

*Performance
of Small Grain
Varieties for
Grain in
Alabama,
2008-09*

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THE 2009 ALABAMA PERFORMANCE COMPARISON OF SMALL GRAIN VARIETIES

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INTRODUCTION

The large number of commercially available varieties of wheat, oat, rye, barley, and triticale makes it difficult for growers to select varieties most suited for their particular area of the State. Making this decision requires up-to-date, unbiased, reliable information on varietal yields and characteristics. This report is published annually to provide Alabama growers with this information.

Entries in each experiment are determined by the companies or institutes which control each variety or line, not by experiment station personnel. Data from tests conducted at eight locations were used to compile this report and they represent the varied growing conditions farmers experience around the State.

PROCEDURE

The experimental design for the tests was a split plot design with species as the main plot and varieties as subplots. Plots were 5 feet by 20 feet with rows spaced 7 inches apart. A cone drill was used to plant all tests in the State. Each variety was replicated three times in each test.

The trials were divided into two management systems: grain only and forage only.

Grain only: These tests are normally planted during late October to early November, which is approximately one month later than the forage tests. Planting dates for all tests in 2008 are shown in Table 1. All tests were fertilized with P and K according to soil test, plus 20 pounds N per acre at planting. A top dressing of 60 pounds N per acre was made in late February or early March, just prior to jointing. The plots were not sprayed to control disease, so that the varieties could be rated for their inherent disease resistance. The grain was allowed to mature and was harvested with a plot combine, then cleaned and weighed. Moisture and bushel test weight were measured.

Forage only: These tests are normally planted in late September to early October. Tests were fertilized at planting with 100 pounds N per acre and clipped with a flail-type mower each time they reached 6 inches in height. A sample was weighed green from each plot, then dried and reweighed. The percent dry matter figure from these weights was used to calculate forage dry matter per acre. The test was top dressed in February with 60 pounds N per acre and clipping was continued until no regrowth occurred. This data is reported in Dept. Series No. 301, Performance of Small Grain Varieties for Forage in Alabama, 2008-09.

DATA EXPLANATION

Grain yields were calculated by weighing air-dried grain and using 60 pounds per bushel for wheat, 32 pounds per bushel for oat, 48 pounds per bushel for barley, 50 pounds per bushel for triticale. Lodging was measured as the percent of plants in the stand broken or leaning that would likely be missed by a combine. Height was measured from the ground to the top of the grain head. The 1/10 headed date is the date when approximately 10 percent of a plot showed fully emerged heads.

Disease ratings for all 2008-2009 variety tests are summarized by region in Tables 13 - 20. Katherine B. Burch, Research Associate, Department of Entomology and Plant Pathology, rated disease at all locations. Onset of leaf rust on wheat was earlier in the southern region than last year, but was later in the central and northern regions than last year. At the time of mid-season ratings on wheat, incidence of leaf rust was moderately higher in the southern region than in 2008 but lower in the central and northern regions than last year. Incidence of Septoria leaf blotch and powdery mildew was observed at higher levels compared to last year. Stem rust was observed on susceptible cultivar 'McNair 701' at Gulf Coast and Wiregrass Research and Extension Centers. Incidence and severity of Fusarium head blight (scab) were higher on cultivars in northern Alabama than observed in recent years. On oats, disease was similar to that observed last year. Helminthosporium leaf spot was observed at very low levels across the state. Crown rust was detected on several cultivars in the southern region. On triticale, low levels of leaf blotch were detected throughout the state and leaf rust was observed on several varieties in the southern and central regions. On barley, spot blotch and net blotch developed at low levels. Symptoms of the viral disease barley yellow dwarf were observed in most grain entries throughout the state. In the southern region, incidence was slightly lower than observed last year. In the central and northern regions, incidence was higher.

DISCUSSION

Growing conditions and variety performance often vary among locations and years. In the 2008-09 growing season, Hessian infestation was a problem at most locations. Drastic yield reductions occurred at some locations. For further discussion on Hessian fly rating in Alabama please see Appendix A.

TABLE 1. LOCATION, PLANTING AND HARVESTING DATES FOR THE 2008-09 SMALL GRAIN TESTS

Location	Date planted	Date harvested
<u>Northern Alabama</u>		
Tennessee Valley Res. & Ext. Ctr. (Belle Mina)		
Small grain - forage only	October 29	
Small grain - grain only	October 31	June 17
Sand Mountain Res. & Ext. Ctr. (Crossville)		
Small grain - forage only	October 16	
Small grain - grain only	November 5	June 12
<u>Central Alabama</u>		
Black Belt Res. & Ext. Ctr. (Marion Junction)		
Small grain - forage only	October 22	
Small grain - grain only	October 22	June 2
E.V. Smith Res. Ctr., Plant Breeding Unit (Tallassee)		
Small grain - forage only	October 14	
Small grain - grain only	November 3	June 17
Prattville Research Field (Prattville)		
Small grain - forage only	October 14	
Small grain - grain only	November 10	June 10
<u>Southern Alabama</u>		
Wiregrass Res. & Ext. Ctr. (Headland)		
Small grain - forage only	October 30	
Small grain - grain only	November 19	June 2
Brewton Research Field (Brewton)		
Small grain - forage only	October 21	
Small grain - grain only	November 19	June 8
Gulf Coast Res. & Ext. Ctr. (Fairhope)		
Small grain - forage only	October 13	
Small grain - grain only	November 21	May 28

TABLE 2. NORTH ALABAMA REGIONAL AVERAGES OF SMALL GRAIN VARIETY PERFORMANCE

Brand-Variety	2009		2008-2009	2007-2009
	Test wt	Avg.	Avg.	Avg.†
	lbs/bu		bu/acre	
<i>Wheat</i>				
AGS 2060	57	77	72	
SS 8641	56	73	69	
SS 520	53	64	67	
Jamestown	57	68	67	
SS 8308	56	71	66	
SS MPV 57	52	70	66	
Coker 9436	50	68	65	
Coker 9553	55	68	64	
USG 3665	51	66	64	
Coker 9804	54	62	62	
Progeny 117	53	55	62	
Terral LA 841	50	63	61	
Progeny 185	52	56	60	
USG 3209	52	61	60	
USG 3592	54	60	58	
SS 8404	55	56	58	
SS 8302	53	56	58	
Magnolia	51	56	55	
Progeny 166	49	45	51	
VA 04W-90	56	75		
USG 3295	55	71		
AGS 2050	55	69		
GA 991371-6E12	53	68		
GA 991209-6E33	55	68		
AGS 2035	52	67		
AGS 2026	54	67		
USG 3555	53	66		
AGS 2031	55	66		
GA 991336-6E9	56	66		
Merl	54	66		
Oglethorpe	54	65		
VA 04W-259	53	63		
AGS 2055	51	62		
Coker B030543	57	60		
Terral TV 8170	51	60		
Terral TV 8558	51	59		
Terral TV 8589	51	58		
Baldwin	52	57		
Progeny 136	48	57		
Progeny 119	51	55		
Progeny 130	54	52		

continued

TABLE 2. CONTINUED.

Brand-Variety	2009		2008-2009	2007-2009
	Test wt	Avg.	Avg.	Avg.†
	lbs/bu	-----	bu/acre	-----
<i>Oat</i>				
Florida 501	34	83	91	
Horizon 270	33	121		
LA 99153-45-S1	36	91		
LA 976-59-S1	33	76		
Terral Trophy	36	74		
Horizon 201	32	62		
<i>Barley</i>				
Eve	53	76	73	
Thoroughbred	40	69	68	
VA 03H-61	53	67		
<i>Triticale</i>				
RSI 342	46	80	85	
Trical 336	38	47	58	
RSI 202718	10	36		
Trical 2700	42	35		
RSI 202765	45	33		
Test Mean		64	65	
C.V.(%)		21	16	
LSD(0.10)		11	6	

† No 3-yr averages reported due to a total crop failure (late freeze during flowering) at Tennessee Valley REC in 2007.

