1778 VT2P/ASR	58	1.75	T	0.68	1.35	F	G
AgriGold	A647-46VT2PRO	56	2.73	T	0.07	1.7	F	
MorCorn	MC XP 1957	56	6.15	T	0.25	2.14	F	
Local Seed	LCX17-98	56	5.3	M	0.75	1.41	F	
NK Brand	NK1694-3111	56	3.05	T	0.5	3.37	P	F+
Pioneer	P1903YHR	56	3.65	T	0.6	2.65	P	
MorCorn	MC XP 1859	55	1.9	T	2.18	2.59	P	
SEEDWAY	SW 8109 3111	56	1.85	T	0.45	2.25	P	

Ear-Feeding Insect Resistance in 68 Commercial Corn Hybrids, Tifton, Georgia, 2019 (Continued)

Company or Brand Name	Hybrid Name	Days to Anthesis ¹	Husk Extension cm	Husk Tightness rating ²	2019 FAW+CEW Damage ³ cm	2019 Kernel Damage ⁴ %	Overall Resistance to Insect Damage ⁵	
							2019	2 or more years
Short-Season⁶ (41 Entries)								
Terral Seed	REV24BHR99	56	3.95	T	0	1.73	VG	VG-
AgriGold	A644-32TRCRIB	57	3.85	T	0.28	1.53	VG	
Terral Seed	REV25BHR80	56	3.3	T	0.6	1.2	VG	
MorCorn	MC XP 1959	56	3.35	T	0	1.91	VG	
Augusta	A5065-3110GTD	57	4.75	T	0.15	1	VG	
Augusta	A4565-3220GTD	56	1.65	T	0	1.13	VG	
Local Seed	LC1289 VT2P	55	1.15	T	0.5	1.17	VG	
Local Seed	AV8614 YHB	57	3.15	T	0.25	1.03	VG	
Phoenix	6507A3	57	3.4	T	0.4	2.31	G	G
NK Brand	NK1573-3330	58	3.15	T	0.5	1.58	G	
MorCorn	MC XP 1861	55	5.45	M	0.5	2.71	G	
Phoenix	5352A4	56	5.8	M	0.35	0.99	G	
Augusta	A1367-5222DCEZ	55	3.6	M	0.23	1.45	G	
Local Seed	LC1488 VT2P	56	4.6	M	0.1	2.64	G	
SEEDWAY	SW6790VT2P RIB	56	4.85	T	1.1	1.71	G	
Terral Seed	REV25BHR26	56	1.05	T	0.13	2.37	F	G+
Armor	A1447 VT2P	58	1.4	T	0.53	1.75	F	F
Dyna-Gro	D54VC14	56	1.4	T	1.33	1.84	F	F
Local Seed	LC1776 VT2P	57	0.9	T	1.23	1.86	F	G-
AgraTech	68VT2P	55	0.13	T	1	1.8	F	F-
CROPLAN	5340 VT2P	56	1.55	T	0.9	1.29	F	
MorCorn	MC 4255	56	2.3	T	0	2.47	F	
MorCorn	MC 3966	57	1.5	T	0.4	2.9	F	
MorCorn	MC 3952	56	1.4	T	0.53	1.56	F	
MorCorn	MC XP 1962	57	1.15	T	0.85	1.44	F	
Local Seed	LC1586 TC	57	1.75	T	0.2	2.19	F	
Local Seed	LCX16-91	59	0.35	T	0.65	2.03	F	
AgraTech	711VT2P	56	1.85	T	0.78	1.87	F	
MorCorn	MC 4319	58	0.6	T	1.53	3.47	P	F
AgriGold	A6544VT2RIB	58	1.05	T	1.13	2.27	P	P
MorCorn	MC 4457	56	1.1	T	0.53	3.03	P	G-
Local Seed	LC1577 VT2P	57	1.2	T	0.5	3.18	P	F-
MorCorn	MC 4178	55	2.7	T	1.48	1.36	P	
MorCorn	MC XP 1951	58	2.05	T	1.03	2.15	P	
MorCorn	MC XP 1953	56	2.45	T	0.8	3.2	P	
MorCorn	MC XP 1857	55	3.3	T	1.3	2.04	P	
MorCorn	MC XP 1963	55	2.45	T	2.08	3.07	P	
MorCorn	MC XP 1955	55	1.1	T	1.08	3.1	P	
DEKALB	DKC65-99 TRECEPTA	57	1.27	T	1.1	2.46	P	
Local Seed	LC0877 VT2P	56	2.85	T	2.2	3.36	P	
SEEDWAY	SW6540VT2P RIB	56	0.05	T	1.28	4.17	P	

Ear-Feeding Insect Resistance in 68 Commercial Corn Hybrids, Tifton, Georgia, 2019 (Continued)

1. Days to anthesis is the number of days to flowering at Tifton, Georgia in 2019 after the hybrids were planted on March 29, 2019 ($n = 4$).
2. Husk Tightness: L = loose husk, M = medium-tight husk, and T = tight husk.
3. Ear-feeding insect damage denotes the ear penetration (cm) by corn earworm (CEW) and fall armyworm (FAW) feeding
4. All kernel-feeding insect damage was assessed by percentage (%) of damaged kernels per ear. Kernel-feeding insect damage was the combined percentage of stink bug, pink savenger caterpillar, maize weevil, and sap beetle damage. The number of kernels per sampled ear was estimated by counting a representative ear per plot. The total number of kernels per ear were estimated by multiplying the number of kernels per row by the number of rows of an ear.
5. Categorization of insect resistance to key ear- and kernel-feeding insects was based on principal component analysis results. The data were collected from 20 ears per hybrid (5 ears x 4 replications), where VG = very good, G = good, F = fair, and P = poor. The + and - signs denote the fluctuation of damage ratings in recent (two or more) years.
6. Maturity (mid- to full-season or short-season) of a hybrid was provided by the seed company.

Sources of Seed for the 2019 Corn Hybrid Tests

Company or Brand Name	Seed Source
AgraTech	Grabow Seed Services, Inc., PO Box 88823, Atlanta, GA 30356
AgriGold	AgriGold, 5381 Akin Rd, St. Francisville, IL 62460
Armor	Armor Seed LLC, 2532 Alexander Dr., Jonesboro, AR 72401
Augusta	Augusta Seed, PO Box 899, Verona, VA 24482
Croplan	Winfield Solutions, 615 McCardle Rd., Dothan, AL 36303
DeKalb	Bayer, 800 N. Lindberg Blvd., Creve Coeur, MO 63141
Dyna-Gro	Nutrien AG Solutions, 100 Industrial Ct., Colquitt, GA 39838
Local Seed	Local Seed Company, 802 Rozelle St., Memphis, TN 38104
MorCorn and Phoenix	SeedKoz, 1725 Windward Concourse, Suite 410, Alpharetta, GA 30005
NK	Syngenta NK Brand Seeds, 4013 Fairmount Pike, Signal Mountain, TN 37377
Pioneer	Dupont Pioneer, 277 Bells Cabin Rd, Fitzgerald, GA 31750
SEEDWAY	Seedway LLC., 275 North Eighth St., Mifflinburg, PA 17844
Terral Seed	Terral Seed, Inc., 111 Ellington Dr., Rayville, LA 71269

SORGHUM GRAIN

Statewide Yield Summary: Sorghum Grain Performance, Georgia, 2019

Company or Brand Name	Hybrid	Early Plantings			Early	Late Plantings		Late
		Tifton	Plains	Athens	Average	Tifton	Calhoun	Average
----- bu/acre -----								
Advanta Seeds	ADV XG224	64.0	18.5	55.3	45.9	.	.	.
Advanta Seeds	ADV XG255	71.8	38.8	89.3	66.6	.	.	.
Advanta Seeds	ADV XG397	89.3	42.0	75.5	68.9	.	.	.
Alta Seeds	ADV G2275	65.8	32.8	89.0	62.5	.	.	.
Alta Seeds	ADV G3247	104.3	50.8	77.5	77.5	.	.	.
Alta Seeds	AG1203	105.8	35.7	80.8	74.1	.	.	.
Blue River	52R7	.	.	.	.	25.5	11.7	18.6
Blue River	63C5	.	.	.	.	.	48.0	.
Blue River	63WT6	.	.	.	.	41.7	33.5	37.6
Blue River	67B4	.	.	.	.	.	14.8	.
Blue River	74BAT7	.	.	.	.	79.7	33.5	56.6
Blue River	76WT4	.	.	.	.	46.5	6.8	26.6
DEKALB	DKS37-07	102.3	42.3	68.5	71.0	63.0	48.5	55.8
DEKALB	DKS46-60	90.0	46.5	90.3	75.6	56.8	41.3	49.0
DEKALB	DKS53-53	54.5	22.0	64.7	47.1	22.0	46.8	34.4
DEKALB	DKS54-07	112.5	48.0	108.5	89.7	69.3	37.8	53.5
Desert Sun	DSM 40-920	.	.	.	.	66.8	48.8	57.8
Dyna-Gro	Dual Forage	36.0	36.3	.	.	46.3	.	.
Dyna-Gro	GX13692	28.5	53.8	.	.	35.5	.	.
Dyna-Gro	GX17973	60.3	35.0	.	.	53.5	.	.
Dyna-Gro	GX18395	34.5	26.8	.	.	40.3	.	.
Dyna-Gro	GX18991	101.3	61.5	.	.	67.0	.	.
Dyna-Gro	GX19981	122.0	44.3	.	.	67.3	.	.
Dyna-Gro	M60GB31	118.5	41.7	.	.	41.0	.	.
Dyna-Gro	M62GB77	99.8	47.0	.	.	76.5	.	.
Dyna-Gro	M68GR41	80.3	32.5	.	.	37.8	.	.
Dyna-Gro	M69GB38	89.7	35.0	.	.	39.8	.	.
Dyna-Gro	M69GR88	73.0	36.0	.	.	34.8	.	.
Dyna-Gro	M71GR04	103.3	43.8	.	.	56.5	.	.
Dyna-Gro	M73GR55	82.0	53.0	.	.	75.3	.	.
Dyna-Gro	M74GB17	101.8	46.3	.	.	67.5	.	.
Gayland Ward	18035	72.7	43.8	.	.	.	.	.
Gayland Ward	18036	95.0	37.3	.	.	.	.	.
Gayland Ward	18057	77.5	36.0	.	.	51.0	.	.
Gayland Ward	18083	19.0	21.0	.	.	.	.	.
Gayland Ward	18084	43.3	20.8	.	.	.	.	.
Gayland Ward	18092	54.7	25.7	.	.	.	.	.
Gayland Ward	18093	74.3	37.8	.	.	.	.	.
Gayland Ward	18350	69.3	28.0	.	.	.	.	.
Gayland Ward	19016	51.7	26.8	.	.	.	.	.
Gayland Ward	19017	60.0	13.3	.	.	.	.	.
Gayland Ward	19021	77.5	39.3	.	.	.	.	.
Gayland Ward	19023	88.5	52.3	.	.	.	.	.
Gayland Ward	19024	39.5	33.8	.	.	.	.	.
Gayland Ward	19152	97.7	50.5	.	.	.	.	.
Pioneer	83P17	96.0	52.3	83.5	77.3	83.3	.	.
Pioneer	83P27	71.0	35.5	87.8	64.8	70.5	.	.

**Statewide Yield Summary:
Sorghum Grain Performance, Georgia, 2019
(Continued)**

Company or Brand Name	Hybrid	Early Plantings			Early Average	Late Plantings		Late Average
		Tifton	Plains	Athens		Tifton	Calhoun	
Sorghum Partners	SP 74C40	89.0	41.5	79.5	70.0	.	.	.
Sorghum Partners	SP 74M21	83.5	26.0	80.5	63.3	.	.	.
Sorghum Partners	SP 78M30	88.8	41.8	84.3	71.6	.	.	.
Sorghum Partners	SP7715	103.3	45.8	86.3	78.4	.	.	.
Southern Harvest	SH65G6	.	.	.	.	75.8	49.5	62.6
Southern Harvest	SH80G4	.	.	.	.	66.8	47.5	57.1
Southern Harvest	SH90G6	56.3	31.0	84.8	57.4	.	.	.
Southern Harvest	X3107	.	.	75.0	.	.	.	.
Southern Harvest	X4124	.	.	.	.	.	39.3	.
Average		77.6	37.6	81.4	68.3	55.5	36.6	46.5
LSD at 10% Level		20.1	9.0	8.2	9.4	7.3	12.7	11.0
Std. Err. of Entry Mean		8.2	3.7	3.4	3.9	3.0	5.0	4.6
Model R-squared		0.77	0.74	0.79	0.77	0.91	0.78	0.65

Bolded yields are statistically non-significant (p = 0.10 level) from the highest yielding test entry.
Yields calculated as 56 lbs/bushel at 14% moisture.

