

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE

and

Cooperating State Agricultural Experiment Stations

2006-07

UNIFORM WINTER OAT TRIAL

Final Report

Coordinator: David Marshall/Myron Fountain

This is a joint progress report of cooperative investigations underway in the Agricultural Research Service of the U. S. Department of Agriculture and the State Agricultural Experiment Stations containing preliminary data which have not been sufficiently confirmed to justify general release; interpretations may be modified with additional experimentation. Confirmed results will be published through established channels. This report is primarily a tool for use by cooperators and those persons having direct and special interest in the development of agricultural research programs. This report includes data furnished by the State Agricultural Experiment Stations and is not intended for publication and should not be referred to in literature citations or quoted in publicity or advertising. Use of the data may be granted for certain purposes upon written request to the agency or agencies involved.

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The purpose of the Uniform Winter Oat Trial (UWOT) is to evaluate winter-habit (fall-sown) oat advanced lines for adaptation to those areas in the United States where winter oats are grown commercially. Twenty-four entries were submitted from the publicly funded oat breeding programs in Arkansas, Florida, Louisiana, North Carolina, South Carolina, and Texas. The 2006-07 UWOT was grown at 17 locations; 1 in Alabama, 1 in Arkansas, 1 in Delaware, 1 in Florida, 2 in Georgia, 1 in Louisiana, 1 in Minnesota, 1 in Mississippi, 4 in North Carolina, 2 in South Carolina, and 2 in Texas.

Prattville, AL: Drought conditions throughout most of growing season. All entries had small amount of leaf spot. Plot size=95ft²; Reps=3; Planting date=21 Nov 2006; Harvest date=31 May 07. Cooperator-K.Glass

Stuttgart, AR: Plots experienced a late freeze in early April. Plot size-70ft²; Reps-3; Planting date-24 Oct 06; Harvest date-30 May 07. Cooperators-R.Bacon & J.Kelly

Sussex, DE: Very wet fall, dry May and June. Plot size-56.25ft²; Reps-3; Planting date-28 Oct 06; Harvest date-25 May 07. Cooperator-B.Uniatowski

Quincy, FL: Very dry, warm growing season; very little disease development. Plot size-44ft²; Reps-3 (1 rep harvested); Planting date-7 Dec 06; Harvest date-25 May 07. Cooperators-R. Barnett & A. Blount

Griffin, GA: Preplant-20 lb/a N; Topdress-65 lb/a N; severe freeze damage occurred. Plot size-50ft²; Reps-3; Planting date-1 Nov 06; Harvest date-30 May 07. Cooperators-J.Johnson, D.Bland, J.Buck, J.Youmans, & L.Miranda

Plains, GA: Plot size-50ft²; Reps-2; Planting date-15 Nov 06; Harvest date-23 May 07. Cooperators-J.Johnson, D.Bland, J.Buck, J.Youmans, & L.Miranda

Baton Rouge, LA: Very warm winter, very wet January (12") and dry spring. Light and relatively non-virulent crown rust and heavy stem rust (included new virulence); 0.35 oz/acre Amber herbicide plus Harmony Extra, 0-0-60 preplant fertilizer, 46-0-0 + 23-0-0-4 topdress N 2/6 & 2/19/07. Plot size-70ft²; Reps-3; Planting date-21 Nov 06; Harvest date-12 May 07; Cooperators-S.Harrison, K.Arceneaux, G.Schexnayder

St. Paul, MN (Buckthorn Nursery): Crown rust nursery, Reps=2. Cooperators-M.Carson, J.Ochocki

Newton, MS: No lodging. Plot size-80ft²; Reps-4; Planting date-14 Nov 06; Harvest date-24 May 07. Cooperator-B.White

Kinston, NC: Very wet fall; mild winter though mid-January then extended cold period; freeze at early heading did not seem to impact oats as much as it did wheat; overall, a very nice looking experiment. Plot size-55ft²; Reps-2; Planting date-25 Oct 06; Harvest date-2 Jun 07. Cooperator-P.Murphy

Laurel Springs, NC: Winterkill nursery location in mountain region (elevation 3000ft); mild temperatures during most of winter, cold temps during Dec/Jan. Plot size-18ft²; Reps-2; Planting date-2 Oct 06; Harvest date-23 Jul 07. Cooperators-M. Fountain, D.Marshall.

Salisbury, NC: Not harvested due to severe ryegrass infestation. Cooperator-M. Fountain, D.Marshall.

Waynesville, NC: Not harvested due to severe damage from freeze during early April. Screening nursery for winter kill (elevation=2,500 ft). Warm fall, cold Jan. Plot size=20ft²; 2 rep; Planted=5 Oct 06. Cooperators-M.O.Fountain, D.S. Marshall.