TABLE 3. TENNESSEE VALLEY RESEARCH AND EXTENSION CENTER SMALL GRAIN VARIETY TRIAL, BELLE MINA.

Cultivar	testwt	Current	Twoyr	Threeyr
	2009		2008-2009	2007-2009
Brand-Variety	Test wt	Avg.	Avg.	Avg.
	lbs/bu	----- bu/acre -----		
<i>Wheat</i>				
AGS 2060	58	81	80	
Progeny 117	55	61	72	
SS 8641	56	70	72	
SS 520	53	55	71	
Progeny 185	54	65	71	
SS 8308	57	69	70	
SS 8302	55	70	69	
SS MPV 57	54	66	69	
USG 3665	53	67	69	
SS 8404	55	57	68	
Jamestown	57	56	67	
Coker 9436	52	61	66	
Terral LA 841	53	62	65	
Coker 9553	57	59	65	
Magnolia	54	61	63	
Coker 9804	54	57	63	
Progeny 166	53	51	59	
USG 3209	53	49	58	
USG 3592	54	54	58	
GA 991209-6E33	55	71		
GA 991336-6E9	56	71		
Oglethorpe	55	70		
VA 04W-90	56	70		
AGS 2050	57	69		
AGS 2035	56	68		
AGS 2026	54	67		
Terral TV 8558	53	65		
GA 991371-6E12	56	64		
USG 3555	54	62		
Coker B030543	57	62		
Progeny 136	53	61		
Progeny 130	57	60		

continued

TABLE 3. CONTINUED

Brand-Variety	2009		2008-2009	2007-2009
	Test wt	Avg.	Avg.	Avg.
	lbs/bu		bu/acre	
USG 3295	55	60		
AGS 2055	52	60		
Terral TV 8589	52	59		
AGS 2031	55	58		
VA 04W-259	53	58		
Merl	55	58		
Terral TV 8170	55	57		
Progeny 119	55	57		
Baldwin	55	56		
<i>Out</i>				
Florida 501	35	89	101	
Horizon 270	33	142		
LA 99153-45-S1	36	123		
LA 976-59-S1	34	118		
Terral Trophy	36	102		
Horizon 201	32	85		
<i>Barley</i>				
Eve	53	83	83	
Thoroughbred	41	53	60	
VA 03H-61	53	60		
<i>Triticale</i>				
RSI 342	48	79	97	
Trical 336	41	49	62	
RSI 202718	10	39		
Trical 2700	43	26		
RSI 202765	45	25		
Test Mean		66	70	
C.V.(%)		17	11	
LSD(0.10)		12	8	

† No 3-yr averages reported due to a total crop failure (late freeze during flowering) at Tennessee Valley REC in 2007.

TABLE 4. SAND MOUNTAIN RESEARCH AND EXTENSION CENTER SMALL GRAIN VARIETY TRIAL, CROSSVILLE.

Brand-Variety	2009		2008-2009	2007-2009
	Test wt lbs/bu	Avg. -----	Avg. bu/acre -----	Avg. -----
<i>Wheat</i>				
SS 8308	56	72	63	67
SS 8641	56	76	66	66
SS MPV 57	52	74	63	66
Coker 9436	50	75	63	63
USG 3209	52	73	63	63
AGS 2060	57	74	64	62
Coker 9553	55	78	64	62
USG 3592	55	67	59	62
SS 520	53	74	64	61
SS 8404	57	56	49	58
SS 8302	53	48	48	51
Jamestown	58	81	67	
Coker 9804	54	67	61	
USG 3665	51	65	60	
Terral LA 841	50	64	56	
Progeny 117	53	49	52	
Progeny 185	52	47	50	
Magnolia	51	51	48	
Progeny 166	49	39	42	
USG 3295	57	82		
VA 04W-90	57	81		
Merl	54	74		
AGS 2031	56	74		
GA 991371-6E12	53	72		
USG 3555	53	70		
AGS 2050	55	69		
VA 04W-259	53	69		
AGS 2026	54	67		
AGS 2035	52	66		
GA 991209-6E33	56	65		
AGS 2055	51	64		
Terral TV 8170	51	63		

continued

TABLE 4. CONTINUED

Brand-Variety	2009		2008-2009	2007-2009
	Test wt lbs/bu	Avg.	Avg. bu/acre	Avg.
GA 991336-6E9	56	61		
Oglethorpe	54	59		
Coker B030543	58	59		
Terral TV 8589	51	57		
Baldwin	52	57		
Progeny 119	51	53		
Terral TV 8558	51	52		
Progeny 136	48	52		
Progeny 130	54	44		
Oat				
Florida 501	34	86	79	77
Horizon 270	33	103		
LA 99153-45-S1	38	55		
Terral Trophy	38	45		
Horizon 201	32	40		
LA 976-59-S1	33	25		
Barley				
Thoroughbred	40	86	77	73
Eve	55	68	62	63
VA 03H-61	55	75		
Wheat				
RSI 342	46	80	72	62
Trical 336	38	46	53	
Trical 2700	42	44		
RSI 202765	45	40		
RSI 202718	39	33		
Test Mean		63	60	64
C.V.(%)		22	18	17
LSD(0.10)		16	8	7

TABLE 5. CENTRAL ALABAMA REGIONAL AVERAGES OF SMALL GRAIN VARIETY PERFORMANCE

Brand-Variety	2009		2008-2009	2007-2009
	Test wt	Avg.	Avg.	Avg.
	lbs/bu		bu/acre	
<i>Wheat</i>				
AGS 2060	55	47	67	67
Jamestown	54	47	67	
Coker 9804	52	47	65	
Terral LA 841	50	40	60	
Terral LA 482	52	40	59	
Baldwin	52	60		
AGS 2035	53	58		
Progeny 185	52	56		
USG 3295	53	56		
AGS 2055	48	55		
GA 991336-6E9	53	55		
Terral TV 8558	51	55		
Terral TV 8589	47	54		
AGS 2031	53	53		
VA 04W-90	53	53		
GA 991209-6E33	54	52		
USG 3555	49	51		
Terral TV 8170	52	51		
GA 991371-6E12	54	51		
Progeny 166	51	49		
USG 3665	49	49		
VA 04W-259	51	49		
Progeny 119	52	46		
USG 3592	53	45		
Coker 9553	57	45		
Oglethorpe	51	45		
AGS 2026	52	44		
Magnolia	51	44		
Merl	52	43		
Progeny 117	52	43		
Progeny 130	54	42		
Progeny 136	49	41		
USG 3209	50	37		

continued

TABLE 5. CONTINUED

Brand-Variety	2009		2008-2009	2007-2009
	Test wt	Avg.	Avg.	Avg.
	lbs/bu	-----	bu/acre	-----
<i>Oat</i>				
Florida 501	27	39	68	67
Horizon 270	31	57		
Horizon 201	29	51		
LA 99153-45-S1	32	50		
LA 976-59-S1	28	50		
Terral Trophy	30	49		
<i>Triticale</i>				
RSI 342	42	47	57	64
Trical 2700	39	28		
Trical 336	36	22		
RSI 202765	40	21		
RSI 202718	40	18		
Test Mean		46	63	66
C.V.(%)		30	20	34
LSD(0.10)		9	7	8

TABLE 6. PRATTVILLE EXPERIMENT FIELD SMALL GRAIN VARIETY TRIAL, PRATTVILLE.