Tifton, Georgia:

Early-Planted Sorghum Grain Performance, 2019, Dryland

Company or Brand Name	Hybrid	Yield		Test Weight	50% Bloom ¹	Plant Height	Head Exertion	Head Height	Lodging	Bird Damage ²
		2019	2-Yr Avg							
		-----	-----	lb/bu	days	in	in	in	%	%
Dyna-Gro	GX19981	122.0	.	54.5	64	48	4.5	8.3	0	0
Dyna-Gro	M60GB31	118.5	.	53.7	58	46	5.5	8.3	0	7
DEKALB	DKS54-07	112.5	.	57.0	65	51	4.5	9.0	0	11
Alta Seeds	AG1203	105.8	68.5	52.6	59	42	4.0	8.0	0	10
Alta Seeds	ADV G3247	104.3	75.3	55.8	66	47	5.3	8.3	0	4
Dyna-Gro	M71GR04	103.3	87.6	57.2	66	50	3.8	7.0	0	7
Sorghum Partners	SP7715	103.3	97.0	57.2	64	48	6.0	8.5	0	6
DEKALB	DKS37-07	102.3	82.1	52.1	62	45	3.0	8.3	0	9
Dyna-Gro	M74GB17	101.8	77.8	55.4	58	47	7.0	9.5	0	0
Dyna-Gro	GX18991	101.3	.	57.4	65	53	5.0	8.0	0	16
Dyna-Gro	M62GB77	99.8	.	55.4	61	45	5.0	8.3	0	0
Gayland Ward	19152	97.7	.	49.5	67	47	4.0	8.3	0	6
Pioneer	83P17	96.0	96.6	48.4	65	49	4.0	9.5	0	12
Gayland Ward	18036	95.0	.	54.0	65	53	8.0	8.7	0	4
DEKALB	DKS46-60	90.0	.	53.7	65	46	6.0	8.5	0	15
Dyna-Gro	M69GB38	89.7	69.3	50.1	64	48	6.0	7.7	2	0
Advanta Seeds	ADV XG397	89.3	.	53.3	60	45	6.0	7.0	0	14
Sorghum Partners	SP 74C40	89.0	72.1	52.6	59	43	3.5	9.3	0	6
Sorghum Partners	SP 78M30	88.8	.	50.3	64	48	3.0	11.0	0	3
Gayland Ward	19023	88.5	.	52.6	68	49	7.0	8.3	0	6
Sorghum Partners	SP 74M21	83.5	.	51.2	63	47	6.5	9.3	0	16
Dyna-Gro	M73GR55	82.0	85.3	53.6	67	52	4.0	9.0	0	17
Dyna-Gro	M68GR41	80.3	.	52.5	58	47	5.5	8.8	6	0
Gayland Ward	18057	77.5	.	49.6	57	48	7.5	8.5	0	0
Gayland Ward	19021	77.5	.	50.4	67	50	3.5	9.0	0	12
Gayland Ward	18093	74.3	.	50.5	59	43	6.7	7.7	0	0
Dyna-Gro	M69GR88	73.0	46.0	48.3	59	42	5.0	7.3	0	7
Gayland Ward	18035	72.7	.	53.0	61	49	6.0	9.3	8	10
Advanta Seeds	ADV XG255	71.8	.	51.3	63	46	7.3	8.5	0	3
Pioneer	83P27	71.0	.	49.5	65	45	4.5	8.0	0	3
Gayland Ward	18350	69.3	.	50.6	66	46	4.5	9.5	0	8
Alta Seeds	ADV G2275	65.8	57.9	52.1	65	43	5.0	7.8	0	4
Advanta Seeds	ADV XG224	64.0	.	49.1	60	43	4.0	9.7	3	0
Dyna-Gro	GX17973	60.3	.	48.6	59	52	7.0	8.3	3	3
Gayland Ward	19017	60.0	.	46.6	65	49	7.5	8.8	1	6
Southern Harvest	SH90G6	56.3	71.0	52.0	59	49	6.0	8.0	0	13
Gayland Ward	18092	54.7	.	47.8	64	47	6.0	7.7	7	14
DEKALB	DKS53-53	54.5	52.4	45.2	66	46	4.0	10.0	5	0
Gayland Ward	19016	51.7	.	45.7	59	48	8.0	9.0	12	4
Gayland Ward	18084	43.3	.	46.7	70	49	8.5	8.5	3	3
Gayland Ward	19024	39.5	.	46.2	65	45	6.5	8.5	10	0
Dyna-Gro	Dual Forage SCA	36.0	.	47.3	65	49	4.8	8.0	30	7
Dyna-Gro	GX18395	34.5	.	48.6	57	40	3.0	8.3	4	0
Dyna-Gro	GX13692	28.5	.	41.1	69	65	3.5	9.5	28	11
Gayland Ward	18083	19.0	.	42.2	66	49	7.5	8.5	24	0
Average		77.6 ³	74.2	50.9	63	47	5.4	8.6	3	6
LSD at 10% Level		20.1	20.3	3.4	1	3	1.4	0.9	-	9
Std. Err. of Entry Mean		8.2	8.4	1.4	-	1	0.6	0.4	3	3
Model R-squared		0.77	0.44	0.73	0.99	0.81	0.71	0.62	0.61	0.48

Tifton, Georgia: Early-Planted Sorghum Grain Performance, 2019, Dryland (Continued)

Bolded yields are statistically non-significant ($p = 0.10$ level) from the highest yielding test entry.

1. Days from planting to 50% bloom.
2. Percent of grain head damaged.
3. CV = 21.1% and df for EMS = 120.

Planted: April 13, 2019.

Harvested: July 31, 2019.

Seeding Rate: 80,000 seeds per acre in 36-inch rows.

Soil Type: Tifton loamy sand.

Soil Test: P = Medium, K = Low, and pH = 6.3.

Fertilization: Preplant: 75 lb N, 60 lb P₂O₅, and 90 lb K₂O/acre. Sidedress: 100 lb N/acre.

Previous Crop: Peanuts.

Management: Conventional tillage. Dual Magnum and Atrazine used for weed control. Telone II used for nematode control. Sivanto used for insect control.

Test conducted by R. Brooke, K. Cawley, M. Cofield, and D. Dunn.

Plains, Georgia: Early-Planted Sorghum Grain Performance, 2019, Dryland (Continued)

1. Days from planting to 50% bloom.
2. 0 = absent, 5 = many tillers. Large scale tillering was only observed at Plains. It was increased by early planting dates (cooler), drought, and lower seeding rates. It resulted in immature secondary heads being present at harvest, leading to high moistures and lower test weights than would have otherwise been the case.
3. Percent of grain head damaged.
4. CV = 19.7% and df for EMS = 123.

Bolded yields are statistically non-significant ($p = 0.10$ level) from the highest yielding test entry.

Planted: April 18, 2019.

Harvested: August 9, 2019.

Seeding Rate: 80,000 seeds per acre in 36-inch rows.

Soil Type: Greenville sandy loam.

Soil Test: P = Medium, K = Medium, and pH = 6.0.

Fertilization: Preplant: 60 lb N, 110 lb P_2O_5 , and 60 lb K_2O /acre. Sidedress: 60 lb N/acre.

Previous Crop: Soybeans.

Management: Conventional tillage. Dual Magnum and Atrazine used for weed control. Sivanto used for insect control.

Test conducted by R. Brooke, K. Cawley, M. Cofield, D. Dunn, W. Jones, and D. Pearce.

Athens, Georgia: Early-Planted Sorghum Grain Performance, 2019, Dryland

Company or Brand Name	Hybrid	Yield		Test Weight lb/bu	50% Bloom ¹ days	Plant Height in	Head Exertion in	Lodging %	Bird Damage ² %
		2019 ----- bu/acre	2-Yr Avg -----						
DEKALB	DKS54-07	108.5	.	59.3	74	60	6.8	.	19
DEKALB	DKS46-60	90.3	.	58.9	73	58	8.8	.	18
Advanta Seeds	ADV XG255	89.3	.	56.6	81	54	4.3	.	7
Alta Seeds	ADV G2275	89.0	98.6	57.6	71	54	7.0	.	16
Pioneer	83P27	87.8	.	56.1	76	58	3.0	.	14
Sorghum Partners	SP7715	86.3	98.8	58.0	76	58	5.5	.	10
Southern Harvest	SH90G6	84.8	.	55.6	74	57	5.0	.	23
Sorghum Partners	SP 78M30	84.3	.	55.0	76	54	3.5	.	6
Pioneer	83P17	83.5	96.8	55.7	78	57	2.8	.	18
Alta Seeds	AG1203	80.8	101.5	53.4	69	51	6.0	.	23
Sorghum Partners	SP 74M21	80.5	.	55.4	75	55	6.3	.	11
Sorghum Partners	SP 74C40	79.5	.	55.3	72	53	3.5	.	14
Alta Seeds	ADV G3247	77.5	98.4	56.9	74	57	7.3	.	18
Advanta Seeds	ADV XG397	75.5	.	57.5	72	56	5.5	.	22
Southern Harvest	X3107	75.0	.	54.9	72	56	6.8	.	23
DEKALB	DKS37-07	68.5	92.8	52.9	68	50	4.8	.	39
DEKALB	DKS53-53	64.7	93.4	55.4	74	47	4.0	.	17
Advanta Seeds	ADV XG224	55.3	.	54.8	70	49	3.5	.	36
Average		81.4 ³	97.2	56.1	73	55	5.2		18
LSD at 10% Level		8.2	NS	1.4	1	3	2.0		13
Std. Err. of Entry Mean		3.4	3.6	0.6	1	1	0.8		5
Model R-squared		0.79	0.79	0.76	0.91	0.77	0.59		0.47

1. Days from planting to 50% bloom.

2. Percent of grain head damaged.

3. CV = 8.4% and df for EMS = 50.

"NS" indicates differences are statistically non-significant (p = 0.10 probability level).

Bolded yields are statistically non-significant (p = 0.10 level) from the highest yielding test entry.

Planted: April 16, 2019.

Harvested: August 13, 2019.

Seeding Rate: 80,000 seeds per acre in 30-inch rows.

Soil Type: Wickham sandy loam.

Previous Crop: Soybeans.

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

Fertilization: Preplant: 30 lb N, 78 lb P₂O₅, and 78 lb K₂O/acre. Sidedress: 130 lb N/acre.

Management: Strip-tilled. Dual Magnum and Atrazine used for weed control. Lorsban and Sivanto used for insect control.

Test conducted by H. Jordan, G. Ware, C. Fox, J. Griffin, and K. Roach.

Tifton, Georgia: Late-Planted Sorghum Grain Performance, 2019, Dryland

Company or Brand Name	Hybrid	Yield		Test Weight lb/bu	50% Bloom ¹ days	Plant Height in	Head Exertion in	Head Height in	Lodging %
		2019 ----- bu/acre	2-Yr Avg ----- bu/acre						
Pioneer	83P17	83.3	72.0	55.5	53	49	4.0	10.0	1
Blue River	74BAT7	79.7	.	56.8	54	50	3.3	9.3	1
Dyna-Gro	M62GB77	76.5	.	58.0	48	46	3.8	8.3	1
Southern Harvest	SH65G6	75.8	65.5	58.1	49	47	3.0	8.8	0
Dyna-Gro	M73GR55	75.3	.	57.1	56	50	2.5	10.0	4
Pioneer	83P27	70.5	.	54.8	50	47	3.8	8.8	3
DEKALB	DKS54-07	69.3	.	55.7	56	50	2.0	8.3	4
Dyna-Gro	M74GB17	67.5	.	55.5	55	50	3.0	9.5	0
Dyna-Gro	GX19981	67.3	.	57.8	54	47	2.3	8.0	3
Dyna-Gro	GX18991	67.0	.	56.1	54	47	2.8	8.0	1
Desert Sun	DSM 40-920	66.8	.	57.1	52	45	4.3	8.8	0
Southern Harvest	SH80G4	66.8	55.6	57.6	53	48	2.3	8.8	6
DEKALB	DKS37-07	63.0	47.8	52.4	49	44	3.3	8.0	5
DEKALB	DKS46-60	56.8	.	56.8	52	45	4.5	8.5	5
Dyna-Gro	M71GR04	56.5	.	57.5	52	47	3.5	8.0	31
Dyna-Gro	GX17973	53.5	.	54.8	53	50	4.0	8.8	28
Gayland Ward	18057	51.0	.	53.0	48	44	6.0	9.0	43
Blue River	76WT4	46.5	.	57.4	57	47	1.8	9.0	9
Dyna-Gro	Dual Forage SCA	46.3	.	51.3	51	51	3.5	8.3	56
Blue River	63WT6	41.7	.	50.9	49	43	4.0	8.0	31
Dyna-Gro	M60GB31	41.0	.	52.7	51	41	4.0	7.8	8
Dyna-Gro	GX18395	40.3	.	54.0	49	46	2.3	8.5	6
Dyna-Gro	M69GB38	39.8	.	51.4	54	48	4.5	8.0	21
Dyna-Gro	M68GR41	37.8	.	56.1	50	43	4.3	8.3	44
Dyna-Gro	GX13692	35.5	.	54.0	57	65	1.3	9.8	79
Dyna-Gro	M69GR88	34.8	.	51.5	52	44	5.0	6.8	50
Blue River	52R7	25.5	.	.	37	37	4.8	7.3	31
DEKALB	DKS53-53	22.0	21.6	54.0	54	46	2.5	7.8	73
Average		55.5 ²	52.5	55.3	52	47	3.4	8.5	19
LSD at 10% Level		7.3	7.5	2.0	1	2	1.0	0.7	-
Std. Err. of Entry Mean		3.0	3.1	0.8	-	1	0.4	0.3	8
Model R-squared		0.91	0.86	0.76	-	0.94	0.72	0.71	0.73

Bolded yields are statistically non-significant (p = 0.10 level) from the highest yielding test entry.