Clemson, SC: No data reported. Cooperator-B.Edge

Florence, SC: No data reported. Cooperator-B.Edge

College Station, TX: Dry fall; wet Jan; very dry Feb; wet spring; minimal seed weathering; very heavy crown and stem rust; no winter kill. Plot size-47.25ft²; Reps-3; Planting date-4 Nov 06; Harvest date-17 May 07. Cooperator-R.Herrington

Prosper, TX: No data reported. Cooperator-R.Sutton

USDA-ARS Uniform Winter Oat Trial 2006-07

<i>Entry</i>	<i>Designation</i>	<i>Pedigree</i>	<i>Origin</i>	<i>Seed Source</i>	<i>Yrs in Trial</i>
1	Rodgers	Coker 80-33/NC81-376 (=PI593020)	NC	ARS	9
2	TAM-O-397	C75-12/4/Coker227/Coker234/3/TAM-O-301/TAM-O-312//CI9221/5/TAM-O-312/Coker227 (=TX92M1096)	TX	ARS	9
3	Harrison	C74C70/Florida 502 (=PI590937)	AR	ARS	9
4	Horizon 321	Coker75-26/CI8341/4/Coker76-19/Coker75-27*2/3/Coker75-26//Coker76-23/CI8322/5/Horizon 314 (=FL9708-P37)	FL	ARS	2*
5	FL99153FBS-45-1-B-S-B-	TX95C3147/FL98007 F1(SC 942283/UFRGS 940556)	LA	LA	1
6	FL99212-D6	UFRGS 921260/FL98091 F1 (P8674B1-2-4-2-5/TX97C1130)	FL	ARS	2
7	Horizon 201	FL92OHR35183-Y1/TX96M1384 (=FL99201-D29-E1)	FL	ARS	2
8	FL0048-H23	FL92OHR28151-G10-A3/TX95C3147	FL	FL	1
9	FL0105-H3	TX97C1168/IA 91462-45-1-6	FL	FL	1
10	FL99106-H4	FL97OHR29,322-G2 (FLX500-1-B2)/FL98067 F1 (TAMO 397/IA L24-5)	FL	FL	1
11	LA99016SBSB-98-S	TX96M1385/SECTLA495	LA	ARS	3
12	LA9917SBSBSB-31-B-S-B-S1	TX96M1385/LA604	LA	ARS	2
13	LA02030-S-B-5-S2	LA966BIB77/TX96M1398	LA	ARS	2
14	LA99017SBSBSB-275-C-B-S2	TX96M1385/LA604	LA	LA	1
15	LA9911SBSBSB-45-B-S-B-	LA90104C22-4-1-3/MN97SA155	LA	LA	1
16	NC02-8037	NC90-7070/TX89D7213//RODGERS	NC	NC	2
17	NC02-8057	NC90-7070/TX89D7213//RODGERS	NC	NC	2
18	NC02-8331	NC93-2978 / FL874S1G3 // ARFOB3D	NC	NC	1
19	NC02-8342	NC93-2978 / NC92-6048 // FL920HR28078	NC	NC	1
20	SC010907	Coker 84-15//Coker 78-28/Coker 79-26 (hulless)	SC	SC	1
21	SC010909	Coker 84-15//Coker 78-28/Coker 79-26 (hulless)	SC	SC	1
22	TX02U7682	TAMO386ERB/TX83Ab2923	TX	ARS	2
23	TX02U7473	TX94Ab343(TAMO397 sib)/TAMO386ERB	TX	ARS	2
24	TX02U7325	UFRGS Q120101-4/TAMO386ERB/92SAT24-4	TX	TX (Rex)	1

Seed requirements: AL(360g); AR(200g); DE(250g); FL(300g); GA(300g); LA(225g); MN(50g); MS(300g); NC-Paul(150g); NC-USDA(525g); SC(300g); TX-CS(300g); TX-Dal(150g); = 3,360g

* Horizon 321 was tested in the UWOYT from 2002-2004 as FL9708-P37.

Cooperators - 2006-07 Uniform Winter Oat Trial

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2006-07 Uniform Winter Oat Trial