Brand-Variety	2009		2008-2009	2007-2009
	Test wt lbs/bu	Avg. -----	Avg. bu/acre -----	Avg. -----
<i>Wheat</i>				
AGS 2060	55	66	74	66
Jamestown	55	75	80	
Terral LA 841	50	70	74	
Terral LA 482	52	60	65	
Coker 9804	54	56	64	
GA 991336-6E9	55	87		
AGS 2035	55	87		
GA 991209-6E33	56	86		
GA 991371-6E12	55	82		
AGS 2026	54	74		
AGS 2031	53	70		
Baldwin	52	70		
Oglethorpe	53	69		
USG 3295	53	67		
VA 04W-90	53	67		
Progeny 117	52	67		
VA 04W-259	51	63		
USG 3592	53	63		
Progeny 185	52	63		
Coker 9553	57	60		
Terral TV 8558	51	60		
Magnolia	51	59		
USG 3555	49	55		
AGS 2055	48	55		
Terral TV 8170	52	55		
USG 3665	49	55		
Terral TV 8589	47	55		
Progeny 119	52	54		
Progeny 166	52	54		
Progeny 136	49	53		
USG 3209	50	51		
Progeny 130	54	50		
Merl	52	49		

continued

TABLE 6. CONTINUED

Brand-Variety	2009		2008-2009	2007-2009
	Test wt	Avg.	Avg.	Avg.
	lbs/bu	-----	bu/acre	-----
<i>Oat</i>				
Florida 501	31	63	64	66
Horizon 270	31	103		
LA 976-59-S1	30	85		
LA 99153-45-S1	32	83		
Terral Trophy	31	77		
Horizon 201	29	59		
<i>Triticale</i>				
RSI 342	43	90	92	82
Trical 2700	44	60		
Trical 336	38	54		
RSI 202765	43	50		
RSI 202718	41	48		
Test Mean		65	73	71
C.V.(%)		14	14	20
LSD(0.10)		11	9	9

TABLE 7. E.V. SMITH RESEARCH CENTER SMALL GRAIN VARIETY TRIAL, PLANT BREEDING UNIT, TALLASSEE.

Brand-Variety	2009		2008-2009	2007-2009
	Test wt lbs/bu	Avg. -----	Avg. bu/acre -----	Avg. -----
<i>Wheat</i>				
AGS 2060	56	42	72	70
Coker 9804	54	71	91	
Jamestown	54	45	70	
Terral LA 841	52	27	63	
Terral LA 482	52	40	62	
USG 3555	53	81		
Terral TV 8558	54	80		
Terral TV 8170	53	79		
Progeny 185	53	79		
USG 3295	54	78		
AGS 2031	54	77		
USG 3665	52	76		
Terral TV 8589	50	71		
VA 04W-90	53	70		
AGS 2055	52	70		
Baldwin	52	70		
Progeny 166	53	67		
Progeny 119	53	64		
Merl	54	63		
Progeny 130	56	61		
AGS 2035	53	58		
VA 04W-259	53	57		
GA 991336-6E9	53	55		
USG 3592	54	55		
GA 991371-6E12	54	51		
Progeny 136	49	48		
Progeny 117	53	42		
USG 3209	53	40		
GA 991209-6E33	54	32		
AGS 2026	52	23		
Oglethorpe	51	23		

continued

TABLE 7. CONTINUED

Brand-Variety	2009		2008-2009	2007-2009
	Test wt	Avg.	Avg.	Avg.
	lbs/bu	-----	bu/acre	-----
<i>Oat</i>				
Florida 501	27	4	70	52
Horizon 201	30	20		
LA 99153-45-S1	33	14		
Terral Trophy	30	12		
Horizon 270	31	9		
LA 976-59-S1	28	8		
<i>Triticale</i>				
RSI 342	42	38	58	68
RSI 202765	40	12		
Trical 2700	39	12		
Trical 336	36	11		
RSI 202718	40	5		
Test Mean		46	70	63
C.V.(%)		19	15	42
LSD(0.10)		9	13	17

TABLE 8. BLACK BELT RESEARCH AND EXTENSION CENTER SMALL GRAIN VARIETY TRIAL, MARION JUNCTION.

Brand-Variety	2009		2008-2009	2007-2009
	Test wt	Avg.	Avg.	Avg.
	lbs/bu		bu/acre	
<i>Wheat</i>				
AGS 2060	55	32	55	64
Jamestown	57	22	52	
Terral LA 482	53	21	51	
Terral LA 841	54	24	44	
Coker 9804	52	14	40	
Oglethorpe	55	43		
AGS 2055	54	41		
Baldwin	56	39		
GA 991209-6E33	57	38		
Terral TV 8589	54	37		
AGS 2026	55	35		
AGS 2035	56	29		
Progeny 166	51	28		
VA 04W-259	56	26		
Progeny 185	53	25		
Terral TV 8558	53	23		
GA 991336-6E9	54	23		
Progeny 136	50	22		
Progeny 119	54	22		
USG 3209	53	21		
VA 04W-90	54	21		
USG 3295	54	21		
GA 991371-6E12	55	21		
Progeny 117	52	20		
Terral TV 8170	52	19		
USG 3592	53	19		
Merl	54	17		
USG 3555	52	17		
USG 3665	50	17		
Progeny 130	55	15		
AGS 2031	55	14		

continued

TABLE 8. CONTINUED

Brand-Variety	2009		2008-2009	2007-2009
	Test wt lbs/bu	Avg. -----	Avg. bu/acre -----	Avg.
<i>Oat</i>				
Florida 501	36	49	69	82
Horizon 201	34	74		
Horizon 270	34	59		
Terral Trophy	38	57		
LA 976-59-S1	33	56		
LA 99153-45-S1	36	53		
<i>Triticale</i>				
RSI 342	44	14	22	43
Trical 2700	44	12		
Trical 336		1		
RSI 202765		1		
RSI 202718		1		
Test Mean		27	47	63
C.V.(%)		28	19	22
LSD(0.10)		9	8	9

† Hessian fly damage affected yield in 2009.

TABLE 9. SOUTH ALABAMA REGIONAL AVERAGES OF SMALL GRAIN VARIETY PERFORMANCE

Brand-Variety	2009		2008-2009	2007-2009
	Test wt	Avg.	Avg.	Avg.
	lbs/bu		bu/acre	
<i>Wheat</i>				
AGS 2060	49	58	62	
Oglethorpe	48	52	57	
Terral LA 482	45	42	56	
Magnolia	47	45	55	
Terral LA 841	46	48	54	
AGS 2020	46	40	51	
Jamestown	48	40	50	
Baldwin	47	63		
AGS 2035	48	63		
GA 991209-6E33	47	62		
GA 991371-6E12	49	62		
GA 991336-6E9	47	57		
AGS 2026	48	52		
VA 04W-90	46	43		
Progeny 166	44	30		
Terral TV 8589	43	28		
Terral TV 8170	44	28		
AGS 2055	44	27		
AGS 2031	49	27		
VA 04W-259	48	27		
Terral TV 8558	41	23		
Progeny 117	51	23		
Progeny 130	44	19		
Progeny 119	45	18		
McNair 701	42	17		
Progeny 185	43	16		
Coker Panola	48	13		
Progeny 136	43	9		
Merl	45	7		

continued

TABLE 9. CONTINUED

Brand-Variety	2009		2008-2009	2007-2009
	Test wt	Avg.	Avg.	Avg.
	lbs/bu	-----	bu/acre	-----
<i>Oat</i>				
Horizon 270	33	120	118	
Florida 501	31	71	75	
Horizon 201	32	121		
LA 976-59-S1	31	102		
LA 99153-45-S1	36	92		
Terral Trophy	34	89		
<i>Triticale</i>				
RSI 342	41	57	73	
Trical 2700	36	31		
Trical 336	32	16		
RSI 202765	34	3		
RSI 202718	33	0		
Test Mean		44	65	
C.V.(%)		26	17	
LSD(0.10)		7	5	

TABLE 10. BREWTON EXPERIMENT FIELD SMALL GRAIN VARIETY TRIAL, BREWTON.