1. Days from planting to 50% bloom.

2. CV = 11.0% and df for EMS = 79.

Planted: June 14, 2019.

Harvested: September 23, 2019.

Seeding Rate: 80,000 seeds per acre in 36-inch rows.

Soil Type: Tifton loamy sand.

Soil Test: P = Medium, K = Low, and pH = 6.5.

Fertilization: Preplant: 75 lb N, 60 lb P₂O₅, and 90 lb K₂O/acre. Sidedress: 100 lb N/acre.

Previous Crop: Summer annual forages.

Management: Conventional tillage. Dual Magnum and Atrazine used for weed control. Telone II used for nematode control.

Test conducted by R. Brooke, K. Cawley, M. Cofield, and D. Dunn.

Plains, Georgia: Late-Planted Sorghum Grain Performance, 2019, Dryland

A grain sorghum trial was planted at this location. Sugarcane damage was severe, but inconsistent in the trial area. Delayed head development occurred on primary stems, and tillers were present. Drought stress compounded problems. Bird damage accumulated, and the final result was not harvestable.

Calhoun, Georgia: Late-Planted Sorghum Grain Performance, 2019, Dryland

Company or Brand Name	Hybrid	Yield		Test Weight lb/bu	50% Bloom ¹ days	Plant Height in
		2019 ----- bu/acre -----	2-Yr Avg			
Southern Harvest	SH65G6	49.5	.	55.2	63	38
Desert Sun	DSM 40-920	48.8	.	52.8	79	36
DEKALB	DKS 37-07	48.5	.	51.8	70	31
Blue River	63C5	48.0	.	55.3	77	33
Southern Harvest	SH80G4	47.5	.	51.7	76	36
DEKALB	DKS 53-53	46.8	.	50.2	80	34
DEKALB	DKS46-60	41.3	.	49.2	76	30
Southern Harvest	X4124	39.3	.	52.6	65	35
DEKALB	DKS54-07	37.8	.	48.3	87	40
Blue River	63WT6	33.5	.	37.8	86	28
Blue River	74BAT7	33.5	.	42.9	73	38
Blue River	67B4	14.8	.	18.3	86	26
Blue River	52R7	11.7	.	18.6	53	23
Blue River	76WT4	6.8	.	6.5	86	36
Average		36.6 ²	-	42.6	74	33
LSD at 10% Level		12.7	-	9.8	13	4
Std. Err. of Entry Mean		5.0	-	3.7	4	2
Model R-squared		0.78	-	0.86	0.65	0.82

Bolded yields are statistically non-significant ($p = 0.10$ level) from the highest yielding test entry.

1. Days from planting to 50% bloom.

2. CV = 27.4% and df for EMS = 27.

Planted: July 30, 2019.

Harvested: December 5, 2019.

Seeding Rate: 80,000 seeds per acre in 30-inch rows.

Soil Type: Etowah loam.

Previous Crop: Ryegrass forage.

Management: Conventional tillage. Dual Magnum and Atrazine used for weed control.

Test conducted by H. Jordan, G. Ware, M. Tucker, and T. Turnquist.

SORGHUM FOR SILAGE

Statewide Yield Summary: Sorghum Silage Performance, Georgia, 2019

Company or Brand Name	Hybrid or Variety Name	Tifton		Athens		Statewide	
		Primary	2-Yr Avg	Primary	2-Yr Avg	Primary	2-Yr Avg
----- dry tons/acre -----							
Advanta Seeds	ADV XF025	3.71	.	3.99	.	3.85	.
Alta Seeds	ADV F7232	3.85	.	4.59	.	4.22	.
Alta Seeds	ADV F8322	4.89	5.33	5.61	6.53	5.25	5.93
Alta Seeds	ADV S6504	3.97	.	4.51	.	4.24	.
Alta Seeds	AF7201	4.09	.	4.20	.	4.14	.
Alta Seeds	AF7401	4.12	4.31	4.93	5.45	4.52	4.88
Alta Seeds	AF8301	4.70	4.87	4.84	5.62	4.77	5.22
Dyna-Gro	Dual Forage SCA	4.44	.	.	.	.	.
Dyna-Gro	F73FS10	5.67	.	.	.	.	.
Dyna-Gro	F74FS72 BMR	4.07	.	.	.	.	.
Dyna-Gro	F75FS13	3.85	.	.	.	.	.
Dyna-Gro	Fullgraze II	4.31	.	.	.	.	.
Dyna-Gro	F72FS05	4.80	.	.	.	.	.
Dyna-Gro	FX19178 BMR	2.71	.	.	.	.	.
Dyna-Gro	GX13692	5.06	.	.	.	.	.
Dyna-Gro	Super Sile 20	4.48	.	5.26	.	4.87	.
Dyna-Gro	Super Sile 30	4.34	.	.	.	.	.
Dyna-Gro	TopTon	4.44	5.43	.	.	.	.
Gayland Ward	18096	4.57	.	.	.	.	.
Gayland Ward	18116	4.27	.	.	.	.	.
Gayland Ward	18118	2.96	.	.	.	.	.
Gayland Ward	18119	3.95	.	.	.	.	.
Gayland Ward	18122	3.89	.	.	.	.	.
Gayland Ward	18351	4.66	.	.	.	.	.
Gayland Ward	19038	3.92	.	.	.	.	.
Gayland Ward	19040	3.33	.	.	.	.	.
Gayland Ward	19042	3.66	.	.	.	.	.
Gayland Ward	19155	3.91	.	.	.	.	.
Gayland Ward	19174	4.06	.	.	.	.	.
Gayland Ward	19175	4.52	.	.	.	.	.
Gayland Ward	19176	3.91	.	.	.	.	.
Gayland Ward	19177	4.37	.	.	.	.	.
Gayland Ward	19178	3.83	.	.	.	.	.
Gayland Ward	19179	4.67	.	.	.	.	.
Gayland Ward	Silo Pro BMR	3.14	.	.	.	.	.
MOJO SEED	OPAL	5.13	.	4.66	.	4.89	.
Sorghum Partners	NK300	4.42	4.75	3.90	.	4.16	.
Sorghum Partners	SP2774	4.45	.	4.80	.	4.63	.
Sorghum Partners	SP3904 BD	4.35	.	4.76	.	4.56	.
Sorghum Partners	SS304	5.36	5.79	5.83	.	5.59	.
Trial Average		4.22	5.08	4.77	5.88	4.60	5.34
LSD at 10% Level		0.52	0.45	0.60	0.61	0.39	0.36
Std. Err. of Entry Mean		0.22	0.19	0.25	0.24	0.16	0.15
Model R-squared		0.72	0.64	0.65	0.68	0.64	0.76

Bolded yields are statistically non-significant (p = 0.10 level) from the highest yielding test entry.

Tifton, Georgia: Sorghum Silage Performance, 2019, Dryland

Company or Brand Name	Hybrid or Variety Name	Primary Harvest			Growth Stage	Plant Height	Lodging	Ratoon Harvest	Season Total	2-Yr Avg
		Dry ---- tons/acre ----	Green %	Moisture %							in %	dry tons/acre ----
Dyna-Gro	F73FS10	5.67	16.2	76	soft dough	96	1	3.79	9.45	.
Sorghum Partners	SS304	5.36	15.3	82	flower	98	0	4.46	9.82	5.79
MOJO SEED	OPAL	5.13	14.7	81	flower	75	0	3.00	8.12	.
Dyna-Gro	GX13692	5.06	14.5	78	soft dough	66	0	1.52	6.58	.
Alta Seeds	ADV F8322	4.89	14.0	80	flower	66	0	4.03	8.92	5.33
Dyna-Gro	F72FS05	4.80	13.7	79	flower	64	0	3.57	8.37	.
Alta Seeds	AF8301	4.70	13.4	79	flower	68	1	3.33	8.02	4.87
Gayland Ward	19179	4.67	13.4	79	vegetative	65	0	3.28	7.95	.
Gayland Ward	18351	4.66	13.3	79	soft dough	65	0	2.26	6.92	.
Gayland Ward	18096	4.57	13.0	79	soft dough	60	0	2.19	6.75	.
Gayland Ward	19175	4.52	12.9	77	flower	90	1	2.20	6.71	.
Dyna-Gro	Super Sile 20	4.48	12.8	83	flower	95	1	2.21	6.69	.
Sorghum Partners	SP2774	4.45	12.7	79	soft dough	95	0	2.41	6.86	.
Dyna-Gro	Dual Forage SCA	4.44	12.7	75	soft dough	56	0	0.34	4.77	.
Dyna-Gro	TopTon	4.44	12.7	83	vegetative	87	3	3.81	8.25	5.43
Sorghum Partners	NK300	4.42	12.6	80	flower	68	0	2.45	6.87	4.75
Gayland Ward	19177	4.37	12.5	77	flower	88	3	1.70	6.07	.
Sorghum Partners	SP3904 BD	4.35	12.4	83	vegetative	55	0	3.60	7.95	.
Dyna-Gro	Super Sile 30	4.34	12.4	82	flower	100	0	1.78	6.12	.
Dyna-Gro	Fullgraze II	4.31	12.3	78	flower	109	0	3.35	7.67	.
Gayland Ward	18116	4.27	12.2	78	soft dough	93	11	2.37	6.65	.
Alta Seeds	AF7401	4.12	11.8	82	vegetative	58	0	2.87	6.99	4.31
Alta Seeds	AF7201	4.09	11.7	73	soft dough	82	1	0.95	5.03	.
Dyna-Gro	F74FS72 BMR	4.07	11.6	80	vegetative	53	0	2.14	6.21	.
Gayland Ward	19174	4.06	11.6	80	flower	85	1	2.43	6.49	.
Alta Seeds	ADV S6504	3.97	11.4	85	vegetative	94	0	1.69	5.66	.
Gayland Ward	18119	3.95	11.3	75	soft dough	82	0	0.78	4.73	.
Gayland Ward	19038	3.92	11.2	82	vegetative	58	0	1.58	5.50	.
Gayland Ward	19155	3.91	11.2	80	soft dough	83	21	0.84	4.75	.
Gayland Ward	19176	3.91	11.2	75	flower	96	0	1.32	5.23	.
Gayland Ward	18122	3.89	11.1	80	flower	75	0	1.34	5.23	.
Alta Seeds	ADV F7232	3.85	11.0	83	vegetative	54	0	2.18	6.03	.
Dyna-Gro	F75FS13	3.85	11.0	79	soft dough	89	4	0.68	4.52	.
Gayland Ward	19178	3.83	10.9	78	flower	90	0	2.33	6.16	.
Advanta Seeds	ADV XF025	3.71	10.6	74	soft dough	88	4	0.96	4.67	.
Gayland Ward	19042	3.66	10.5	84	vegetative	69	0	1.15	4.81	.
Gayland Ward	19040	3.33	9.5	81	flower	55	0	0.69	4.02	.
Gayland Ward	Silo Pro BMR	3.14	9.0	84	flower	61	0	0.70	3.84	.
Gayland Ward	18118	2.96	8.5	78	soft dough	86	0	0.78	3.74	.
Dyna-Gro	FX19178 BMR	2.71	7.7	81	flower	47	0	1.49	4.19	.
Vegetative average		4.12	11.8	82	-	66	0	2.48	6.59	-
Flowering average		4.23	12.1	80	-	79	0	2.35	6.59	-
Soft dough average		4.28	12.2	77	-	80	3	1.53	5.80	-
Trial Average		4.22 ¹	12.1	79	-	76	1	2.11	6.33	5.08
LSD at 10% Level		0.52	1.5	1	-	6	-	0.72	1.03	0.45
Std. Err. of Entry Mean		0.22	0.6	-	-	3	2	0.31	0.44	0.19
Model R-squared		0.72	0.72	0.95	-	0.93	0.50	0.81	0.81	0.64

Tifton, Georgia: Sorghum Silage Performance, 2019, Dryland (Continued)

1. CV = 10.5% and df for EMS = 117.

Bolded yields are statistically non-significant ($p = 0.10$ level) from the highest yielding test entry.

Planted: April 17, 2019.

Harvested: July 12, 2019, with 2,357 Growing Degree Units since planting.

September 12, 2019, with 1,917 GDUs since prior cutting.

Seeding Rate: 80,000 seeds per acre in 36-inch rows.

Soil Type: Tifton loamy sand.

Soil Test: P = Medium, K = Low, and pH = 6.3.

Fertilization: Preplant: 40 lb N, 30 lb P₂O₅, and 100 lb K₂O/acre. Sidedress: 100 lb N/acre.

Previous Crop: Fallow.

Management: Conventional tillage. Atrazine and Dual Magnum used for weed control. Telone II used for nematode control.

Test conducted by R. Brooke, K. Cawley, M. Cofield, and D. Dunn.