Mean across locations

Entry	Designation	Yield		TW	Heading	Height	Lodging	Crown Rust			Stem Rust	BYDV	Phenotype				Groat	Protein	β-glucan	Lipid
		bu/a	rank					lb/bu	Julian	in			0-9	Saint Paul, MN						
		bu/a	rank	lb/bu	Julian	in	0-9	15-Jun	22-Jun	29-Jun	0-9	0-9	0-9	0-9	0-9	0-9	0-9	%	%	%
7	Horizon 201	126.5	1	32.1	95	46	1	TraceS	TraceS	5S	3	2	4	5	4	4	69	14.36	4.68	8.20
6	FL99212-D6	123.7	2	33.5	98	40	0	TraceS	1S	4S	4	2	5	3	4	3	65	17.78	3.23	6.20
22	TX02U7682	118.8	3	33.9	91	40	1	TraceS	1S/MR	4S	1	2	4	4	7	6	68	17.61	3.74	7.52
15	LA9911SBSBSB-45-B-S-B-	117.1	4	34.5	100	40	0	TraceS	4S	60S	1	1	5	3	8	7	63	16.37	4.28	6.30
24	TX02U7325	116.6	5	32.0	90	36	1	TraceR	1MS/S	4MS/S	0	4	4	6	3	2	64	17.73	4.21	6.17
5	FL99153FBS-45-1-B-S-B-	116.2	6	34.6	97	40	1	Trace S	1S	10S	2	2	3	6	2	3	67	17.04	5.01	6.75
12	LA9917SBSBSB-31-B-S-B-S1	115.2	7	33.1	99	44	0	0	1S	4S	2	1	4	6	7	4	70	16.09	4.71	7.31
8	FL0048-H23	113.2	8	33.1	92	35	5	TraceS	2S	7S	4	4	4	5	4	3	66	16.05	5.30	7.08
11	LA99016SBSB-98-S	113.1	9	33.2	96	45	0	TraceS	1S	4S	1	1	4	5	7	6	69	16.09	4.73	7.15
17	NC02-8057	112.6	10	35.4	97	38	3	3S	50S	80S	2	1	4	8	2	2	65	17.80	4.64	6.94
23	TX02U7473	111.8	11	34.1	91	42	1	TraceMS/MR	2MS/S	7S	0	2	4	4	7	6	69	17.25	4.02	6.27
4	Horizon 321	111.2	12	35.0	97	38	1	5S	35S	80S	3	1	5	5	8	6	71	17.31	4.17	8.73
18	NC02-8331	111.2	13	30.7	101	35	4	20S	80S	Dead	4	1	6	7	4	2	62	16.46	4.51	7.55
14	LA99017SBSBSB-275-C-B-S2	110.8	14	32.5	96	45	0	0	2S	4S	1	1	4	6	7	4	69	17.27	4.69	7.67
13	LA02030-S-B-5-S2	110.3	15	32.1	92	38	0	0	1S	2S	1	2	4	4	8	5	68	15.83	5.23	7.11
3	Harrison	109.5	16	34.6	95	45	4	4S	10S	40S	5	1	4	6	3	2	69	17.44	4.67	5.99
1	Rodgers	109.4	17	31.2	97	43	3	10S	60S	Dead	3	1	5	6	3	3	66	16.08	4.46	7.30
16	NC02-8037	109.0	18	33.6	96	38	3	7S	50S	Dead	3	2	4	8	3	3	67	17.73	4.42	7.39
19	NC02-8342	108.9	19	33.4	97	38	4	15S	40S	Dead	4	1	5	6	3	3	63	18.22	4.62	8.70
10	FL99106-H4	100.6	20	32.5	99	41	1	TraceS	1S	3S	1	2	4	6	7	6	71	14.72	4.93	8.28
2	TAM-O-397	99.6	21	31.5	94	43	1	0	1S	2S	1	1	4	5	7	5	64	16.71	3.87	6.62
9	FL0105-H3	99.2	22	30.9	93	44	1	1S	2S	7S	1	2	5	4	4	5	65	14.42	4.20	4.44
21	SC010909 (hullless)	89.4	23	32.7	100	46	4	20S	70S	Dead	3	1	4	7	3	3	85	14.87	5.46	8.57
20	SC010907 (hullless)	88.0	24	34.0	99	45	3	17S	60S	Dead	3	1	5	7	4	3	87	14.94	5.31	8.71
	Starter (local check)							20S	40S	Dead										
	Portage (local check)							5S	20S	80S										
	MN841801 (local check)							1MS/S	3MS/S	30S										
	Mean	110.1		33.1	96	41	2				2	1	4	5	5	4	68	16.51	4.54	7.20
	CV (%)	15.7		6.8	3	5	123				72	77	11	11	14	16	4	8.45	17.72	6.68
	LSD (0.05)	16.1		2.1	3	2	4				3	2	1	1	1	1	4	1.97	1.14	0.68
	R ²	0.88		0.73	0.89	0.90	0.58				0.75	0.70					0.91	0.90	0.38	0.87
	Number of locations	9		9	7	8	3				3	2	1	1	1	1	4	4	4	4