Brand-Variety	2009		2008-2009	2007-2009
	Test wt lbs/bu	Avg. -----	Avg. bu/acre -----	Avg.
<i>Wheat</i>				
Oglethorpe	53	65	58	70
AGS 2020	55	51	50	65
AGS 2060	57	75	62	
Magnolia	54	66	56	
Terral LA 841	53	67	53	
Terral LA 482	52	49	51	
Jamestown	56	55	48	
AGS 2035	55	76		
GA 991209-6E33	56	73		
Baldwin	53	68		
GA 991371-6E12	56	66		
GA 991336-6E9	56	64		
AGS 2026	53	62		
VA 04W-90	50	52		
Progeny 166	48	43		
Progeny 117	51	42		
Terral TV 8589	48	40		
VA 04W-259	48	40		
AGS 2031	49	39		
Terral TV 8170	49	38		
AGS 2055	46	37		
Coker Panola	48	34		
Progeny 119	50	33		
Progeny 185	47	30		
Terral TV 8558	44	30		
Progeny 136	43	27		
McNair 701	47	25		
Progeny 130	47	25		
Merl	46	20		

continued

TABLE 10. CONTINUED

Brand-Variety	2009		2008-2009	2007-2009
	Test wt lbs/bu	Avg. -----	Avg. bu/acre -----	Avg.
<i>Oat</i>				
Florida 501	37	63	62	69
Horizon 270	35	133	108	
Horizon 201	35	131		
LA 976-59-S1	34	118		
Terral Trophy	38	105		
LA 99153-45-S1	38	99		
<i>Triticale</i>				
RSI 342	45	69	77	97
Trical 2700	38	30		
Trical 336	37	22		
RSI 202765	34	7		
RSI 202718		5		
Test Mean		54	62	75
C.V.(%)		19	20	17
LSD(0.10)		11	9	8

TABLE 11. WIREGRASS RESEARCH AND EXTENSION CENTER SMALL GRAIN VARIETY TRIAL, HEADLAND.

Brand-Variety	2009		2008-2009	2007-2009
	Test wt lbs/bu	Avg. -----	Avg. bu/acre -----	Avg. -----
<i>Wheat</i>				
Oglethorpe	48	31	51	48
AGS 2020	46	5	36	45
AGS 2060	49	27	52	
Terral LA 482	45	16	47	
Terral LA 841	46	19	45	
Magnolia	47	15	44	
Jamestown	48	16	43	
GA 991371-6E12	49	42		
GA 991336-6E9	47	41		
AGS 2035	48	33		
GA 991209-6E33	47	33		
Baldwin	47	33		
AGS 2026	48	30		
VA 04W-90	46	17		
Terral TV 8589	43	16		
Terral TV 8558	41	16		
Progeny 166	44	14		
AGS 2055	44	14		
Terral TV 8170	44	13		
McNair 701	42	5		
Progeny 130	44	5		
Progeny 185	43	4		
Progeny 119	45	3		
AGS 2031		0		
Coker Panola		0		
Merl		0		
Progeny 117		0		
Progeny 136		0		
VA 04W-259		0		

continued

TABLE 11. CONTINUED

Brand-Variety	2009		2008-2009	2007-2009
	Test wt	Avg.	Avg.	Avg.
	lbs/bu	-----	bu/acre	-----
<i>Oat</i>				
Florida 501	31	44	66	63
Horizon 270	33	54	94	
Terral Trophy	34	47		
LA 99153-45-S1	36	45		
Horizon 201	32	43		
LA 976-59-S1	31	36		
<i>Triticale</i>				
RSI 342	41	30	65	77
Trical 2700	36	18		
Trical 336	32	4		
RSI 202765		0		
RSI 202718		0		
Test Mean		22	54	58
C.V.(%)		30	18	23
LSD(0.10)		9	8	8

† Severe Hessian fly damage in 2009.

TABLE 12. GULF COAST RESEARCH AND EXTENSION CENTER SMALL GRAIN VARIETY TRIAL, FAIRHOPE.

Brand-Variety	2009		2008-2009	2007-2009
	Test wt lbs/bu	Avg. -----	Avg. bu/acre -----	Avg. -----
<i>Wheat</i>				
AGS 2020	56	63	66	74
Oglethorpe	55	61	64	67
AGS 2060	59	73	73	
Terral LA 482	54	61	69	
Terral LA 841	55	57	66	
Magnolia	55	55	63	
Jamestown	57	49	58	
Baldwin	57	87		
AGS 2035	56	79		
GA 991209-6E33	58	79		
GA 991371-6E12	58	78		
GA 991336-6E9	57	65		
AGS 2026	55	63		
VA 04W-90	55	59		
AGS 2031	52	36		
VA 04W-259	50	35		
Progeny 166	51	34		
Terral TV 8170	49	34		
AGS 2055	48	31		
Progeny 130	53	29		
Terral TV 8589	45	28		
Progeny 117	51	25		
Terral TV 8558	47	24		
McNair 701	50	22		
Progeny 119	52	20		
Merl	45	15		
Progeny 185	44	14		
Progeny 136	43	13		
Coker Panola	48	13		

continued

TABLE 12. CONTINUED

Brand-Variety	2009		2008-2009	2007-2009
	Test wt	Avg.	Avg.	Avg.
	lbs/bu	-----	bu/acre	-----
<i>Oat</i>				
Florida 501	36	106	96	103
Horizon 270	35	174	151	
Horizon 201	34	189		
LA 976-59-S1	34	153		
LA 99153-45-S1	36	132		
Terral Trophy	37	115		
<i>Triticale</i>				
RSI 342	44	72	76	88
Trical 2700	41	44		
Trical 336	38	22		
RSI 202765	38	10		
RSI 202718	33	5		
Test Mean		58	78	83
C.V.(%)		12	12	13
LSD(0.10)		8	9	7

† Severe Hessian fly damage in 2009.

TABLE 13. LEAF BLOTCH RATINGS FOR WHEAT VARIETIES IN ALABAMA, 2008-2009¹

Brand-variety	North	Central	South
AGS 2020	-	-	2.89
AGS 2026	5.17	2.67	2.39
AGS 2031	5.17	3.22	2.89
AGS 2050	5.33	-	-
AGS 2055	5.50	2.67	2.33
AGS 2060	4.67	3.00	2.56
Coker 9436	4.83	-	-
Coker 9553	5.17	2.67	-
Coker 9804	6.33	2.67	-
Coker B030543	5.83	-	-
GA 981621-5E34	5.50	2.78	3.11
GA 981622-5E35	5.33	2.56	4.00
GA 991209-6E33	6.00	2.56	3.11
GA 991336-6E9	5.17	3.11	3.44
GA 991371-6E12	5.33	2.78	2.78
Jamestown	6.50	2.72	3.89
Magnolia	6.00	2.67	3.56
McNair 701	-	-	4.22
Oglethorpe	5.50	2.67	2.44
Panola	-	-	3.11
Progeny 117	5.83	2.89	3.11
Progeny 119	5.67	2.67	2.44
Progeny 130	6.50	2.78	2.22
Progeny 136	5.67	2.56	2.56
Progeny 166	5.50	2.56	2.89
Progeny 185	6.00	2.56	2.11

continued

TABLE 13. CONTINUED

Brand-variety	North	Central	South
SS 520	5.17	-	-
SS 8302	5.83	-	-
SS 8309	5.67	-	-
SS 8404	6.00	-	-
SS 8641	5.33	-	-
SS MPV 57	6.50	-	-
Terral LA 482	-	3.56	3.78
Terral LA 841	5.83	2.89	2.89
Terral TV 8170	5.00	2.78	2.11
Terral TV 8558	6.17	2.67	2.22
Terral TV 8589	5.67	2.67	2.11
USG 3209	5.67	2.67	-
USG 3295	4.50	3.11	-
USG 3555	5.50	2.33	-
USG 3592	6.00	2.78	-
USG 3665	5.50	2.33	-
VA 03W-412	5.50	2.00	2.11
VA 04W-259	5.50	2.56	1.78
VA 04W-90	6.17	2.67	2.89

¹0-10 scale: 0=no disease, 10 = severe disease.