Athens, Georgia: Sorghum Silage Performance, 2019, Dryland

Company or Brand Name	Hybrid or Variety Name	Primary Harvest			50% Bloom date	Plant Height in	Lodging %	2-Yr. Avg Dry Yield tons/acre
		Dry ----- tons/acre -----	Green	Moisture %				
Sorghum Partners	SS304	5.83	16.7	78	07/12	102	0	.
Alta Seeds	ADV F8322	5.61	16.0	70	07/06	75	0	6.53
Dyna-Gro	Super Sile 20	5.26	15.0	76	07/10	105	8	.
Alta Seeds	AF7401	4.93	14.1	76	07/13	71	0	5.45
Alta Seeds	AF8301	4.84	13.9	67	07/01	76	70	5.62
Sorghum Partners	SP2774	4.80	13.7	75	07/03	105	11	.
Sorghum Partners	SP3904 BD	4.76	13.6	76	07/13	67	0	.
MOJO SEED	OPAL	4.66	13.3	76	07/12	81	0	.
Alta Seeds	ADV F7232	4.59	13.1	75	07/11	68	0	.
Alta Seeds	ADV S6504	4.51	12.9	80	PPS ¹	103	0	.
Alta Seeds	AF7201	4.20	12.0	68	06/27	98	16	.
Advanta Seeds	ADV XF025	3.99	11.4	64	06/27	99	25	.
Sorghum Partners	NK300	3.90	11.2	71	07/02	70	27	.
Average		4.77 ²	13.6	73	07/07	86	12	5.88
LSD at 10% Level		0.60	1.7	2	2	5	-	0.61
Std. Err. of Entry Mean		0.25	0.7	1	1	2	8	0.24
Model R-squared		0.65	0.65	0.90	0.94	0.96	0.68	0.68

1. PPS = photo-period sensitive; it would not be expected to bloom during the time this test was conducted.

2. CV = 10.4% and df for EMS = 35.

Bolded yields are statistically non-significant (p = 0.10 level) from the highest yielding test entry.

Planted: April 16, 2019.

Harvested: July 23, 2019, with 2,359 Growing Degree Units since planting.

Seeding Rate: 80,000 seeds per acre in 30-inch rows.

Soil Type: Wickham sandy loam.

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

Fertilization: Preplant: 30 lb N, 78 lb P₂O₅, and 78 lb K₂O/acre. Sidedress: 130 lb N/acre.

Previous Crop: Soybean.

Management: Strip-tilled. Atrazine and Dual Magnum used for weed control. Lorsban and Sivanto used for insect control.

Test conducted by H. Jordan, G. Ware, C. Fox, J. Griffin, and K. Roach.

SUMMER ANNUAL FORAGES

Statewide Yield Summary: Summer Annual Forages, Georgia, 2019

Company or Brand Name	Hybrid or Variety Name	Tifton	Athens	Statewide	
		Total	Total	2019	2-Yr Avg
----- dry pounds/acre -----					
<u>Sorghum, Sudangrass and Hybrids</u>					
Advanta Seeds	ADV XS007	13,183	8,625	10,904	.
Advanta Seeds	ADV XS008	11,871	9,180	10,525	.
Advanta Seeds	ADV XS8007	14,049	10,819	12,434	.
Alta Seeds	AS6401	14,502	9,953	12,228	.
Alta Seeds	AS6402	13,337	9,135	11,236	.
Coffey Forage	Exp. 3618 BMR	14,561	10,765	12,663	.
Coffey Forage	Exp. 3619 BMR	14,751	9,091	11,921	.
Coffey Forage	Exp. 5618 BMR	15,146	9,069	12,107	.
Coffey Forage	Exp. 5619 BMR	13,613	8,912	11,262	.
Coffey Forage	Surpass BMR	12,459	9,462	10,960	10,807
Coffey Forage	Xtragraze BMR	13,970	11,079	12,525	12,048
Desert Sun	Elite BMR	14,301	5,051	9,676	.
Desert Sun	Latte	13,903	11,117	12,510	13,637
Desert Sun	Latte BMR	16,554	13,252	14,903	.
Dyna-Gro	Danny Boy II BMR	15,403	.	.	.
Dyna-Gro	F75FS13	13,085	.	.	.
Dyna-Gro	Fullgraze II	16,702	.	.	.
Dyna-Gro	Fullgraze II BMR	12,411	.	.	.
Dyna-Gro	Super Sweet 10	13,173	.	.	.
Gayland Ward	18552	17,773	12,079	14,926	.
Gayland Ward	19153	16,789	12,282	14,536	.
Gayland Ward	19154	17,438	11,545	14,491	.
Gayland Ward	Super Sugar Delayed Maturity	15,399	13,442	14,421	.
Gayland Ward	Sweet Forever BMR	13,599	10,018	11,808	.
Gayland Ward	Sweet Forever PPS	13,086	9,913	11,499	.
Gayland Ward	Sweet Six BMR Dry Stalk	13,799	11,714	12,756	.
Sorghum Partners	Sordan 79	14,741	12,490	13,615	.
Sorghum Partners	SP4105	10,541	7,573	9,057	.
Sorghum Partners	SP4555	13,391	9,712	11,552	.
Sorghum Partners	SP7106 BMR	12,493	8,229	10,361	.
Average		14,202	10,206	12,195	12,164
LSD at 10% Level		1,533	2,278	1510	1151
Model R-squared		0.73	0.57	0.70	0.63
<u>Pearl Millet</u>					
		<u>Tifton</u>	<u>Griffin</u>		
Coffey Forage	Epic BMR	13,233	8,366	10,799	11,644
Coffey Forage	ExCeed II BMR	11,291	7,274	9,282	10,250
Coffey Forage	Leafy TR7	14,354	8,066	11,210	.
Coffey Forage	Leafy TR9	13,632	8,090	10,861	.
Coffey Forage	Tifleaf 3	13,415	8,287	10,851	.
Desert Sun	Navajo BMR	12,284	7,699	9,991	.
Dyna-Gro	PearlMil	13,847	7,293	10,570	11,961
Sorghum Partners	Millex 32	14,046	7,614	10,830	12,302
Average		13,263	7,778	10,549	11,539
LSD at 10% Level		1,139	647	612	399
Model R-squared		0.63	0.60	0.95	0.99

Bolded yields are statistically non-significant (p = 0.10 level) from the highest yielding test entry.

Tifton, Georgia: Summer Annual Forage Performance, 2019, Dryland

Company or Brand Name	Hybrid or Variety Name	Harvest Date		Season Total	2-Year Average
		6-27-2019	8-23-2019		
----- dry pounds/acre -----					
<u>Sorghum, Sudangrass and Hybrids</u>					
Gayland Ward	18552	9,764	8,009	17,773	.
Gayland Ward	19154	9,024	8,413	17,438	.
Gayland Ward	19153	9,266	7,523	16,789	.
Dyna-Gro	Fullgraze II	9,635	7,067	16,702	14,829
Desert Sun	Latte BMR	9,218	7,337	16,554	.
Dyna-Gro	Danny Boy II BMR	8,500	6,903	15,403	.
Gayland Ward	Super Sugar Delayed Maturity	8,998	6,401	15,399	.
Coffey Forage	Exp. 5618 BMR	8,347	6,800	15,146	.
Coffey Forage	Exp. 3619 BMR	7,814	6,937	14,751	.
Sorghum Partners	Sordan 79	9,840	4,901	14,741	14,383
Coffey Forage	Exp. 3618 BMR	8,622	5,939	14,561	.
Alta Seeds	AS6401	9,056	5,446	14,502	.
Desert Sun	Elite BMR	7,700	6,601	14,301	.
Advanta Seeds	ADV XS8007	8,866	5,183	14,049	.
Coffey Forage	Xtragraze BMR	8,745	5,225	13,970	14,554
Desert Sun	Latte	7,840	6,063	13,903	15,408
Gayland Ward	Sweet Six BMR Dry Stalk	9,542	4,257	13,799	.
Coffey Forage	Exp. 5619 BMR	7,381	6,232	13,613	.
Gayland Ward	Sweet Forever BMR	8,235	5,364	13,599	.
Sorghum Partners	SP4555	9,562	3,829	13,391	14,840
Alta Seeds	AS6402	7,590	5,747	13,337	.
Advanta Seeds	ADV XS007	9,097	4,086	13,183	.
Dyna-Gro	Super Sweet 10	8,228	4,945	13,173	.
Gayland Ward	Sweet Forever PPS	7,926	5,160	13,086	.
Dyna-Gro	F75FS13	8,215	4,870	13,085	.
Sorghum Partners	SP7106 BMR	7,998	4,495	12,493	.
Coffey Forage	Surpass BMR	7,607	4,852	12,459	12,562
Dyna-Gro	Fullgraze II BMR	8,310	4,101	12,411	.
Advanta Seeds	ADV XS008	7,622	4,248	11,871	.
Sorghum Partners	SP4105	7,255	3,286	10,541	.
Average		8,521	5,681	14,202 ¹	14,399
LSD at 10% Level		939	988	1,533	NS
Std. Err. of Entry Mean		373	392	608	682
Model R-squared		0.62	0.80	0.73	0.21
<u>Pearl Millet</u>					
Coffey Forage	Leafy TR7	9,977	4,377	14,354	.
Sorghum Partners	Millex 32	10,513	3,533	14,046	17,522
Dyna-Gro	PearlMil	10,228	3,619	13,847	17,509
Coffey Forage	Leafy TR9	9,667	3,965	13,632	.
Coffey Forage	Tifleaf 3	9,883	3,532	13,415	.
Coffey Forage	Epic BMR	10,602	2,631	13,233	16,009
Desert Sun	Navajo BMR	9,149	3,136	12,284	.
Coffey Forage	ExCeed II BMR	8,904	2,387	11,291	14,201
Average		9,865	3,397	13,263 ²	16,310
LSD at 10% Level		759	576	1,139	735
Std. Err. of Entry Mean		312	237	468	305
Model R-squared		0.66	0.73	0.63	0.95

Tifton, Georgia: Summer Annual Forage Performance, 2019, Dryland (Continued)

1. CV = 8.6% and df for EMS = 74.

2. CV = 6.3% and df for EMS = 21.

Bolded yields are statistically non-significant ($p = 0.10$ level) from the highest yielding test entry.

"NS" indicates differences are statistically non-significant ($p = 0.10$ probability level).

Planted: April 17, 2019.

Seeding Rate: Sorghum x Sudangrass: 100,000 seed/acre in 36-inch rows.
Millet: 500,000 seed/acre in 36" rows.

Soil Type: Tifton loamy sand.

Soil Test: P = Medium, K = Low, and pH = 6.3.

Fertilization: Preplant: 40 lb N, 30 lb P₂O₅, and 100 lb K₂O/acre.

Sidedress: 100 lb N/acre, plus 50 lb N/acre after 1st harvest.

Previous Crop: Fallow.

Management: Conventional tillage. Atrazine and Dual Magnum used for weed control (except on pearl millet). Telone II used for nematode control.

Test conducted by R. Brooke, K. Cawley, M. Cofield, and D. Dunn.

Athens, Georgia: Summer Annual Forage Performance, 2019, Dryland

Company or Brand Name	Hybrid or Variety Name	Harvest Date			Season Total	2-Year Average
		6-17-19	7-18-19	9-19-19		
----- dry pounds/acre -----						
Sorghum, Sudangrass and Hybrids						
Gayland Ward	Super Sugar Delayed Maturity	4,694	3,498	5,250	13,442	.
Desert Sun	Latte BMR	4,920	3,672	4,661	13,252	.
Sorghum Partners	Sordan 79	4,884	2,691	4,915	12,490	.
Gayland Ward	19153	4,892	2,879	4,512	12,282	.
Gayland Ward	18552	3,870	3,411	4,798	12,079	.
Gayland Ward	Sweet Six BMR Dry Stalk	5,096	3,214	3,404	11,714	.
Gayland Ward	19154	3,967	2,751	4,826	11,545	.
Desert Sun	Latte	4,631	2,218	4,268	11,117	12,053
Coffey Forage	Xtragraze BMR	4,409	3,060	3,611	11,079	9,542
Advanta Seeds	ADV XS8007	4,582	3,127	3,110	10,819	.
Coffey Forage	Exp. 3618 BMR	3,719	2,814	4,232	10,765	.
Gayland Ward	Sweet Forever BMR	4,370	2,055	3,594	10,018	.
Alta Seeds	AS6401	3,948	2,888	3,118	9,953	.
Gayland Ward	Sweet Forever PPS	3,966	1,759	4,188	9,913	.
Sorghum Partners	SP4555	4,561	2,300	2,852	9,712	.
Coffey Forage	Surpass BMR	3,424	2,618	3,420	9,462	9,051
Advanta Seeds	ADV XS008	3,959	2,759	2,463	9,180	.
Alta Seeds	AS6402	3,362	2,643	3,130	9,135	.
Coffey Forage	Exp. 3619 BMR	3,267	2,686	3,138	9,091	.
Coffey Forage	Exp. 5618 BMR	3,477	2,408	3,185	9,069	.
Coffey Forage	Exp. 5619 BMR	3,457	2,522	2,933	8,912	.
Advanta Seeds	ADV XS007	3,803	2,808	2,014	8,625	.
Sorghum Partners	SP7106 BMR	3,244	2,536	2,449	8,229	.
Sorghum Partners	SP4105	3,343	1,164	3,066	7,573	.
Desert Sun	Elite BMR	1,941	1,066	2,044	5,051	.
Average		3,998	2,637	3,572	10,206 ¹	10,215
LSD at 10% Level		819	821	996	2,278	1,801
Std. Err. of Entry Mean		345	346	420	960	1,044
Model R-squared		0.61	0.53	0.65	0.57	0.37

1. CV = 18.8% and df for EMS = 71.

Bolded yields are statistically non-significant (p = 0.10 level) from the highest yielding test entry.