GRAIN YIELD

Entry	Designation	Prattville, AL		Stuttgart, AR		Sussex, DE		Quincy, FL		Griffin, GA*		Plains, GA		B' Rouge, LA		Newton, MS		Kinston, NC		C' Station, TX		9-location mean	
		bu/a	rank	bu/a	rank	bu/a	rank	bu/a	rank	bu/a	rank	bu/a	rank	bu/a	rank	bu/a	rank	bu/a	rank	bu/a	rank	bu/a	rank
1	Rodgers	81.8	14	115.9	15	180.3	1	104.0	7	18.5	22	71.9	9	100.4	19	75.7	5	215	8	39.8	21	109.4	17
2	TAM-O-397	67.2	21	128.4	14	129.4	22	80.6	19	22.4	17	72.5	7	101.9	17	55.5	19	174	24	87.0	15	99.6	21
3	Harrison	100.6	4	109.8	18	155.8	17	108.6	6	25.1	13	62.6	21	105.4	15	63.6	14	214	9	65.2	18	109.5	16
4	Horizon 321	72.4	19	109.3	19	164.5	11	88.2	18	20.4	19	63.8	18	120.4	8	68.5	11	212	10	101.8	11	111.2	12
5	FL99153FBS-45-1-B-S-B-	95.9	6	137.0	8	165.4	10	90.6	16	25.3	12	72.1	8	118.3	9	71.7	9	208	13	87.2	14	116.2	6
6	FL99212-D6	100.6	3	151.6	2	169.5	8	93.6	13	35.3	1	80.4	1	121.6	6	74.0	7	220	5	102.8	10	123.7	2
7	Horizon 201	108.5	1	135.2	10	178.9	2	99.7	9	25.4	11	57.1	23	134.9	1	70.0	10	220	4	134.2	1	126.5	1
8	FL0048-H23	91.7	9	105.6	21	145.1	20	111.4	3	26.2	8	80.2	2	101.3	18	66.2	12	223	3	94.8	13	113.2	8
9	FL0105-H3	71.8	20	130.8	11	113.9	24	78.2	20	18.5	23	76.4	4	91.5	21	53.1	21	182	21	95.8	12	99.2	22
10	FL99106-H4	67.0	22	91.7	24	166.7	9	69.0	22	23.5	16	78.4	3	109.1	12	72.6	8	175	23	75.8	16	100.6	20
11	LA99016SBSB-98-S	84.5	13	136.8	9	171.6	7	93.8	12	20.3	20	51.4	24	133.9	2	51.6	23	187	19	107.5	5	113.1	9
12	LA9917SBSBSB-31-B-S-B-S1	88.0	11	114.7	16	174.6	5	110.0	5	19.0	21	63.6	19	127.3	3	59.6	15	196	16	103.3	9	115.2	7
13	LA02030-S-B-5-S2	78.1	18	139.6	5	146.3	19	99.0	10	27.8	7	65.7	17	113.0	11	57.4	17	187	20	106.6	6	110.3	15
14	LA99017SBSBSB-275-C-B-S2	79.2	17	112.3	17	174.3	6	89.5	17	18.3	24	59.1	22	126.5	4	57.5	16	195	17	103.7	8	110.8	14
15	LA9911SBSBSB-45-B-S-B-	97.0	5	138.3	7	143.1	21	110.6	4	21.4	18	67.0	16	124.6	5	77.6	3	191	18	105.2	7	117.1	4
16	NC02-8037	95.5	7	144.5	3	159.4	15	97.6	11	30.7	6	63.6	20	96.6	20	75.7	4	208	11	40.0	20	109.0	18
17	NC02-8057	81.2	15	138.6	6	163.1	13	91.9	14	25.8	10	71.8	10	107.2	13	79.0	2	215	6	65.3	17	112.6	10
18	NC02-8331	91.1	10	154.9	1	163.8	12	91.8	15	33.2	3	70.9	11	89.6	22	84.7	1	237	1	17.0	23	111.2	13
19	NC02-8342	92.8	8	95.0	23	175.0	4	101.4	8	31.1	5	68.9	13	104.6	16	74.9	6	215	7	52.8	19	108.9	19
20	SC010907 (hulless)	52.9	23	107.7	20	159.2	16	62.5	24	34.9	2	68.4	15	63.5	24	53.5	20	208	12	16.1	24	88.0	24
21	SC010909 (hulless)	44.4	24	97.1	22	175.8	3	63.7	23	25.0	15	70.7	12	71.5	23	53.0	22	207	14	21.3	22	89.4	23
22	TX02U7682	80.3	16	141.4	4	163.1	14	119.2	1	25.9	9	68.6	14	120.8	7	49.3	24	200	15	126.5	2	118.8	3
23	TX02U7473	103.4	2	128.7	13	123.8	23	115.8	2	25.1	14	75.1	6	106.7	14	55.9	18	178	22	118.8	3	111.8	11
24	TX02U7325	87.0	12	130.3	12	152.3	18	76.9	21	32.3	4	76.1	5	117.1	10	64.0	13	229	2	116.4	4	116.6	5
	Mean	83.9		124.8		158.1		93.7		25.5		69.0		108.7		65.2		203.9		82.7		110.1	
	CV (%)			13.7		8.9				21.3		12.5		6.0		10.1		7.6		10.1		15.7	
	LSD (0.05)			28.2		24.5				8.9		17.8		9.0		9.2		32		13.7		16.1	
	R ²																						0.88