TABLE 14. BARLEY YELLOW DWARF RATINGS FOR WHEAT VARIETIES IN ALABAMA, 2008-2009¹

Brand-variety	North	Central	South
AGS 2020	-	-	29
AGS 2026	74	61	9
AGS 2031	75	49	8
AGS 2050	65	-	-
AGS 2055	57	35	11
AGS 2060	62	62	27
Coker 9436	53	-	-
Coker 9553	68	20	-
Coker 9804	73	35	-
Coker B030543	77	-	-
GA 981621-5E34	50	25	15
GA 981622-5E35	58	45	34
GA 991209-6E33	67	47	19
GA 991336-6E9	45	45	21
GA 991371-6E12	52	47	21
Jamestown	85	41	27
Magnolia	63	20	28
McNair 701	-	-	39
Oglethorpe	75	59	15
Panola	-	-	31
Progeny 117	75	39	23
Progeny 119	63	36	12
Progeny 130	73	23	25
Progeny 136	60	27	12
Progeny 166	72	27	21
Progeny 185	68	25	11

continued

TABLE 14. CONTINUED

Brand-variety	North	Central	South
SS 520	83	-	-
SS 8302	65	-	-
SS 8309	72	-	-
SS 8404	65	-	-
SS 8641	57	-	-
SS MPV 57	77	-	-
Terral LA 482	-	57	43
Terral LA 841	71	53	17
Terral TV 8170	63	40	9
Terral TV 8558	77	39	24
Terral TV 8589	68	38	10
USG 3209	68	39	-
USG 3295	70	44	-
USG 3555	62	29	-
USG 3592	81	39	-
USG 3665	75	37	-
VA 03W-412	67	29	14
VA 04W-259	72	28	7
VA 04W-90	70	37	14

¹Percent symptomatic plants.

TABLE 15. LEAF RUST RATINGS FOR WHEAT VARIETIES IN ALABAMA, 2008-2009¹

Brand-variety	North	Central	South
AGS 2020	-	-	2.11
AGS 2026	1.33	0.00	0.22
AGS 2031	0.00	0.00	0.00
AGS 2050	2.83	-	-
AGS 2055	0.67	0.67	3.44
AGS 2060	1.17	0.00	0.00
Coker 9436	0.67	-	-
Coker 9553	0.00	2.33	-
Coker 9804	0.00	1.56	-
Coker B030543	1.00	-	-
GA 981621-5E34	0.67	0.00	1.22
GA 981622-5E35	0.00	0.00	1.78
GA 991209-6E33	0.00	0.44	2.56
GA 991336-6E9	0.00	0.22	1.33
GA 991371-6E12	0.00	0.00	1.56
Jamestown	0.00	0.67	4.44
Magnolia	1.17	3.00	3.44
McNair 701	-	-	5.11
Oglethorpe	0.00	0.33	0.78
Panola	-	-	5.33
Progeny 117	0.67	2.33	5.56
Progeny 119	1.33	2.11	3.56
Progeny 130	1.00	0.89	3.11
Progeny 136	2.33	0.89	2.22
Progeny 166	1.33	0.67	9.00
Progeny 185	0.50	1.78	3.22

continued

TABLE 15. CONTINUED

Brand-variety	North	Central	South
SS 520	0.00	-	-
SS 8302	3.17	-	-
SS 8309	0.67	-	-
SS 8404	0.00	-	-
SS 8641	0.00	-	-
SS MPV 57	0.83	-	-
Terral LA 482	-	1.22	1.78
Terral LA 841	0.00	0.44	1.00
Terral TV 8170	2.33	1.44	3.78
Terral TV 8558	0.00	1.61	5.33
Terral TV 8589	0.67	1.11	2.67
USG 3209	0.00	3.11	-
USG 3295	0.67	0.00	-
USG 3555	1.67	1.44	-
USG 3592	0.00	0.56	-
USG 3665	0.67	0.44	-
VA 03W-412	0.50	1.33	2.00
VA 04W-259	0.00	0.00	1.78
VA 04W-90	1.33	1.22	3.67

¹0-10 scale: 0=no disease, 10 = severe disease.

TABLE 16. POWDERY MILDEW RATINGS FOR WHEAT VARIETIES IN ALABAMA, 2008-2009¹

Brand-variety	North	Central	South
AGS 2020	-	-	0.00
AGS 2026	1.67	0.67	0.56
AGS 2031	1.33	1.00	1.11
AGS 2050	0.83	-	-
AGS 2055	1.00	0.89	0.56
AGS 2060	2.50	1.00	1.11
Coker 9436	1.17	-	-
Coker 9553	1.17	0.67	-
Coker 9804	2.50	0.67	-
Coker B030543	2.33	-	-
GA 981621-5E34	0.83	2.56	0.89
GA 981622-5E35	0.00	1.67	0.56
GA 991209-6E33	2.83	0.44	0.00
GA 991336-6E9	0.00	1.67	0.56
GA 991371-6E12	1.83	1.44	0.00
Jamestown	0.00	0.00	0.00
Magnolia	2.00	3.33	0.89
McNair 701	-	-	0.56
Oglethorpe	2.50	1.22	0.00
Panola	-	-	0.00
Progeny 117	3.67	2.56	0.44
Progeny 119	2.50	2.56	3.11
Progeny 130	2.83	1.78	0.11
Progeny 136	2.00	1.44	0.67
Progeny 166	2.33	2.11	2.22
Progeny 185	3.33	1.50	0.33

continued

TABLE 16. CONTINUED

Brand-variety	North	Central	South
SS 520	0.83	-	-
SS 8302	3.67	-	-
SS 8309	1.33	-	-
SS 8404	1.33	-	-
SS 8641	1.00	-	-
SS MPV 57	0.00	-	-
Terral LA 482	-	1.44	0.33
Terral LA 841	2.00	2.56	1.11
Terral TV 8170	2.50	1.11	0.00
Terral TV 8558	1.50	0.78	0.00
Terral TV 8589	1.67	1.22	0.00
USG 3209	1.67	0.78	-
USG 3295	1.83	0.22	-
USG 3555	0.00	0.94	-
USG 3592	0.83	1.22	-
USG 3665	0.00	1.33	-
VA 03W-412	0.00	0.44	0.00
VA 04W-259	0.00	0.89	0.00
VA 04W-90	0.67	0.44	0.44

¹0-10 scale: 0=no disease, 10 = severe disease.

TABLE 17. SCAB RATINGS FOR WHEAT VARIETIES IN ALABAMA, 2008-2009¹

Brand-variety	North	Central	South
AGS 2020	-		
AGS 2026	1.50		
AGS 2031	1.67		
AGS 2050	0.83		
AGS 2055	1.67		
AGS 2060	2.17		
Coker 9436	1.00		
Coker 9553	0.83		
Coker 9804	1.17		
Coker B030543	0.50		
GA 981621-5E34	1.17		
GA 981622-5E35	2.50		
GA 991209-6E33	1.83		
GA 991336-6E9	1.50		
GA 991371-6E12	1.33		
Jamestown	1.17		
Magnolia	1.33		
McNair 701	-		
Oglethorpe	0.83		
Panola	-		
Progeny 117	0.33		
Progeny 119	0.67		
Progeny 130	0.33		
Progeny 136	1.67		
Progeny 166	0.83		
Progeny 185	1.00		

continued

TABLE 17. CONTINUED

Brand-variety	North	Central	South
SS 520	1.50		
SS 8302	0.50		
SS 8309	2.33		
SS 8404	2.00		
SS 8641	1.67		
SS MPV 57	1.67		
Terral LA 482	-		
Terral LA 841	1.33		
Terral TV 8170	1.17		
Terral TV 8558	1.00		
Terral TV 8589	0.83		
USG 3209	1.33		
USG 3295	1.83		
USG 3555	0.67		
USG 3592	1.50		
USG 3665	1.17		
VA 03W-412	2.00		
VA 04W-259	1.67		
VA 04W-90	1.17		

¹0-5 scale: 0=no disease, 5=100% disease

TABLE 18. DISEASE RATINGS FOR OAT VARIETIES IN ALABAMA, 2008-2009

Brand-variety	¹ Helminthosporium leafspot	¹ Crown rust	² Barley Yellow dwarf
North			
Florida 501	0.50	0.00	28.33
Horizon 201	0.59	0.00	13.33
Horizon 270	0.52	0.00	15.00
LA 976-59-S1	0.59	0.00	5.00
LA 99153-45-S1	0.51	0.00	10.00
Terral Trophy	0.58	0.00	3.33
Central			
Florida 501	1.78	0.00	19.00
Horizon 201	1.56	0.00	12.90
Horizon 270	1.46	0.00	14.57
LA 976-59-S1	1.46	0.00	15.01
LA 99153-45-S1	0.84	0.00	7.79
Terral Trophy	1.23	0.00	11.23
South			
Florida 501	0.84	3.22	27.22
Horizon 201	0.57	0.00	4.23
Horizon 270	0.78	0.00	6.44
LA 976-59-S1	0.73	0.67	6.44
LA 99153-45-S1	0.78	0.22	5.22
Terral Trophy	0.84	0.56	4.67

¹0-10 scale: 0 = no disease, 10 = severe disease

²Percent plants affected.