Planted: April 17, 2019.

Seeding Rate: 100,000 seeds per acre in 30-inch rows.

Soil Type: Wickham sandy loam.

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

Fertilization: Preplant: 30 lb N, 78 lb P₂O₅, and 78 lb K₂O/acre.

Sidedress: 100 lb N/acre, plus 46 lb N/acre after 1st and 2nd harvests.

Previous Crop: Soybeans.

Management: Strip tillage. Dual Magnum and Atrazine used for weed control. Lorsban and Sivanto used for insect control.

Test conducted by H. Jordan, G. Ware, C. Fox, J. Griffin, and K. Roach.

**Griffin, Georgia:
Summer Annual Forage Performance, 2019, Dryland**

Company or Brand Name	Hybrid or Variety Name	Harvest Date					Season Total	Athens 2018
		7-16-19	7-31-19	8-13-19	8-26-19	9-23-19		
----- dry pounds/acre -----								
Pearl Millet								
Coffey Forage	Epic BMR	1,716	2,597	1,803	879	1,372	8,366	6,190
Coffey Forage	Tifleaf 3	2,173	3,063	1,422	562	1,068	8,287	.
Coffey Forage	Leafy TR9	2,154	2,573	1,604	715	1,046	8,090	.
Coffey Forage	Leafy TR7	2,072	2,547	1,315	749	1,383	8,066	.
Desert Sun	Navajo BMR	1,890	2,469	1,674	696	969	7,699	.
Sorghum Partners	Millex 32	3,269	1,651	1,577	554	564	7,614	6,550
Dyna-Gro	PearlMil	2,367	2,346	1,305	470	806	7,293	5,530
Coffey Forage	ExCeed II BMR	1,852	2,305	1,525	699	893	7,274	5,326
Average		2,140	2,445	1,511	666	1,015	7,778 ¹	5,899
LSD at 10% Level		187	376	NS	219	430	647	658
Std. Err. of Entry Mean		64	129	106	75	148	222	252
Model R-squared		0.94	0.72	0.53	0.56	0.55	0.60	0.66

1. CV = 5.7% and df for EMS = 15.

Bolded yields are statistically non-significant (p = 0.10 level) from the highest yielding test entry.

"NS" indicates differences are statistically non-significant (p = 0.10 probability level).

Planted: June 19, 2019.

Seeding Rate: 500,000 seeds per acre in 7-inch rows.

Soil Type: Cecil sandy loam.

Soil Test: P = High, K = Very High, and pH = 5.7.

Fertilization: Preplant: 100 lb N, 50 lb P₂O₅, and 0 lb K₂O/acre.

Sidedress: 50 lb N/acre after 1st and 3rd harvests.

Previous Crop: Fallow.

Management: Conventional tillage.

Test conducted by H. Jordan, G. Ware, H. Jackson, and S. Brannon.

Grain, Silage, and Forage Sorghum Hybrid Resistance to Insect, Disease, and Bird Damage-2019

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

A total of 52 grain sorghum hybrids (**Table 1**) were evaluated for resistance to insect and bird damage in Griffin and Tifton, Georgia. At both locations, plots were two rows by 20 ft and entries were planted in a randomized complete block design with 3 replications at Griffin and 4 replications at Tifton. The Griffin and Tifton trials were planted on June 17th and July 11th of 2019, respectively. The Griffin location was evaluated only for sugarcane aphid infestation and damage. At Tifton a total of 10 insect pests were observed with low infestation: fall armyworm, corn earworm, corn leaf aphid, stink bugs (southern green and brown stink bugs), sorghum webworm, sorghum midge, leaf-footed bug, sugarcane aphid, and chinch bug. Sugarcane aphid infestation was very low with no damage on the grain sorghum plots at Tifton in 2019, perhaps because of the late planting on the 11th of July. Bird damage and anthracnose infection were also evaluated at Tifton. Due to very low insect infestation levels in general and no statistical difference among entries in the trial at Tifton, insect damage-related data are not included; however, only lodging, anthracnose, and bird damage are included in the report.

In 2019 at Griffin, the number of sugarcane aphids was counted on July 9th and 25th, respectively, by averaging the number of aphids on 6 mid-canopy leaves per plot. Aphid damage on plants was rated using a 1-9 scale on July 9th and Aug. 16th and 25th, respectively. The scale of 1-9 is described as follows: 1 = no damage, 2 = 1-20%, 3 = 21-30%, 4 = 31-40%, 5 = 41-50%, 6 = 51-60%, 7 = 61-70%, 8 = 71-80%, and 9 = greater than 81% of the leaves are dying, which also included aphid-killed plants. The percentage of plants with grain panicles (heads) with viable grain was rated near crop maturity on September 14th. An overall rating of sugarcane aphid resistance/tolerance was determined from results collected at Griffin. The number of sugarcane aphids and aphid damage at pre-harvest of the grain sorghum was rated on September 6th. A percentage of panicle development was also assessed. Aphid resistance was rated as Resistant (R), Moderately Resistant/Moderately Susceptible (MR/MS), and Susceptible (S) at Griffin.

Because no aphid damage was observed on the grain sorghum plots at Tifton, only lodging, bird damage and anthracnose infection were rated. While lodging and bird damage were rated as percentage data, anthracnose leaf disease severity was rated using an 1-5 scale: 1 = no disease symptoms, 2 = colored spots or necrotic flecks, but no fungal sporulation, 3 = some sporulation on lower leaves (<25%), 4 = moderate sporulation on lower and middle leaves (<75%), and 5 = heavy sporulation including the flag leaf. Principal component analysis was used to rank all hybrid entries with data of lodging, bird damage, and anthracnose damage, and to determine an overall hybrid rating as Very Good (VG), Good (G), Fair (F), and Poor (P).

Results of the grain sorghum trials are shown in **Table 1**. At Griffin, a total of 14 sorghum grain hybrids were rated as Resistant (R) to sugarcane aphid, and six grain hybrids were rated as Moderately Resistant or Moderately Susceptible (MR/MS) to sugarcane aphid. The remaining 32 hybrids were rated as Susceptible (S). At Tifton, plant lodging, bird damage and anthracnose infection data were to complement the

aphid damage data from Griffin. Although the late planted grain sorghum trial at Tifton performed well in 2019, the principal component analysis ranked 16 hybrids Very Good (VG) and 11 hybrids Poor (P) (**Table 1**).

For the silage sorghum trial (**Table 2**), a total of 40 commercial hybrids were planted on April 17, 2019 at Tifton, and 37 hybrids were planted on June 17, 2019 at Griffin. Plots, 4-row by 20-ft, were arranged in a randomized complete block design with four replications. The plots were evaluated at pre-harvests on June 25th and Aug 14th at Tifton and on August 8th at Griffin. Means from the two aphid and disease samplings were used for data analysis. At Griffin, two silage entries had a Resistant (R) rating and three hybrids were rated Moderately Resistant/Moderately Susceptible (MR/MS) to sugarcane aphid. The rankings at Tifton based on the principal component analysis determined 10 entries as Very Good (VG) and 11 hybrids as Poor (P). Results from both Griffin and Tifton showed that the hybrids 'GW19179' and 'SS304' were the best performing hybrids (**Table 2**).

For the forage sorghum trial (**Table 3**), a total of 30 commercial hybrids were evaluated at both locations (29 hybrids at Griffin and 30 hybrids at Tifton). Planting dates and experimental design were the same as the silage trial. At Griffin, four sorghum forage entries were rated Resistant (R) and three were rated Moderately Resistant/Moderately Susceptible (MR/MS) to sugarcane aphid. The rankings at Tifton based on the principal component analysis with five parameters showed that 9 entries were rated as Very Good (VG) and 6 hybrids were rated as Poor (P). Results from Griffin and Tifton showed three hybrids 'Exp. 5618_BMR', 'Exp. 3619_BMR', and 'AS6402' were the best performing hybrids (**Table 3**).

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 generally experience increased insect pest and disease pressure. However, it is worth noting that the grain sorghum trial planted in on the 11th of July might have escaped heavy sugarcane aphid infestation and damage this year. 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.

The grain sorghum trial at Tifton was planted on the Gibbs Research Farm. The trial was maintained and data were collected by Penny Tapp (Crop Genetics and Breeding Research Unit, USDA-ARS), and Ashleigh Burgess, Hannah Barry, and Maribeth Tomberlin (University of Georgia, Tifton). Aphid damage and other data collections were assisted by Tyler Bailey and April Skipper (Crop Genetics and Breeding Research Unit, USDA-ARS). The silage and forage sorghum trials at Tifton were planted on the Lang/Rigdon Farm, and were maintained and harvested by Dustin Dunn, Robert Brooke, Keith Cawley, Marcus Cofield, and Wes Mosteller (University of Georgia, Tifton). At Griffin, Brett Byous, Katie Cassell and Yancy Barton assisted in plot maintenance, data collection, and harvest.

Table 1. Evaluation of 52 Grain Sorghum Hybrids for Resistance to Sugarcane Aphid (SCA), Bird, and Anthracnose Damage in 2019 at Griffin and Tifton, Georgia¹

Brand	Hybrid	Maturity ²	Overall SCA Resistance rating ³	Griffin				Tifton without Aphid Damage				Overall Rating without SCA 2019 ¹⁰
				Griffin panicle rating ⁴ (%)	Griffin aphids per leaf ⁵	T-test grouping ⁵	SCA mean damage rating ⁵	T-test grouping ⁶	Percent of Lodging ⁷	Bird damage ⁸	Anthracnose rating ⁹	
Alta Seeds	AG1203	.	R	100.0	221.5	H-K	2.32	P-T	0	0.25	2.5	VG
Sorghum Partners	SP 78M30	M-Full	R	86.9	151.9	I-K	2.25	R-T	0	0.75	1.5	VG
Sorghum Partners	SP 74C40	M-Full	R	100.0	85.4	JK	1.75	TU	0	0.25	2.5	VG
Sorghum Partners	SP 74M21	M-Full	R	100.0	147.0	I-K	1.92	S-U	0	1.25	1.75	VG
Dyna-Gro	GX19981	M-Full	R	100.0	216.4	H-K	2.08	R-U	0	0	2.25	VG
Gayland Ward	19021	.	R	96.2	282.9	H-K	2.51	O-T	0	0.75	2.5	VG
Southern Harvest	SH80G4	M	R	97.9	126.4	I-K	2.57	O-S	8.75	2	3	P
DEKALB	DKS 37-07	.	R	96.9	142.2	I-K	2.37	P-T	13.75	0.25	3	P
Alta Seeds	ADV G3247	.	R	100.0	121.0	I-K	2.01	S-U	11.25	0	2.75	P
Sorghum Partners	SP7715	M-Full	R	80.7	149.8	I-K	2.81	O-Q	4	2.75	2.25	G
Dyna-Gro	M60GB31	M-Early	R	100.0	25.8	K	1.67	U	1.75	2.5	2.75	G
Dyna-Gro	M74GB17	M-Full	R	100.0	69.7	K	1.75	TU	2.5	1.75	2	G
Gayland Ward	19023	.	R	89.6	346.6	G-K	3.14	M-O	2.75	2.75	2	G
Advanta Seeds	ADV XG397	.	R	99.4	313.2	H-K	2.68	O-R	2.5	0.25	3	F
DEKALB	DKS54-07	Full	MR	99.4	348.6	G-J	2.25	Q-U	0	0.75	2.5	G
Dyna-Gro	GX18991	M	MR	100.0	450.1	F-H	2.58	O-S	0	0	2.5	F
Dyna-Gro	M73GR55	M-Full	MS	41.9	197.5	I-K	3.12	NO	0	1.25	2.25	VG
Dyna-Gro	M71GR04	M-Full	MS	81.7	445.1	F-H	3.00	OP	11.25	1.25	3.25	P
Gayland Ward	19152	.	MS	100.0	786.9	A-E	2.26	P-U	0	0	3.25	F
Dyna-Gro	M62GB77	M-Early	MS/MR	88.3	613.5	D-H	2.83	O-Q	5	0.5	2.75	P
Pioneer	83P17	M	S	0.4	945.9	A-D	5.20	E-G	0	0	2	VG
Blue River	74BAT7	.	S	90.0	1044.4	A-C	2.83	O-Q	0	0.25	1.25	VG
Blue River	76WT4	.	S	0.0	1182.6	A	5.75	B-D	0	0.25	1	VG
Blue River	63WT6	.	S	0.0	961.8	A-D	5.75	B-D	0.25	0	2	VG
Advanta Seeds	ADV XG224	.	S	0.0	974.7	A-D	4.75	F-I	0	1.5	3	VG
Dyna-Gro	GX13692	M-Full	S	0.0	1019.4	A-C	4.00	J-L	0.25	1.25	1.25	VG
Gayland Ward	18057	.	S	1.1	1192.1	A	5.01	E-H	0	1.25	2.5	VG
Gayland Ward	19017	.	S	1.1	1061.9	A-C	6.13	BC	0	0.5	1.5	VG
Gayland Ward	19016	.	S	1.1	986.9	A-D	5.74	B-D	1.25	0.5	1.75	VG
Blue River	52R7	.	S	0.0	849.3	A-E	6.33	B	0.5	7.5	4.38	P