* 9-location mean does not include data from Griffin, GA

		TEST WEIGHT (lb/bu)									
Entry	Designation	Prattville AL	Stuttgart AR	Sussex DE	Quincy FL	Griffin GA	Plains GA	B' Rouge LA	Kinston NC	C' Station TX	9-location mean
1	Rodgers	31.4	36.7	33.7	33.3	30.4	30.5	30.3	36.4	18.0	31.2
2	TAM-O-397	30.6	34.1	30.1	32.0	29.8	33.3	30.7	35.7	27.5	31.5
3	Harrison	35.4	37.2	36.0	35.8	34.0	36.2	34.0	39.1	23.5	34.6
4	Horizon 321	34.3	37.7	35.9	34.6	34.1	37.0	34.9	38.7	28.0	35.0
5	FL99153FBS-45-1-B-S-B-	35.7	36.1	36.1	33.3	34.7	34.7	34.8	37.4	29.0	34.6
6	FL99212-D6	33.4	36.0	34.7	34.6	34.1	34.2	32.2	37.9	24.5	33.5
7	Horizon 201	32.2	34.1	30.8	33.3	29.2	34.8	33.3	33.8	27.5	32.1
8	FL0048-H23	34.6	35.4	32.9	33.3	33.4	34.8	31.7	37.2	24.5	33.1
9	FL0105-H3	31.2	34.4	30.4	30.7	27.5	33.1	30.5	34.2	26.0	30.9
10	FL99106-H4	32.0	34.9	33.3	33.3	33.6	34.4	31.9	36.2	23.0	32.5
11	LA99016SBSB-98-S	32.7	36.2	33.0	35.8	27.6	33.9	34.9	36.5	28.5	33.2
12	LA9917SBSBSB-31-B-S-B-S1	32.2	36.0	33.8	35.8	27.5	33.4	35.0	36.4	28.0	33.1
13	LA02030-S-B-5-S2	31.6	36.4	29.6	33.3	30.4	31.9	32.9	34.5	28.5	32.1
14	LA99017SBSBSB-275-C-B-S2	31.8	34.5	31.5	32.0	29.7	33.8	34.3	35.7	29.0	32.5
15	LA9911SBSBSB-45-B-S-B-	33.2	36.3	34.3	34.6	35.1	34.4	35.1	38.0	29.5	34.5
16	NC02-8037	34.9	36.8	35.2	33.3	34.1	35.2	33.0	37.0	22.5	33.6
17	NC02-8057	35.4	39.3	35.6	35.8	36.4	36.5	34.5	39.8	25.0	35.4
18	NC02-8331	31.4	35.5	31.8	29.4	35.2	31.4	30.0	36.2	15.0	30.7
19	NC02-8342	34.8	36.3	35.3	33.3	35.5	34.4	30.6	39.4	21.0	33.4
20	SC010907 (hulless)	32.3	37.6	29.0	35.8	39.4	42.1	28.6	41.3	19.5	34.0
21	SC010909 (hulless)	32.5	32.7	28.6	38.4	37.3	37.4	27.8	40.9	19.0	32.7
22	TX02U7682	33.6	36.6	34.5	34.6	30.1	35.8	32.3	37.6	30.0	33.9
23	TX02U7473	32.7	38.1	32.3	34.6	34.8	36.0	32.3	36.8	29.0	34.1
24	TX02U7325	32.0	36.5	31.4	30.7	29.3	34.0	30.4	35.7	28.0	32.0
	Mean	33.0	36.1	32.9	33.8	32.6	34.7	32.3	37.1	25.2	33.1
	CV (%)		3.5					1.9	1.7		6.8
	LSD (0.05)		2.1					0.8	1.3		2.1
	R ²										0.73

DAYS TO HEADING (JULIAN)									
Entry	Designation	Prattville	Stuttgart	Quincy	Plains	B' Rouge	Kinston	C' Station	7-location
		AL	AR	FL	GA	LA	NC	TX	mean
1	Rodgers	106	96	91	93	94	106	91	97
2	TAM-O-397	104	89	92	91	91	103	88	94
3	Harrison	105	92	87	93	91	105	93	95
4	Horizon 321	108	92	92	94	93	110	92	97
5	FL99153FBS-45-1-B-S-B-	104	92	94	94	93	105	94	97
6	FL99212-D6	107	96	94	95	92	107	92	98
7	Horizon 201	103	92	91	90	90	105	92	95
8	FL0048-H23	107	87	83	90	89	97	89	92
9	FL0105-H3	102	89	84	91	88	106	91	93
10	FL99106-H4	106	106	92	96	93	109	93	99
11	LA99016SBSB-98-S	102	92	92	93	91	107	94	96
12	LA9917SBSBSB-31-B-S-B-S1	104	102	92	93	93	110	96	99
13	LA02030-S-B-5-S2	103	89	85	91	88	100	91	92
14	LA99017SBSBSB-275-C-B-S2	102	87	92	94	93	108	98	96
15	LA9911SBSBSB-45-B-S-B-	106	98	92	104	93	111	96	100
16	NC02-8037	106	92	93	94	93	105	92	96
17	NC02-8057	106	96	92	95	93	108	91	97
18	NC02-8331	108	108	92	97	94	112	95	101
19	NC02-8342	106	92	95	94	93	107	93	97
20	SC010907	107	102	92	96	94	111	94	99
21	SC010909	106	104	95	96	94	109	93	100
22	TX02U7682	103	89	84	90	87	95	87	91
23	TX02U7473	103	85	82	89	87	104	88	91
24	TX02U7325	104	87	82	91	86	96	87	90
	Mean	105	94	90	94	91	105	92	96
	CV (%)					1	1		3
	LSD (0.05)					1	2		3
	R ²								0.89