TABLE 19. DISEASE RATINGS FOR TRITICALE VARIETIES IN ALABAMA, 2008-2009

Brand-variety	¹ Leaf blotch	¹ Leaf rust	² Barley yellow dwarf
North			
RSI 202718	3.67	0.00	40.00
RSI 202765	4.17	0.00	41.67
RSI 342	5.00	0.00	63.33
Trical 2700	3.83	0.00	31.67
Trical 336	4.50	0.00	43.33
Central			
RSI 202718	2.44	0.67	18.89
RSI 202765	2.11	0.33	25.67
RSI 342	3.00	0.00	40.00
Trical 2700	1.78	0.00	14.56
Trical 336	2.67	1.00	24.44
South			
RSI 202718	3.22	1.33	13.89
RSI 202765	3.33	2.11	17.22
RSI 342	4.39	1.56	30.56
Trical 2700	3.56	0.00	9.11
Trical 336	3.11	1.44	9.44

¹0-10 scale: 0 = no disease, 10 = severe disease

²Percent plants affected.

TABLE 20. DISEASE RATINGS FOR BARLEY VARIETIES IN NORTHERN ALABAMA, 2008-2009

Brand-variety	¹ Spot blotch	¹ Net blotch	² Barley yellow dwarf
Eve	2.50	2.67	68.33
Price	2.00	2.83	63.33
Thoroughbred	2.50	2.67	53.33

¹0-10 scale: 0 = no disease, 10 = severe disease.

²Percent plants affected.

SOURCES OF SEED

Cultivar	Source
Wheat	
AGS 2020, AGS 2026, AGS 2031	AGSouth Genetics
AGS 2050, AGS 2055, AGS 2060	Albany, Georgia
Coker 9436, Coker 9553, B030543*	Syngenta Seeds, Inc.
Coker 9804 (formerly D03*9804)	Bay, Arkansas
AgriPro Magnolia	
DynaGro Oglethorpe (formerly GA951231-4E25)	Crop Production Services Marysville, Ohio
GA 991336-6E9*, GA 991371-6E12*, GA 991209-6E33*, Baldwin (formerly GA 981621-5E34*), AGS 2035(formerly GA 981622-5E35*)	University of Georgia Griffin, Georgia
Panola, McNair 701	Local Source
Progeny 117, Progeny 119, Progeny 130, Progeny 136, Progeny 166, Progeny 185	Progeny Ag Products Wynne, Arkansas
SS 520, SS 8302, SS 8308, SS 8404, SS 8641, SS-MPV-57	Southern States Coop. Richmond, Virginia
Terral LA 482, Terral LA 841, Terral TV 8170, Terral TV 8558, Terral TV 8589	Terral Seed Co. Lake Providence, Louisiana
USG 3209, USG 3295, USG 3555, USG 3592, USG 3665	UniSouth Genetics, Inc. Nashville, Tennessee
VA04W-90*, VA04W-259*, Jamestown, Merl (formerly VA03W-412*)	Virginia Crop Improvement, Assn. Warsaw, Virginia

continued

SOURCES OF SEED

Cultivar	Source
Triticale	
Trical 336, Trical 342, Trical 2700	Resource Seeds, Inc.
RSI 202718*, RSI 202765*	Union, Kentucky
Oat	
Fla. 501	Alabama Crop Improvement Assn.
Horizon 201, Horizon 270	AGSouth Genetics
LA 99153-45-S1*, LA 976-59-S1*	Louisiana State University Baton Rouge, Louisiana
Terral Trophy	Terral Seed Co. Lake Providence, Louisiana
Barley	
Eve, Thoroughbred,	Virginia Crop Improvement, Assn.
VA03H-61*	Warsaw, Virginia

* Experimental line; not yet commercially available.

APPENDIX A

Hessian Fly Variety Trials in Alabama 2009

Kathy Flanders, Zandra DeLamar, Charlie Burmester, Kathy Glass, Brenda Ortiz, Don Moore and Chet Norris

with various appointments at Auburn University, Alabama Cooperative Extension System, and/or the Alabama Agricultural Experiment Station

Cooperators: Eric Schavey, Bill Webster, Brad Meyer, Glen Whiteside, David Derrick, Warren Griffith, Rudy Yates, Leonard Kuykendall, Richard Petcher, and Brandon Dillard

Hessian fly pressure was unusually high in Alabama during the 2008-2009 wheat season. Hessian flies were found in 83% of commercial fields that were sampled (n=70).

Two variety tests were planted (Prattville and Belle Mina) in order to determine performance of four “Biotype L” resistant varieties, relative to varieties that were commonly grown in the vicinity, or that yielded well in previous variety tests. Hessian fly pressure in the Prattville plots was low, so data was not collected on Hessian fly.

Two Auburn University small grain variety tests were sampled (Headland and Fairhope) because the Hessian fly pressure in these plots was extremely high. Hessian fly results are reported here. Yield and other performance measures are reported in the variety test section of Alabamacrops.com.

An effort was made to sample wheat fields for Hessian flies from different parts of Alabama. Variety information and intensity of Hessian fly infestation is included here.

APPENDIX A

Table 1. Relative susceptibility of wheat varieties to Hessian fly in Alabama, 2009. Summary of four separate studies (see following sections).

Variety	Percent Infested Stems			No. commercial fields with a given Hessian fly infestation ⁴			
	Belle Mina ¹	Fairhope ²	Headland ³	none	low	moderate	high
GA Gore	-	100	71	1	2	1	1
Panola	-	100	75				
Progeny 136	-	100	63				
AGS 2031	-	97	41				
Progeny 130	-	93	69				
Progeny 117	32	92	57				
Terral LA 841	-	92	50				
Merl (VA 03W-412)	-	84	63				
GA 991371-6E12	-	80	24				
Progeny 119	-	80	39				
McNair 701	-	76	12				
AGS 2035 (GA 981622-5E35)	-	72	35				
Jamestown	-	72	76				
VA 04W-259	-	72	50				
AGS 2020	-	70	7	0	1	0	0
UAP Baldwin (GA 981621-5E34)	-	68	14				
GA 991336-6E9	-	68	33				
Progeny 185	-	64	47				
Oglethorpe	1	60	3				
Terral TV 8170	-	60	13				
Progeny 166	-	56	7				
Terral LA 482	-	56	33	0	2	0	0
GA 991209-6E33	-	43	7				
VA 04W-90	-	43	15				
Magnolia	39	36	67	0	1	0	0
AGS 2026	0	32	7				
Terral TV 8589	-	24	0				
AGS 2055	-	20	7				
Terral TV 8558	-	20	4				
AGS 2010	1	-	-	0	0	0	1
AGS 2060	-	13	43	1	0	0	0
Coker_9804	36	-	-				
Pioneer_variety 26R61	9	-	-	2	2	0	0
SS_8404	28	-	-				
USG_3209	38	-	-	0	4	3	3
AGS 2000	-	-	-	0	3	3	0
AGS 2020	-	-	-	0	1	0	0
Coker 9553	-	-	-	0	0	1	0
Coker 9663	-	-	-	0	3	3	2
EK 102	-	-	-	1	2	0	0
Pioneer variety 26R22	-	-	-	1	4	0	2
Pioneer variety 26R87	-	-	-	0	2	0	0
SS520	-	-	-	1	0	0	0

¹see table 2; ² see table 4; ³ see table 5; ⁴low infestation= 1-20% of stems infested; moderate=21-45% stems infested; high=>45% stems infested with Hessian fly

APPENDIX A

Hessian fly variety test in Belle Mina, AL 2008-2009.