Table 1. Evaluation of 52 Grain Sorghum Hybrids for Resistance to Sugarcane Aphid (SCA), Bird, and Anthracnose Damage in 2019 at Griffin and Tifton, Georgia¹
(Continued)

Brand	Hybrid	Maturity ²	Overall SCA Resistance rating ³	Griffin				Tifton without Aphid Damage				Overall Rating without SCA 2019 ¹⁰
				Griffin panicle rating ⁴ (%)	Griffin aphids per leaf ⁵	T-test grouping ⁵	Griffin SCA mean damage rating ⁵	T-test grouping ⁶	Percent of Lodging ⁷	Bird damage ⁸	Anthracnose rating ⁹	
Blue River	63C5		S	31.7	736.1	C-F	3.75	L-N	11.25	0	3.5	P
Southern Harvest	X4124	Early	S	0.0	881.3	A-D	4.92	E-H	7.5	10	3.25	P
Dyna-Gro	M68GR41	M	S	0.0	876.4	A-D	4.42	H-L	10.25	1.75	2.5	P
Dyna-Gro	Dual Forage SCA	M-Full	S	0.0	968.8	A-D	4.67	G-I	50	0.5	1.75	P
Gayland Ward	18092	.	S	0.6	596.4	D-H	4.22	H-L	4	0.75	2.75	P
Southern Harvest	SH90G6	M-Full	S	0.2	905.9	A-D	5.12	D-H	0.25	3.25	1.5	G
Southern Harvest	SH65G6	M-Early	S	0.0	907.0	A-D	5.06	D-H	1.75	1.5	2.5	G
Desert Sun	DSM 40-920	Early	S	0.2	775.7	C-E	5.06	E-H	1.75	3.75	2	G
DEKALB	DKS46-60	M-Full	S	14.0	447.5	F-H	3.92	KL	0	1.75	2.75	G
Pioneer	83P27	M	S	0.0	959.2	A-D	2.83	O-Q	6.25	3.75	2.25	G
Southern Harvest	X3107	M-Full	S	0.0	950.7	A-D	4.17	I-L	2.5	1.25	2.25	G
Dyna-Gro	GX17973	M	S	25.0	1079.2	A-B	4.33	H-L	1.25	1.5	2.5	G
DEKALB	DKS 53-53	.	S	0.2	924.6	A-D	5.37	D-F	0	0.25	3.25	F
Dyna-Gro	M69GB38	M	S	20.0	998.6	A-D	4.50	H-K	2.5	0.5	3.5	F
Blue River	67B4		S	0.0	995.1	A-D	7.58	A	0.25	1.25	3.5	F
Advanta Seeds	ADV XG251	.	S	0.0	752.9	A-E	4.25	H-L	0	0.25	3	F
Dyna-Gro	M69GR88	M	S	0.0	798.8	A-E	4.75	F-H	0.25	0	4	F
Dyna-Gro	GX18395	M	S	6.7	1050.0	A-C	5.08	D-H	0.25	0	3	F
Gayland Ward	18083	.	S	0.0	848.8	A-E	5.73	B-D	0.25	0.5	2.75	F
Gayland Ward	18084	.	S	0.0	1002.1	A-D	5.50	C-E	5	0	4.5	F
Gayland Ward	19024	.	S	0.0	970.8	A-D	5.25	D-G	0	0.5	3.75	F

Table 1. Evaluation of 52 Grain Sorghum Hybrids for Resistance to Sugarcane Aphid (SCA), Bird, and Anthracnose Damage in 2019 at Griffin and Tifton, Georgia¹ **(Continued)**

1. In 2019, the same trial with 29 hybrids at Griffin and 30 hybrids at Tifton was planted on June 17th and April 17th, respectively. Aphid infestation at Tifton was very low in 2019, which is likely to be caused by later (July 11th) than the normal planting (early June) in Tifton. Thus, the data from Tifton included only percentage of lodging, bird damage, and anthracnose damage rating, and no aphid number or aphid damage data were collected at pre-harvest sampling on Oct. 9th. At Griffin, the number of aphids was sampled on July 9th and 25th, respectively, while aphid damage was rated on July 9th, Aug. 16th and 26th, respectively. The means of the sampling data from each location (as shown above) were used for statistical analysis.
2. Maturity denotes early (E), moderately early (ME), medium (M), moderately late (ML), and late (L) of the grain sorghum hybrid, which was provided by the company.
3. At Griffin, overall sugarcane aphid resistance rating was: S=susceptible, MS=moderately susceptible, MR=moderately resistant, and R=resistant.
4. Panicle (grain head) percentage was assessed at Griffin, GA. The plants produced grain panicles with viable grain expressed as a percentage, where 0 = no plants with panicles and 100 = all plant with viable panicles.
5. At Griffin, average number of aphids per leaf was rated on Aug. 8, 2019. Average of a sample of 6 mid-canopy leaves per plot. In the T-test grouping column, the means that share the same letters (A-K) are not significantly different based on the Fisher's protected LSD test ($\alpha = 0.05$).
6. Aphid damage on plants was rated using a 1-9 scale; where 1 = no damage, 2 = 1-20%, 3 = 21-30%, 4 = 31-40%, 5 = 41-50%, 6 = 51-60%, 7 = 61-70%, 8 = 71-80%, and 9 = greater than 81% of the leaves are dying, which also included aphid-killed plants. In the T-test grouping column, the means that share the same letters (A-U) are not significantly different based on the Fisher's protected LSD test ($\alpha = 0.05$).
7. Lodging (%) was evaluated by the percentage of plants that showed either root or stalk lodging at the time of pre-harvest evaluation at Tifton.
8. Bird damage to the grain was rated as proportion of grain panicles showing damage to seed.
9. Anthracnose infection on leaves was rated using a 1-5 scale, where 1 = no symptoms, and 5 = heavy infection (see text for details).
10. In Tifton data, overall rating without aphid damage was based on the biplot from a principal component analysis of all 52 hybrid entries. Three parameters used for the analysis were lodging, bird damage, and anthracnose ratings, which were assessed with no aphid damage in 2019. VG = very good, G = good, F = fair, and P = poor.

Table 2. Evaluation of 40 Silage Sorghum Hybrids for Resistance to Sugarcane Aphid (SCA) and Anthracnose Damage in 2019 at Griffin and Tifton, Georgia¹

Brand	Hybrid	Maturity ²	Griffin				Tifton				Overall Tifton rating ⁹		
			Resistance rating ³	Aphids per leaf ⁴	T-test Grouping ⁴	SCA damage rating ⁵	T-test Grouping ⁵	Lodging ⁶	Anthraco-nose rating ⁷	Stand loss ⁸		Aphid number ⁴	Aphid damage rating ⁵
Gayland Ward	GW19179	.	R	105.97	G	3.00	N	1.25	1	0	86.92	2.46	VG
Sorghum Partners	SS304	Early-Med	R	178.17	FG	3.00	N	8.75	1.5	0	274.62	2.71	VG
Sorghum Partners	SP2774	Early-Med	MR	247.49	E-G	3.75	MN	13.13	1.63	0	393.92	3.33	F
Dyna-Gro	TopTon	Med-Full	MS	562.96	A-C	3.42	N	16.88	1.5	0	265.5	2.29	VG
MOJO SEED	OPAL	Med	MS	310.08	C-G	4.42	LM	0	1.13	0	141.37	2.5	VG
Alta Seeds	AF7401	.	S	518.11	A-D	4.50	KLM	2.5	1.38	0	179.75	2.54	VG
Dyna-Gro	Fullgraze II	Med-Full	S	550.06	A-D	5.25	F-J	10	1.13	0	315.04	2.71	VG
Dyna-Gro	F73FS10	Med	S	622.5	AB	4.75	I-L	15	1.25	0	212.29	2.54	VG
Dyna-Gro	F74FS72 BMR	Med	S	479.33	A-E	4.50	KLM	1.25	1.38	0	176.5	2.59	VG
Gayland Ward	18351	.	S	490.28	A-E	4.58	KL	2.5	1.25	0	209.33	2.67	VG
Alta Seeds	AF8301	.	S	480.88	A-E	4.67	JKL	1.25	1.25	0	562.63	3.12	G
Advanta Seeds	ADV F8322	.	S	633.32	AB	4.58	KL	2.5	1.13	0	358.84	3	G
Dyna-Gro	F72FS05	Early-Med	S	645.13	AB	4.50	KLM	1.25	1.25	0	323.46	2.67	G
Dyna-Gro	FX19178 BMR	Med	S	604.95	AB	4.33	L-M	1.25	1.5	5	537.71	3.33	G
Gayland Ward	19038	.	S	454.86	A-E	6.25	A-D	1.25	1.25	5	382.42	3.63	G
Gayland Ward	19040	.	S	301.39	D-G	6.17	A-E	0	1.25	17.5	200.04	3.25	G
Gayland Ward	19042	.	S	494.44	A-E	6.33	ABC	1.25	1.25	15	374.17	2.88	G
Gayland Ward	18096	.	S	426.38	B-F	5.00	H-L	0	1	2.5	531.92	2.83	G
Alta Seeds	ADV S6504	.	S	458.47	A-E	5.67	B-G	23.13	2.88	0	245.46	5.58	F
Alta Seeds	ADV F7232	.	S	456.47	A-E	4.58	KL	1.25	2.5	5	400.75	3.83	F
Dyna-Gro	Super Sile 30	Early-Med	S	596.58	AB	4.75	I-L	10	2	0	656.54	3.75	F
Dyna-Gro	Super Sile 20	Med-Full	S	693.33	A	5.42	E-J	10	1.88	0	492.71	3.63	F
Gayland Ward	19174	.	S	565.97	AB	5.08	G-L	8.75	1.75	0	481.92	4.13	F
Gayland Ward	19175	.	S	622.22	AB	5.25	F-J	15.63	1.25	6.25	616	3.83	F
Gayland Ward	19177	.	S	621.53	AB	5.67	C-G	12.5	1.75	0	408.67	3.63	F
Gayland Ward	19178	.	S	531.94	A-D	5.67	B-G	10.63	1.88	0	453.58	3.33	F
Gayland Ward	18116	.	S	553.26	A-D	5.50	D-G	13.75	1.63	6.25	600.12	4.21	F
Sorghum Partners	NK300	Early-Med	S	621.53	AB	4.83	H-L	1.25	1.63	0	640.62	3.54	P
Alta Seeds	AF7201	.	S	621.38	AB	5.50	F-H	17.5	2.25	17.5	537	3.54	P
Advanta Seeds	ADV XF025	.	S	574.31	AB	6.00	A-F	19.38	2.75	45	626.87	4.92	P
Dyna-Gro	F75FS13	Med	S	574.99	AB	5.67	B-G	10	1.63	30	595	3.87	P
Gayland Ward	18118	.	S	427.77	B-F	6.42	AB	11.88	2.25	27.5	669	4.04	P
Gayland Ward	18119	.	S	540.97	A-D	6.50	A	4.38	2.5	47.5	638.83	4.54	P
Gayland Ward	18122	.	S	613.2	AB	5.75	A-G	8.75	2	7.5	659.67	3.96	P
Gayland Ward	19155	.	S	495.83	A-E	5.58	C-G	11.25	2.13	33.75	519.46	3.58	P

Table 2. Evaluation of 40 Silage Sorghum Hybrids for Resistance to Sugarcane Aphid (SCA) and Anthracnose Damage in 2019 at Griffin and Tifton, Georgia¹
(Continued)

Brand	Hybrid	Griffin				Tifton							
		Maturity ²	Resistance rating ³	Aphids per leaf ⁴	T-test Grouping ⁴	SCA damage rating ⁵	T-test Grouping ⁵	Lodging ⁶	Anthraco-nose rating ⁷	Stand loss ⁸	Aphid number ⁴	Aphid damage rating ⁵	Overall Tifton rating ⁹
Gayland Ward	Silo Pro BMR	.	S	579.86	AB	6.25	A-D	7.5	2	20	601.88	4.46	P
Gayland Ward	19176	.	S	560.41	A-C	5.58	C-G	7.5	1.5	23.75	363.21	3.54	P
Sorghum Partners	SP3904 BD	Med-Full	.	.	.	.	.	1.25	1.5	0	225.37	3.13	VG
Dyna-Gro	GX13692	Med-Full	.	.	.	.	.	2.5	1.13	0	467.33	2.58	G
Dyna-Gro	Dual Forage SCA	Med-Full	.	.	.	.	.	2.5	1.13	67.5	580.25	2.83	P

1. In 2019, the same trial with 37 hybrids at Griffin and 40 hybrids at Tifton was planted on June 17th and April 17th, respectively. At Griffin, the number of aphids was sampled on July 9th and 25th, respectively, while aphid damage was rated on July 9th, Aug. 16th and 26th, respectively. At Tifton, the number of aphids and aphid damage were sampled prior to two harvests on June 25th and August 14th, respectively. The means of the sampling data from each location (shown above) were used for statistical analyses.

2. Maturity information (early, medium, and full season) was assigned by the companies that provided the seeds for the test.

3. At Griffin, overall sugarcane aphid (SCA) resistance rating of all 37 hybrid entries was based on the following scale: S = susceptible, MS = moderately susceptible, MR = moderately resistant, and R = resistant.