		HEIGHT								
		Prattville	Stuttgart	Sussex	Plains	B' Rouge	Newton	Kinston	C' Station	8-location
Entry	Designation	AL	AR	DE	GA	LA	MS	NC	TX	mean
		in	in	in	in	in	in	in	in	in
1	Rodgers	44	47	36	48	47	34	42	49	43
2	TAM-O-397	40	48	36	47	47	32	42	49	43
3	Harrison	44	50	38	49	47	38	42	54	45
4	Horizon 321	37	44	33	41	40	32	36	40	38
5	FL99153FBS-45-1-B-S-B-	39	45	35	42	46	29	40	42	40
6	FL99212-D6	40	46	39	42	44	28	35	49	40
7	Horizon 201	46	49	39	48	52	33	43	54	46
8	FL0048-H23	36	43	29	40	37	26	32	38	35
9	FL0105-H3	45	46	37	48	48	35	43	49	44
10	FL99106-H4	39	46	36	46	44	33	38	46	41
11	LA99016SBSB-98-S	45	49	38	48	50	33	43	51	45
12	LA9917SBSBSB-31-B-S-B-S1	44	50	32	47	52	31	41	52	44
13	LA02030-S-B-5-S2	37	41	31	36	46	31	33	47	38
14	LA99017SBSBSB-275-C-B-S2	46	44	35	47	52	38	44	55	45
15	LA9911SBSBSB-45-B-S-B-	40	43	32	43	43	34	38	44	40
16	NC02-8037	38	42	31	41	42	29	35	42	38
17	NC02-8057	39	40	34	42	43	32	34	42	38
18	NC02-8331	35	42	33	39	35	26	31	36	35
19	NC02-8342	38	42	35	40	39	30	35	45	38
20	SC010907	47	50	36	49	48	36	44	51	45
21	SC010909	44	49	37	49	49	36	46	54	46
22	TX02U7682	40	43	33	47	43	31	37	47	40
23	TX02U7473	41	40	33	46	49	33	39	52	42
24	TX02U7325	35	40	31	37	40	30	31	46	36
Mean		41	45	35	44	45	32	39	47	41
CV (%)								4		5
LSD (0.05)								3		2
R ²										0.90

LODGING						
<i>Entry</i>	<i>Designation</i>	<i>Plains</i>	<i>Plains</i>	<i>B' Rouge</i>	<i>C' Station</i>	<i>3-location</i>
		<i>GA</i>	<i>GA</i>	<i>LA</i>	<i>TX</i>	<i>mean</i>
		<i>%</i>	<i>0-9</i>	<i>0-9</i>	<i>0-9</i>	<i>0-9</i>
1	Rodgers	0	0	1	9	3
2	TAM-O-397	0	0	1	2	1
3	Harrison	0	0	3	8	4
4	Horizon 321	0	0	2	1	1
5	FL99153FBS-45-1-B-S-B-	0	0	1	2	1
6	FL99212-D6	0	0	1	0	0
7	Horizon 201	10	1	1	0	1
8	FL0048-H23	20	2	5	8	5
9	FL0105-H3	0	0	2	0	1
10	FL99106-H4	0	0	1	3	1
11	LA99016SBSB-98-S	0	0	1	0	0
12	LA9917SBSBSB-31-B-S-B-S1	0	0	1	0	0
13	LA02030-S-B-5-S2	0	0	1	0	0
14	LA99017SBSBSB-275-C-B-S2	0	0	1	0	0
15	LA9911SBSBSB-45-B-S-B-	0	0	1	0	0
16	NC02-8037	0	0	1	9	3
17	NC02-8057	0	0	1	8	3
18	NC02-8331	0	1	1	9	4
19	NC02-8342	10	1	1	9	4
20	SC010907	0	0	1	9	3
21	SC010909	0	0	2	9	4
22	TX02U7682	0	0	1	1	1
23	TX02U7473	0	0	2	2	1
24	TX02U7325	0	0	2	2	1
	<i>Mean</i>	2	0	1	4	2
	<i>CV (%)</i>			38		123
	<i>LSD (0.05)</i>			1		4
	<i>R²</i>					0.58