Three of the four “Biotype L” varieties yielded as well as or better than varieties chosen because they were widely planted in north Alabama, or because they had performed well in previous variety tests in north Alabama. These three varieties (Oglethorpe, AGS 2026, and Pioneer 26R61) had very few Hessian flies. The poorest yielding variety, USG 3209, known to be susceptible to most biotypes of Hessian flies, was among the four varieties with the highest Hessian fly infestation.

AGS 2010, chosen because of its purported Hessian fly resistance, had the next to the lowest yield in the trials. In this trial, only 1% of the AGS 2010 stems were infested with Hessian fly. However, a field of AGS 2010 not far from Belle Mina was heavily infested with Hessian fly. This variety should probably be avoided in the Tennessee Valley region until its resistance status is clarified.

Table 2. Spring Hessian Fly Infestation and Yield of Hessian Fly Resistant and Susceptible Varieties, Tennessee Research and Extension Center, Belle Mina, AL 2008-2009.

Variety	Reason for planting	% Hessian fly infested stems ¹		Yield (bu/A) ²		Test weight ³	
Oglethorpe	Biotype L resistant	1.23	b	83.7	a	56.5	c
AGS_2026	Biotype L resistant	0.00	b	80.4	ab	56.3	c
Pioneer_26R61	Biotype L resistant	8.89	b	77.3	abc	58.8	a
SS_8404	Good variety for Tenn, Valley	28.27	a	76.4	bc	58.3	a
Progeny_117	Good variety for Tenn. Valley	32.00	a	73.7	c	56.2	c
Coker_9804	Good variety for Tenn. Valley	35.60	a	73.3	c	56.5	c
Magnolia	Good variety for Tenn. Valley	39.16	a	72.8	c	56.0	c
AGS_2010	Biotype L resistant	1.04	b	72.3	c	57.3	b
USG_3209	Susceptible control	37.51	a	60.4	d	54.2	d
LSD		~8.0% (0.3radians)		6.6 bu		0.67 lb	

Means within a column followed by the same letter are not significantly different, Tukey's LSD, alpha=0.05 level.

¹t groupings based on lsd of arcsin sqrt transformation of proportion infested stems. For convenience, the mean percent infested stems is indicated here. Based on 3 replications, 30 stems per plot cut at ground level, so percent infestation reflects spring infestation. Plots were sampled on April 22, during head emergence.

²adjusted to 60 lb/bushel at 13.5% moisture

³adjusted to 13.5% moisture

Planting details:

5 X 20 foot plots planted October 29, 2008. 22 seeds per row foot. Four replications RCBD. Harvested June 8, 2009.

APPENDIX A

Hessian fly variety test in Prattville, AL 2008-2009.

The four “Biotype-L” resistant varieties yielded as well as or better than varieties chosen because they were widely planted in central Alabama, or because they had performed well in previous variety tests in central Alabama. There were too few Hessian flies in the plot to evaluate. Therefore, we were not able to confirm the resistance status of the four “Biotype L” varieties. The poorest yielding variety, USG 3209, was observed to be heavily infested with leaf rust. Test weights were lower in this test than in the test in Belle Mina. The lush growth along with strong spring storms resulted in considerable lodging. Georgia Gore had the highest percentage of lodged stems.

Table 3. Yield of Hessian Fly Resistant and Susceptible Varieties, Prattville Field, Prattville, AL 2008-2009.

Variety	Reason for planting	Yield (bu/A) ^{1,2}	Lodging at harvest (%)	Plant height (in)	Test weight ³
USG 3592	Good variety for central AL	69.9 a	34 ab	42 a	56.1
AGS_2010	Biotype L resistant	69.0 ab	26 ab	38 bc	54.3
AGS_2026	Biotype L resistant	60.0 abc	51 abc	35 c	51.8
Oglethorpe	Biotype L resistant	56.6 abc	50 abc	37 c	52.1
Pioneer_26R61	Biotype L resistant	54.8 abc	22.5 a	41 ab	55.1
Coker 9553	Standard for central AL	49.8 bc	36 ab	38 bc	53.5
AGS 2020	Good variety for central AL	48.3 bc	65 bc	37 c	52.9
Georgia Gore	Standard for central AL	43.8 c	84 c	38 bc	52.1
USG_3209 ²	Susceptible control	41.7 c	38 ab	35 c	51.8
LSD		19.8 bu	40%	3 in.	

Means within a column followed by the same letter are not significantly different, Tukey’s LSD, alpha=0.05 level.

¹adjusted to 60 lb/bushel at 13.5% moisture

²Severely infected with leaf rust

³Adjusted to 13.5% moisture

Planting details:

5 X 22 foot plots planted October 14, 2008. 20 seeds per row foot. Harvested June 10, 2009.

APPENDIX A

Evaluation of the Fairhope Small Grain Variety Test for Hessian Fly, 2008-2009.

Hessian fly pressure was very high in this variety test. Data on Hessian fly should be used in conjunction with yield data from this test in order to choose varieties that yielded well but had relatively low Hessian fly infestation. See the variety test section of Alabamacrops.com for yield data. Varieties with known H13 Hessian fly resistance (Oglethorpe and AGS 2026) tended to have fewer Hessian flies than varieties with no Hessian fly resistance or with known H7H8 resistance. Previous lab tests from this location showed that the H7H8 gene is 0% effective, and the H13 resistance gene is 58% effective on Hessian fly populations from this location. This test shows that, if the fly pressure is high enough, high rates of infestation are possible with H13 .

Table 4. Hessian fly infestations in the GCREC Small Grain Variety Tests, Fairhope, AL, 2009.

	Hessian fly infested stems (%) ¹	Number of stems	Plant health ²	n
Wheat				
GA Gore	100	25	1	3
Panola	100	25	1	3
Progeny 136	100	25	1	3
AGS 2031	97	25	1.3	3
Progeny 130	93	25	2	3
Progeny 117	92	25	1.3	3
Terral LA 841	92	25	2	3
Merl (VA 03W-412)	84	25	1	3
GA 991371-6E12	80	25	2	3
Progeny 119	80	25	1	3
McNair 701	76	25	1.3	3
AGS 2035 (GA 981622-5E35)	72	25	2	3
Jamestown	72	25	2	3
VA 04W-259	72	25	1.7	3
AGS 2020	70	25	2	3
UAP Baldwin (GA 981621-5E34)	68	25	2	3
GA 991336-6E9	68	25	2	3
Progeny 185	64	25	1	3
Oglethorpe ³	60	25	2	3
Terral TV 8170	60	25	2	3
Progeny 166	56	25	1.7	3
Terral LA 482	56	25	1.7	3
GA 991209-6E33	43	25	2	3
VA 04W-90	43	25	2	3
Magnolia	36	25	2	3
AGS 2026 ³	32	25	2	3
Terral TV 8589	24	25	2	3
AGS 2055	20	25	2	3
Terral TV 8558	20	25	2	3
AGS 2060	13	25	1.7	3

APPENDIX A

Table 4 (cont.)

	Hessian fly infested stems (%) ¹	Number of stems	Plant health ²	n
Triticale				
RSI 202718	92	25	1	3
RSI 202765	72	25	1	3
Trical 336	60	25	2	3
RSI 342	17	25	2	3
Trical 2700	0	25	2	3

¹Plants were dug from three 8" lengths of row in each plot from Rep 1. From this sample, Twenty-five stems were examined per plot to see if they were infested with Hessian fly.