4. Aphid number was estimated using the scale of 0 = no aphid, and then estimated as 1 = 1-25 aphids, 2 = 26-50, 3 = 51-100, 4 = 101-500, 5 = 501-1000, and 6 = over 1000 aphids. In the T-test grouping column, the numbers that share the same letters (A-F) are not significantly different based on the Fisher's protected LSD test ($\alpha = 0.05$).

5. Aphid resistance rated using 1-9 scale; where 1 = no damage, 2 = 1-20%; 3 = 21-30%, 4 = 31-40%, 5 = 41-50%, 6 = 51-60%, 7 = 61-70%, 8 = 71-80%, and 9 = greater than 81% of the leaves are dying, which also included aphid-killed plants. In the T-test grouping column, the numbers that share the same letters (A-N) are not significantly different based on the Fisher's protected LSD test ($\alpha = 0.05$).

6. Lodging (%) was evaluated by the percentage of plants that showed either root or stalk lodging at the time of pre-harvest evaluation.

7. Anthracnose infection on leaves was rated using a 1-5 scale, where 1 = no symptoms, and 5 = heavy infection (see text for details).

8. Stand loss was assessed for the percentage of non-regrowth plants per plot before the second harvest (on September 10, 2019), which is likely to be an indicator of severe aphid damage prior to the first harvest in July on sorghum plants in a given plot. The stand loss was estimated by the percentage of plant stubble after the first harvest without regrowth per plot.

9. Overall insect and disease rating (ranking) from Tifton location was based on the biplot from a principal component analysis of all 40 hybrid entries. Five parameters (i.e., lodging, anthracnose damage, aphid number, aphid damage, and stand loss) were used in the principal component analysis for the ranking. VG = very good, G = good, F = fair, and P = poor.

Table 3. Evaluation of 30 Forage Sorghum Hybrids for Resistance to Sugarcane Aphid (SCA) and Anthracnose Damage in 2019 at Griffin and Tifton, Georgia¹

Brand	Hybrid	Griffin										Tifton									
		Maturity ²	Resistance rating ³	Aphids per leaf ⁴	T-test Grouping ⁴	T-test Grouping ⁵	mean damage rating ⁵	T-test Grouping ⁵	Lodg. ⁶	Anthracnose rating ⁷	Stand loss ⁸	Aphid no. ⁴	Aphid damage ⁵	Overall rating ⁹							
Coffey Forage	Exp. 5618 BMR	Med	R	197.62	F	I	2.50	I	3.13	1.13	0	44.08	2.17	VG							
Coffey Forage	Exp. 3619 BMR	Med	R	246.05	C-F	I	3.17	I	0	1.13	0	57.88	1.92	VG							
Gayland Ward	19154	.	R	206.25	EF	I	2.67	I	4.38	1	0	28.21	2.13	G							
Coffey Forage	Exp. 5619 BMR	Med	R	211.78	D-f	I	2.50	I	3.13	1.25	0	62.12	1.63	G							
Alta Seeds	AS6402	.	MR	262.08	C-F	H	4.17	H	0	1	0	207.75	2.71	VG							
Gayland Ward	19153	.	MR	265.45	C-F	H	4.17	H	3.13	1.5	0	40.33	2.71	VG							
Coffey Forage	Exp. 3618 BMR	Med	MR	380.55	B-F	I	2.50	I	0	1.25	0	93.62	1.96	VG							
Coffey Forage	Surpass BMR	Med	S	475.00	A-C	EFG	6.17	EFG	0.63	1.13	0	145.71	2.79	VG							
Gayland Ward	Sweet Forever BMR	.	S	336.54	B-F	B	7.83	B	1.88	1.5	0	154.79	3.25	VG							
Desert Sun	Elite BMR	Full	S	534.08	A-C	D-G	5.75	D-G	3.13	1.38	10	112.96	2.38	VG							
Dyna-Gro	Danny Boy II BMR	Med-Full	S	461.97	A-C	EFG	5.67	EFG	3.75	1.5	0	66.5	2.46	VG							
Coffey Forage	Xtragraze BMR	Med	S	420.13	B-E	D-G	5.92	D-G	8.13	1.63	2.5	89.33	2.79	G							
Gayland Ward	Super Sugar Delayed Maturity	.	S	489.58	A-C	D-G	5.92	D-G	13.75	1.25	0	132.87	2.71	G							
Desert Sun	Latte BMR	Full	S	470.69	A-C	FG	5.25	FG	11.88	1.13	0	39.38	2.21	G							
Desert Sun	Latte	Full	S	522.91	A-C	FG	5.25	FG	7.5	1.25	0	99.42	2.13	G							
Gayland Ward	Sweet Forever PPS	.	S	421.27	B-D	D-G	6.00	D-G	6.25	1.5	1.25	203.75	2.38	G							
Gayland Ward	18552	.	S	514.42	A-C	EFG	5.41	EFG	10	1.75	0	92.75	2.62	G							
Sorghum Partners	SP4105	Med	S	0.00	(dead)	A	9.00	A	0	1.88	18.75	225.96	3.58	F							
Sorghum Partners	SP4555	Med	S	495.13	A-C	CD	6.83	CD	12.5	1.63	17.5	381.17	3.63	F							
Sorghum Partners	SP7106 BMR	Med	S	438.20	A-C	DEF	6.17	DEF	8.13	1.13	17.5	313.92	3.58	F							
Advanta Seeds	ADV XS008	.	S	592.49	A-B	EFG	5.58	EFG	3.13	2	1.25	279	3.71	F							
Dyna-Gro	Super Sweet 10	Early-Med	S	393.78	B-F	DEF	6.17	DEF	2.5	1.75	5	202	3.5	F							
Dyna-Gro	F75FS13	Med	S	547.39	A-C	D-G	5.67	D-G	6.25	1.63	5	337.46	2.71	F							
Sorghum Partners	Sordan 79	Med	S	459.02	A-C	EFG	5.58	EFG	25.63	1.88	5	375.63	3.29	P							
Alta Seeds	AS6401	.	S	467.61	A-C	GH	5.08	GH	18.75	1.63	6.25	119.83	2.96	P							
Gayland Ward	Sweet Six BMR Dry Stalk	.	S	486.11	A-C	CD	6.83	CD	16.25	2.25	11.25	427.46	4.33	P							
Advanta Seeds	ADV XS8007	.	S	567.08	A-B	D-G	6.00	D-G	11.88	1.38	2.5	209.38	3.46	P							
Advanta Seeds	ADV XS007	.	S	406.30	b-F	CDE	6.25	CDE	15.63	1.75	5	603.25	3.58	P							
Dyna-Gro	Fullgraze II BMR	Med-Full	S	655.55	A	BC	7.17	BC	17.5	1.38	15	219.58	2.46	P							
Dyna-Gro	Fullgraze II	Med-Full	.	.	.	.	.	.	5	1.25	0	144.38	2.5	G	

Table 3. Evaluation of 30 Forage Sorghum Hybrids for Resistance to Sugarcane Aphid (SCA) and Anthracnose Damage in 2019 at Griffin and Tifton, Georgia¹ **(Continued)**

1. In 2019, the same trial with 29 hybrids at Griffin and 30 hybrids at Tifton was planted on June 17th and April 17th, respectively. At Griffin, the number of aphids was sampled on July 9th and 25th, respectively, while aphid damage was rated on July 9th, Aug. 16th and 26th, respectively. At Tifton, the number of aphids and aphid damage were sampled prior to two harvests on July 10th and Sept. 9th, respectively. The means of the sampling data from each location (shown above) were used for statistical analyses.
2. Maturity information (i.e., early, medium, and full season) was assigned by the companies provided the seeds for the test.
3. At Griffin, overall sugarcane aphid resistance rating was: S = susceptible, MS = moderately susceptible, MR = moderately resistant, and R = resistant.
4. At both locations, sugarcane aphid mean number per leaf from 6-leaf samples were calculated. Aphid number was recorded as 0 = no aphid, and then estimated as 1 = 1-25 aphids, 2 = 26-50, 3 = 51-100, 4 = 101-500, 5 = 501-1000, and 6 = over 1000 aphids. In the T-test grouping column, the numbers that share the same letters (A-F) are not significantly different based on the Fisher's protected LSD test ($\alpha = 0.05$). The data from Griffin were calculated from two ratings, and at Tifton, all ratings were performed on June 25th and Aug. 14th of 2019 prior to the two harvests of the trial.
5. At both locations, sugarcane aphid damage was rated using 1-9 scale; where 1 = no damage, 2 = 1-20%, 3 = 21-30%, 4 = 31-40%, 5 = 41-50%, 6 = 51-60%, 7 = 61-70%, 8 = 71-80%, and 9 = greater than 81% of the leaves are dying, which also included aphid-killed plants. In the T-test grouping column, the numbers that share the same letters (A-I) are not significantly different based on the Fisher's protected LSD test ($\alpha = 0.05$). At Griffin, aphid damage rating was performed four times. Ratings at Tifton were taken once prior to each of the two harvests in 2019.
6. Lodging (%) was evaluated by the percentage of plants showed either root or stalk lodging at the time of pre-harvest evaluation at Tifton.
7. Anthracnose infection on leaves was rated using a 1-5 scale, where 1=no symptoms, and 5=heavy infection (see text for details).
8. Stand loss was assessed for the percentage of non-regrowth plants per plot before the second harvest (on Aug. 15, 2019), which is likely to be an indicator of severe aphid damage prior to the first harvest in late June on sorghum plants of any given plot. The stand loss was estimated by the percentage of plants without regrowth per plot.
9. Overall aphid and disease resistance rating (ranking) at Tifton was based on the biplot from a principal component analysis of all 30 hybrids in the trial. Five parameters (i.e., lodging, anthracnose, stand loss, sugarcane aphid number, and sugarcane aphid damage rating) were used in the principal component analysis. VG = very good, G = good, F = fair, and P = poor.

Sources of Seed for the 2019 Grain Sorghum, Silage Sorghum, and Summer Annual Forage Tests

Company or Brand Name	Seed Source
Alta Seeds/Advanta Seeds	Advanta Seeds, 201 E John Carpenter Freeway., Suite #660, Irving, TX 75062
Blue River	Blue River Organic Seed, 2326 230th Street, Ames, IA 50014
Coffey	Coffey Forage Seeds Inc, 2106 South Date Street, Plainview, TX 79072
DeKalb	Bayer, 800 N. Lindbergh Blvd., Creve Coeur, MO 63141
Desert Sun	Desert Sun Marketing Co., PO Box 50817, Phoenix, AZ 85076
Dyna-Gro	Dyna-Gro Seed, 100 Industrial Ct., Colquitt, GA 39837
Gayland Ward	Gayland Ward Seed Co. Inc., 4395 US Hwy 60, Hereford, TX 79045
Mojo Seed	Mojo Seed Enterprises, LLLP, PO Box 1716, Hereford, TX 79045
Pioneer	Corteva Agriscience, 276 Bells Cabin Rd., Fitzgerald, GA 31750
Southern Harvest	Meherrin Ag and Chemical Company, 4136 Severn Road, Severn, NC 27877
Sorghum Partners	Sorghum Partners/S&W Seed Co., 1301 E. 50th Street, Lubbock, TX 79404

SUPPLEMENTAL INFORMATION

Corn Grain Testing Environments Summary

Climate	Dryland			Irrigated				
	Tifton	Calhoun ¹	Blairsville	Tifton	Plains	Midville	Athens ²	Calhoun ¹
Planting Date	Mar 29	Apr 4	Apr 25	Mar 30	Apr 3	Apr 4	Mar 28	Apr 4
Estimated black layer ³	Jul 23	Aug 8	Sep 8	Jul 24	Jul 29	Jul 31	Aug 5	Aug 8
Harvest Date	Aug 24	Sep 17	Oct 2	Aug 22	Aug 30	Aug 29	Sep 4	Sep 17
Days to black layer ³	116	126	136	116	117	118	130	126
Days to harvest	148	166	160	145	149	147	160	166
Days above 86°F ⁴	73	77	42	73	75	82	71	77
Rainfall (in.) ⁵	12.8	19.4	22.6	12.8	16.1	12.0	13.4	19.4
Irrigation (in.)	0	0	0	16.0	9.7	10.0	15.3	8.3
Total moisture (in.)	12.8	19.4	22.6	28.8	25.8	22.0	28.7	27.7
Avg. High Temp. ⁴	87.1	86.0	82.9	87.2	87.4	88.2	85.1	86.0
Avg. Low Temp. ⁴	65.9	62.1	60.0	66.1	65.3	65.1	60.5	62.1
Production Practices								
Seeding rate	24k	24k	34k	34k	34k	34k	34k	34k
Row spacing (in.)	36	30	30	36	36	36	30	30
Soil type	Tifton loamy sand	Etowah loam	Suches loam	Tifton loamy sand	Greenville sandy clay loam	Dothan sandy loam	Chewacla silt loam	Etowah loam
Previous crop	Sorghum	Soy	Soy	Soy	Soy	Peanut	Soy	Soy
Tillage	Conv.	Conv.	Conv.	Conv.	Conv.	Conv.	Conv.	Conv.
Productivity								
Avg. Yield (bu/ac)	74	140	325	281	255	276	289	236
Max. Yield (bu/ac)	109	167	353	317	284	297	320	259
Total Applied N (lbs/ac)	190	225	370	390	315	300	401	240
NUE ⁶ (Avg. Yield)	2.57	1.61	1.14	1.39	1.24	1.09	1.39	1.02
NUE ⁶ (Max. Yield)	1.74	1.35	1.05	1.23	1.11	1.01	1.25	0.93