DISEASE AND OTHER TRAITS

Entry	Designation	DISEASE AND OTHER TRAITS																
		Crown Rust					Stem Rust					BYDV		Phenotype*	Growth Habit**	Winter Stress***	Freeze Damage	
		Quincy FL 0-9	B' Rouge LA %	Saint Paul MN			C' Station TX %	Quincy FL 0-9	B' Rouge LA 0-9	C' Station TX 0-9	3-location mean 0-9	Prattville AL 0-9	Quincy FL 0-9	2-location mean 0-9	Baton Rouge LA 0-9	B' Rouge LA 0-9	B' Rouge LA 0-9	Kinston NC 0-9
1	Rodgers	3	9	10S	60S	Dead	100	0	5	5	3	1	1	1	5	6	3	3
2	TAM-O-397	1	0	0	1S	2S	50	0	1	2	1	1	1	1	4	5	7	5
3	Harrison	2	0	4S	10S	40S	10	0	6	9	5	1	0	1	4	6	3	2
4	Horizon 321	2	0	5S	35S	80S	5	0	1	7	3	1	0	1	5	5	8	6
5	FL99153FBS-45-1-B-S-B-	0	0	Trace S	1S	10S	0	0	2	5	2	1	2	2	3	6	2	3
6	FL99212-D6	0	0	TraceS	1S	4S	0	0	3	8	4	2	2	2	5	3	4	3
7	Horizon 201	0	0	TraceS	TraceS	5S	0	0	3	6	3	1	2	2	4	5	4	4
8	FL0048-H23	0	0	TraceS	2S	7S	0	0	5	8	4	6	2	4	4	5	4	3
9	FL0105-H3	0	0	1S	2S	7S	5	0	1	1	1	3	1	2	5	4	4	5
10	FL99106-H4	0	2	TraceS	1S	3S	50	0	1	3	1	1	2	2	4	6	7	6
11	LA99016SBSB-98-S	0	0	TraceS	1S	4S	0	0	1	1	1	1	0	1	4	5	7	6
12	LA9917SBSBSB-31-B-S-B-S1	0	0	0	1S	4S	0	0	1	4	2	1	1	1	4	6	7	4
13	LA02030-S-B-5-S2	0	0	0	1S	2S	0	0	1	1	1	3	0	2	4	4	8	5
14	LA99017SBSBSB-275-C-B-S2	0	0	0	2S	4S	0	0	1	1	1	1	0	1	4	6	7	4
15	LA9911SBSBSB-45-B-S-B-	0	0	TraceS	4S	60S	0	0	1	1	1	2	0	1	5	3	8	7
16	NC02-8037	0	2	7S	50S	Dead	100	0	4	?-dead-CR	3	2	1	2	4	8	3	3
17	NC02-8057	1	2	3S	50S	80S	90	0	3	4	2	2	0	1	4	8	2	2
18	NC02-8331	3	1	20S	80S	Dead	100	0	7	?-dead-CR	4	1	0	1	6	7	4	2
19	NC02-8342	0	3	15S	40S	Dead	100	0	5	7	4	2	0	1	5	6	3	3
20	SC010907	3	2	17S	60S	Dead	100	2	2	6	3	1	0	1	5	7	4	3
21	SC010909	3	5	20S	70S	Dead	80	0	3	6	3	1	0	1	4	7	3	3
22	TX02U7682	0	0	TraceS	1S/MR	4S	0	0	1	1	1	4	0	2	4	4	7	6
23	TX02U7473	0	0	TraceMS/MR	2MS/S	7S	0	0	0	1	0	3	0	2	4	4	7	6
24	TX02U7325	0	0	TraceR	1MS/S	4MS/S	0	0	0	1	0	5	2	4	4	6	3	2
	Starter (local check)			20S	40S	Dead												
	Portage (local check)			5S	20S	80S												
	MN841801 (local check)			1MS/S	3MS/S	30S												
	Mean	1	1				33	0	2	4	2	2	1	1	4	5	5	4
	CV (%)		212						42		72		77	11	11	14	16	
	LSD (0.05)		3						2		3		2	1	1	1	1	1
	R ²										0.75		0.70					

* Phenotype: 0 = excellent visual appearance; 5 = average; 9 = very poor.

** Growth habit is amount of growth in February where 0 = very upright spring and 9 = very prostrate winter.

*** Winter stress is a visual rating of degree of red/purpling taken on Feb 11, after a very wet January. 0 = dark green with no discoloration; 5 = mostly green with some discoloration; 9 = completely orange foliage with no green tissue.

Probably a combination of waterlogging, cold, and P-deficiency. Very striking differences.