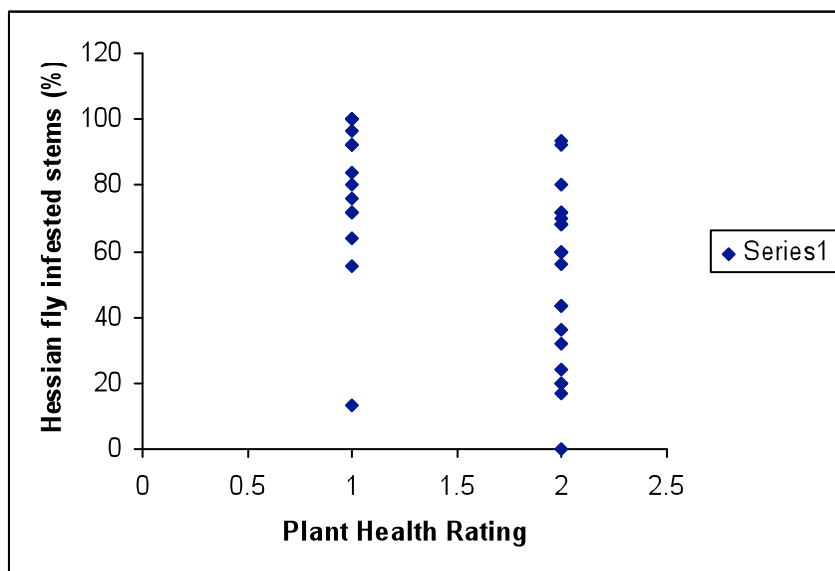
²Ratings made on May 6, 2009. At that time the plants were dried down and ready to harvest. This made it hard to estimate the impact on plant health by Hessian fly, so only two classes were used. : 1=poor-fair plant health; 2= good to excellent plant health.

³Known to contain H13 gene for Hessian fly resistance

What do the plant health results mean?

Examining stems to see if they are infested with Hessian fly is a time consuming process. Therefore, stems were evaluated in only one replication. It was hoped that the Hessian fly infestation would be related to visual estimates of general plant health. General plant health was estimated for all three replications.

Was the visual estimate of plant health related to Hessian fly infestation? Looking at Rep 1, varieties given a rating of 1 (poor-fair plant health) were heavily infested with Hessian fly. The exception was AGS 2060, which had few Hessian flies but did not look good. Perhaps a vernalization problem? For plots given a rating of 2 (good-excellent health) there was no relationship with percent of stems infested with Hessian fly.



APPENDIX A

Evaluation of the Headland Small Grain Variety Test for Hessian Fly, 2008-2009.

Hessian fly pressure was very high in this variety test. Data on Hessian fly should be used in conjunction with yield data from this test in order to choose varieties that yielded well but had low Hessian fly infestation. See the variety test section of Alabamacrops.com for yield data for the varieties in this test. Previous lab tests from this location showed that the H7H8 gene is 0% effective, and the H13 resistance gene is 36% effective on Hessian fly populations from this location. Oglethorpe and AGS 2026, known to have H13 resistance, had among the lowest levels of fly infestation, and the highest plant health scores.

Table 5. Hessian fly infestations from Wiregrass Research and Extension Center Small Grain Variety Tests, Headland, AL, 2009.

	Hessian fly infested stems (%) ¹	Number of stems	Plant health score ²	n
Wheat				
Jamestown	76	33	5.3	3
Panola	75	16	2.5	3
GA Gore	71	14	3	3
Progeny 130	69	16	3	3
Magnolia	67	27	4	3
Merl (VA 03W-412)	63	19	1.3	3
Progeny 136	63	30	2	3
Progeny 117	57	14	2	3
Terral LA 841	50	30	4.3	3
VA 04W-259	50	26	2	3
Progeny 185	47	30	3.3	3
AGS 2060	43	30	4	3
AGS 2031	41	17	2.3	3
Progeny 119	39	18	3.3	3
AGS 2035 (GA 981622-5E35)	35	34	6	3
GA 991336-6E9	33	30	5.3	3
Terral LA 482	33	30	4.7	3
GA 991371-6E12	24	29	5.3	3
VA 04W-90	15	27	5.3	3
UAP Baldwin(GA 981621-5E34)	14	28	5.3	3
Terral TV 8170	13	30	4.7	3
McNair 701	12	25	3.7	3
Progeny 166	7	28	4	3
AGS 2055	7	29	5	3
AGS 2020	7	29	4	3
GA 991209-6E33	7	28	5.7	3
AGS 2026	7	30	6	3
Terral TV 8558	4	27	5	3
Oglethorpe	3	29	6	3
Terral TV 8589	0	30	4	3

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Table 5 (cont.)

	Hessian fly infested stems (%) ¹	Number of stems	Plant health score ²	n
Triticale				
Trical 336	63	8	2	3
RSI 342	47	30	4	3
RSI 202718	41	22	2	3
Trical 2700	20	30	5.3	3
RSI 202765	17	6	2	3

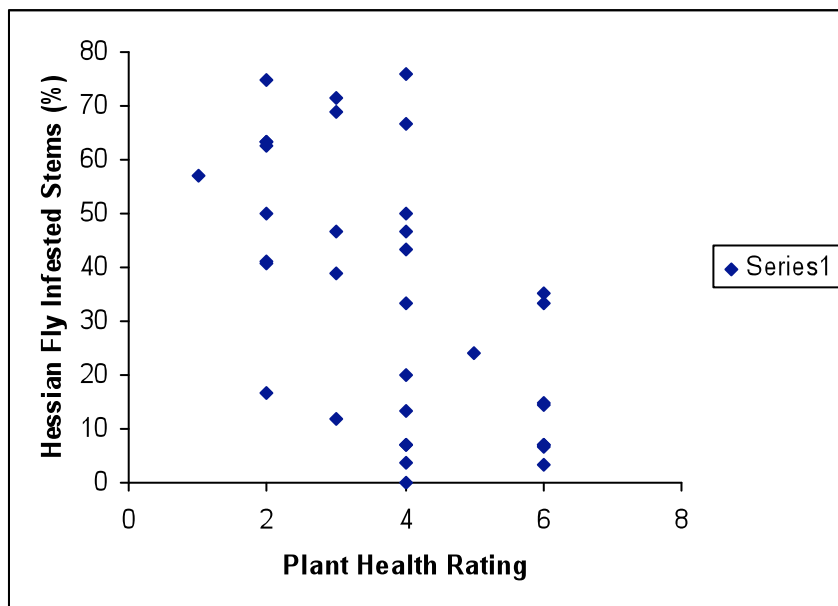
¹based on 30 stems that were cut at ground level per plot, unless plant stems in plots were predominantly unjointed. In these plots, cutting at ground level seriously underestimated the Hessian fly infestation, because the most of the Hessian flies occurred at or below ground level. The estimate of infestation in plants with very few jointed stems came from plants that were dug, rather than stems that were cut off just above ground level.

²Plant health score based on visual rating of plant health on a scale of 1-6 where 6 = excellent, 5=very good, 4=good,3=fair,2=poor, 1=very poor

What do the plant health scores mean?

Examining stems to see if they are infested with Hessian fly is a time consuming process. Therefore, stems were evaluated in only one replication. General plant health was estimated for all three replications.

Were the plant health scores related to Hessian fly infestation? The Hessian fly pressure in the Headland Small Grain Variety Tests was so severe that, with two exceptions, plots given a health rating of very poor (1) to fair (3) had very high infestations of Hessian flies (see results from Rep 1 graphed below). The two exceptions were triticale RS12-2765 and wheat McNair 701. These varieties had poor to fair plant health that was unrelated to Hessian fly. Plots given a rating of 5 or 6 (very good to excellent) were plots that had low numbers of Hessian flies. Plots given a rating of 4 could have many Hessian flies or few Hessian flies.



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Varieties with very low average scores (3 or less) were probably heavily infested with Hessian flies, with the exception of triticale RS1202765 and wheat McNair 70. Varieties with very high average scores (5 or greater) probably had lower infestations of Hessian fly. In the graph below, the average health score (3 reps) is plotted against the percent of infested stems in Rep 1. The exceptions were circled in red (RSI 202765), and circled in blue (Jamestown).