1. Floyd County location.

2. Iron Horse Plant Science Farm, Watkinsville, Georgia.

3. Calculated for a 116 RM Hybrid based on accumulating 2900 GDUs.

4. From planting to black layer date.

5. Rainfall total from 14 days prior to planting to black layer date.

6. Nitrogen use efficiency. Units of nitrogen applied per harvested bushel for test average and top yielding hybrid.

Corn Silage Testing Environments Summary

Climate	Tifton	Athens ¹	Calhoun ²	Blairsville
Planting Date	Mar 30	Mar 28	Apr 4	Apr 25
Harvest Date	Jul 25	Aug 1	Aug 9	Aug 28
Days to harvest	117	126	127	125
GDU to harvest	2,933	2,796	2,937	2,683
Moisture at harvest	54.2%	62.6%	53.1%	67.6%
Days above 86°F ³	74	68	78	36
Rainfall (in.) ⁴	12.8	12.4	19.4	22.6
Irrigation (in.)	16.0	14.5	7.3	0.0
Total moisture (in.)	28.8	26.9	26.7	22.6
Avg. High Temp. ³	87.2	85.0	86.1	82.5
Avg. Low Temp. ³	66.1	60.2	62.2	60.3
Production Practices				
Seeding rate	34k	34k	34k	34k
Row spacing (in.)	36	30	30	30
Soil type	Tifton loamy sand	Chewacla silt loam	Etowah loam	Suches loam
Previous crop	Soy	Soy	Soy	Soy
Tillage	Conv.	Conv.	Conv.	Conv.
Productivity				
Avg. Yield (tons DM/ac)	14.0	13.0	10.6	12.3
Max. Yield (tons DM/ac)	15.4	14.7	12.1	14.2
Total Applied N (lbs/ac)	390	401	346	370
NUE ⁵ (Avg. Yield)	27.9	30.8	32.6	30.1
NUE ⁵ (Max. Yield)	25.3	27.3	28.6	26.1

1. Iron Horse Plant Science Farm, Watkinsville, Georgia.

2. Floyd County location.

3. From planting to harvest.

4. Rainfall total from 14 days prior to planting to harvest.

5. Nitrogen use efficiency. Units of nitrogen applied per harvested ton of dry matter for test average and top yielding hybrid.

Sorghum Grain Testing Environments Summary

Climate	Early			Late	
	Tifton	Plains	Athens ¹	Tifton	Calhoun ²
Planting Date	Apr 13	Apr 18	Apr 16	Jun 14	Jun 30
Harvest Date	Jul 31	Aug 9	Aug 13	Sep 23	Dec 5
Days to harvest	109	113	119	101	158
Rainfall (in.) ³	11.2	14.2	11.8	10.1	21.3
Avg. High Temp. ⁴	88.7	88.9	86.9	92.8	81.2
Avg. Low Temp. ⁴	67.2	66.5	62.4	71.6	54.6
Production Practices					
Seeding rate	80k	80k	80k	80k	80k
Row spacing (in.)	36	36	30	36	30
Soil type	Tifton loamy sand	Greenville sandy loam	Wickham sandy loam	Tifton loamy sand	Etowah loam
Previous crop	Peanut	Soy	Soy	Forages	Forages
Tillage	Conv.	Conv.	Strip	Conv.	Conv.

1. Iron Horse Plant Science Farm, Watkinsville, Georgia.
2. Floyd County location.
3. Rainfall total from 14 days prior to planting to black layer date.
4. From planting to black layer date.

Sorghum Silage Testing Environments Summary

Climate	Tifton	Tifton	Athens ¹
Planting Date	Apr 17	Ratoon	Apr 16
Harvest Date	Jul 12	Sep 12	Jul 23
Days to harvest	86	62	98
GDUs to harvest	2,442	2,047	2,457
Moisture at harvest	79%	-	73%
Rainfall (in.) ²	10.4	8.1	11.6
Avg. High Temp. ³	88.8	93.7	86.6
Avg. Low Temp. ³	67.3	71.3	62.3
Production Practices			
Seeding rate	80k	-	80k
Row spacing (in.)	36	-	30
Soil type	Tifton loamy sand	-	Wickham sandy loam
Previous crop	Fallow	-	Soy
Tillage	Conv.	-	Strip
Productivity			
Avg. Yield (tons DM/ac)	4.22	2.11	4.77
Max. Yield (tons DM/ac)	5.67	3.79	5.83
Total Applied N (lbs/ac)	140	0	160
NUE ⁴ (Avg. Yield)	33.2	-	33.5
NUE ⁴ (Max. Yield)	24.7	-	27.4

1. Iron Horse Plant Science Farm, Watkinsville, Georgia

2. Rainfall total from 14 days prior to planting to harvest.

3. From planting to harvest.

4. Nitrogen use efficiency. Units of nitrogen applied per harvested ton of dry matter for test average and top yielding hybrid.

Note: The maximum ratoon yield is actually the 4th highest. It was chosen since it corresponds to the highest primary cutting yield.

Sorghum Forage Cuttings Environments Summary

Climate	Tifton - 2 Cuttings		Athens ¹ - 3 Cuttings			Tifton - Total	Athens ¹ - Total
Planting Date	Apr 17	-	Apr 17	-	-	Apr 17	Apr 17
Harvest Date	Jun 27	Aug 23	Jun 17	Jul 18	Sep 19	Aug 23	Sep 19
Days to harvest	71	57	61	31	63	128	155
GDUs to harvest	1,948	1,899	1,352	969	1,818	3,816	4,078
Rainfall (in.) ²	9.5	7.5	8.2	2.8	3.6	17.0	14.6
Avg. High Temp. ³	88.0	93.4	84.3	91.1	91.3	90.4	-
Avg. Low Temp. ³	66.1	72.1	58.3	69.5	67..4	68.7	-
Production Practices							
Seeding rate	-	-	-	-	-	100k	100k
Row spacing (in.)	-	-	-	-	-	36	30
Soil type	-	-	-	-	-	Tifton loamy sand	Wickham sandy loam
Previous crop	-	-	-	-	-	Fallow	Soy
Tillage	-	-	-	-	-	Conv.	Strip
Productivity							
Avg. Yield (tons DM/ac)	4.26	2.84	2.00	1.32	1.79	6.63	5.10
Max. Yield (tons DM/ac)	4.88	4.00	2.35	1.75	2.63	8.89	6.72
Total Applied N (lbs/ac)	140	50	130	46	46	190	222
NUE ⁴ (Avg. Yield)	32.9	17.6	65.0	34.9	25.8	28.7	43.5
NUE ⁴ (Max. Yield)	28.7	12.5	55.4	26.3	17.5	21.4	33.0

1. Iron Horse Plant Science Farm, Watkinsville, Georgia.

2. Rainfall total from 14 days prior to planting to harvest.

3. From planting to harvest.

4. Nitrogen use efficiency. Units of nitrogen applied per harvested ton of dry matter for test average and top yielding hybrid.

Millet Forage Cuttings Environments Summary

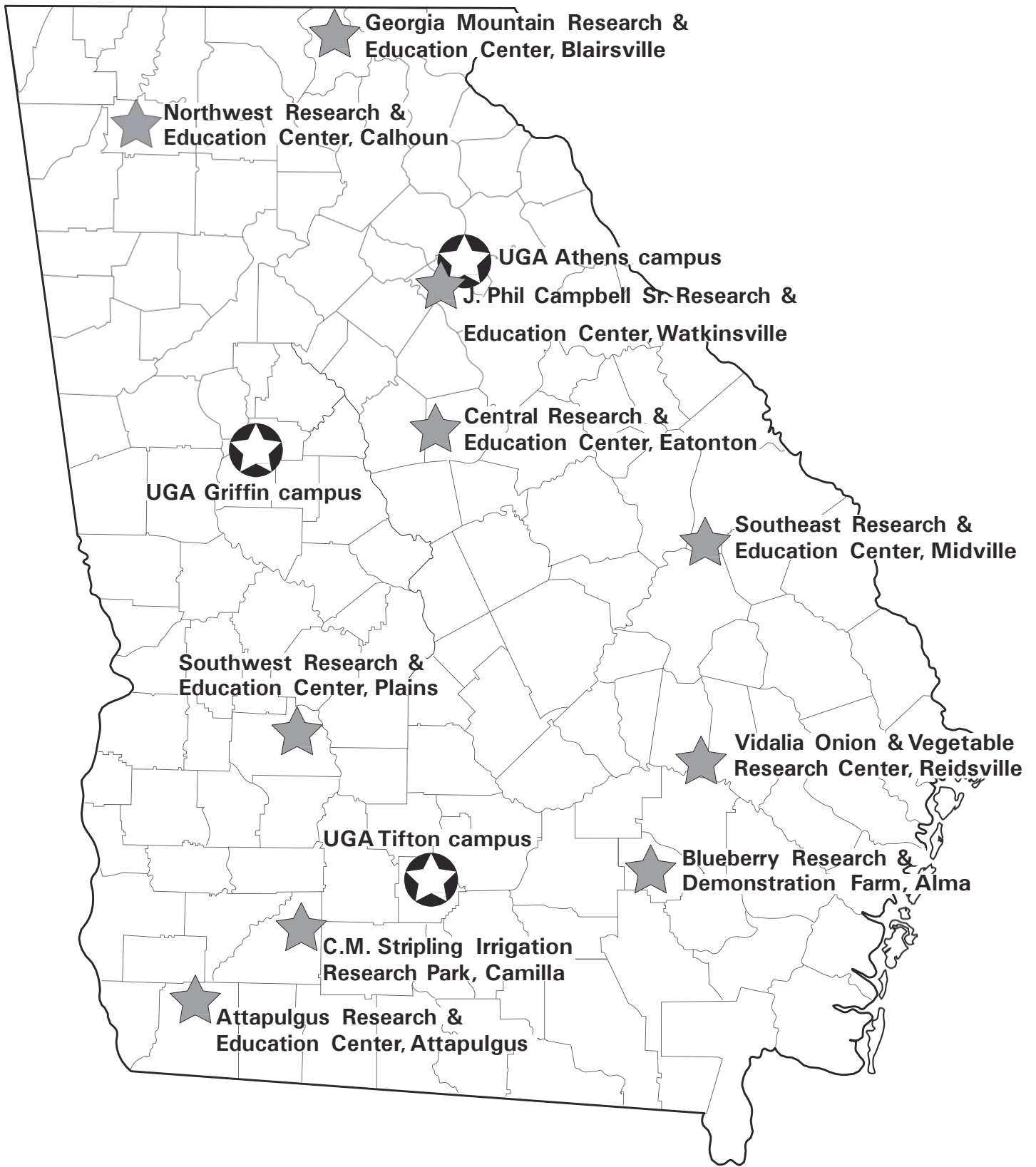
<u>Location variables</u>	Tifton - 2 Cuttings		Griffin ¹ - 5 Cuttings					Tifton - Total	Griffin ¹ - Total
Planting Date	Apr 17	-	Jun 19	-	-	-	-	Apr 17	Jun 19
Harvest Date	Jun 27	Aug 23	Jul 16	Jul 31	Aug 13	Aug 26	Sep 23	Aug 23	Sep 23
Days to harvest	71	57	27	15	13	13	28	128	96
GDUs to harvest	1,948	1,899	798	418	404	380	756	3,816	2,756
Rainfall (in.) ²	9.5	7.5	11.4	1.2	1.6	2.9	0.1	17.0	17.1
Avg. High Temp. ³	88.0	93.4	89.4	89.1	91.5	91.2	89.2	90.4	-
Avg. Low Temp. ³	66.1	72.1	69.5	67.1	70.5	68.9	64.8	68.7	-
<u>Agronomic Practices</u>									
Seeding rate	-	-	-	-	-	-	-	500k	500k
Row spacing (in.)	-	-	-	-	-	-	-	36	7
Soil type	-	-	-	-	-	-	-	Tifton loamy sand	Cecil sandy loam
Previous crop	-	-	-	-	-	-	-	Fallow	Fallow
Tillage	-	-	-	-	-	-	-	Conv.	Conv.
<u>Productivity</u>									
Avg. Yield (tons DM/ac)	4.93	1.70	1.07	1.22	0.76	0.33	0.51	7.10	3.89
Max. Yield (tons DM/ac)	4.99	2.19	0.86	1.30	0.90	0.44	0.69	8.87	4.18
Total Applied N (lbs/ac)	140	50	100	50	0	50	0	190	200
NUE ⁴ (Avg. Yield)	28.4	29.4	93.5	40.9	0.0	150.2	0.0	26.8	51.4
NUE ⁴ (Max. Yield)	28.1	22.8	116.6	38.5	0.0	113.8	0.0	21.4	47.8

1. Bledsoe Research Farm, Williamson, Georgia.

2. Rainfall total from 14 days prior to planting to harvest.

3. From planting to harvest.

4. Nitrogen use efficiency. Units of nitrogen applied per harvested ton of dry matter for test average and top yielding hybrid.



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