Entry	Designation	GROAT PERCENT					PROTEIN PERCENT					β-GLUCAN PERCENT					LIPID PERCENT				
		Plains	B' Rouge	Kinston	L' Springs	4-location	Plains	B' Roug	Kinston	L' Springs	4-location	Plains	B' Rouge	Kinston	L' Springs	4-location	Plains	'Roug	Kinston	L' Springs	4-location
		GA	LA	NC	NC	mean	GA	LA	NC	NC	mean	GA	LA	NC	NC	mean	GA	LA	NC	NC	mean
1	Rodgers	59	57	74	72	66	21.74	10.45	16.94	15.17	16.08	4.08	5.95	4.36	3.44	4.46	6.95	8.07	7.24	6.93	7.30
2	TAM-O-397	61	61	63	70	64	20.08	10.42	19.33	17.01	16.71	3.76	2.97	4.25	4.49	3.87	6.46	6.74	6.05	7.23	6.62
3	Harrison	66	63	75	71	69	22.93	9.45	20.02	17.35	17.44	4.94	3.55	4.27	5.93	4.67	6.50	6.38	5.56	5.53	5.99
4	Horizon 321	67	64	77	74	71	20.88	12.76	18.03	17.57	17.31	4.32	3.59	4.23	4.54	4.17	9.42	9.43	7.54	8.54	8.73
5	FL99153FBS-45-1-B-S-B-	62	62	72	70	67	20.81	13.66	17.88	15.82	17.04	5.94	5.10	4.42	4.59	5.01	7.14	6.73	6.28	6.84	6.75
6	FL99212-D6	62	61	71	65	65	22.38	10.21	17.90	20.61	17.78	2.62	3.14	3.36	3.80	3.23	6.72	5.57	6.02	6.47	6.20
7	Horizon 201	69	62	69	74	69	18.88	9.47	14.40	14.69	14.36	6.12	4.48	4.06	4.06	4.68	8.80	8.74	7.57	7.67	8.20
8	FL0048-H23	66	60	71	68	66	20.04	10.34	16.94	16.87	16.05	5.43	5.32	5.00	5.43	5.30	7.33	7.81	5.97	7.20	7.08
9	FL0105-H3	63	58	69	69	65	21.35	7.08	13.94	-	14.42	4.88	4.03	3.70	-	4.20	4.87	4.57	4.14	-	4.44
10	FL99106-H4	68	62	77	77	71	19.35	9.11	16.02	14.39	14.72	3.39	5.60	5.17	5.55	4.93	8.66	8.84	7.67	7.93	8.28
11	LA99016SBSB-98-S	63	62	75	75	69	21.01	11.23	16.74	15.36	16.09	4.91	4.39	4.24	5.36	4.73	7.51	7.66	6.64	6.77	7.15
12	LA9917SBSBSB-31-B-S-B-S1	64	67	75	75	70	20.52	10.42	16.21	17.19	16.09	5.26	3.51	5.63	4.42	4.71	7.73	7.81	6.54	7.17	7.31
13	LA02030-S-B-5-S2	66	62	71	73	68	18.52	11.39	17.36	16.06	15.83	5.94	5.31	4.97	4.71	5.23	7.58	7.71	6.76	6.38	7.11
14	LA99017SBSBSB-275-C-B-S2	66	65	70	76	69	20.81	11.40	16.66	20.20	17.27	5.35	3.78	4.66	4.98	4.69	7.88	7.90	7.36	7.52	7.67
15	LA9911SBSBSB-45-B-S-B-	61	57	71	64	63	19.52	9.86	16.62	19.46	16.37	3.05	4.16	4.56	5.35	4.28	5.98	6.68	6.46	6.09	6.30
16	NC02-8037	67	60	70	72	67	21.40	11.79	18.75	18.97	17.73	5.00	4.12	5.13	3.41	4.42	7.89	8.18	7.07	6.41	7.39
17	NC02-8057	62	56	69	71	65	22.59	11.51	18.89	18.19	17.80	4.89	5.28	3.82	4.57	4.64	6.53	8.48	6.30	6.46	6.94
18	NC02-8331	60	50	69	70	62	21.00	13.01	15.48	16.33	16.46	4.61	4.20	5.34	3.90	4.51	7.67	8.69	7.11	6.73	7.55
19	NC02-8342	62	53	67	71	63	22.54	11.88	19.02	19.43	18.22	5.16	4.50	4.65	4.15	4.62	9.15	9.91	8.13	7.59	8.70
20	SC010907 (hulless)	91	76	89	92	87	17.73	10.62	14.68	16.73	14.94	5.73	5.78	5.26	4.46	5.31	9.08	9.34	7.73	8.70	8.71
21	SC010909 (hulless)	89	72	88	90	85	17.31	9.89	16.00	16.27	14.87	7.33	5.47	5.32	3.71	5.46	9.08	9.60	7.65	7.93	8.57
22	TX02U7682	66	61	72	71	68	20.32	14.02	17.07	19.02	17.61	3.26	3.81	4.13	3.74	3.74	7.79	7.84	7.21	7.22	7.52
23	TX02U7473	67	63	74	70	69	17.20	12.33	19.12	20.33	17.25	3.08	3.01	4.70	5.30	4.02	6.25	5.96	6.01	6.84	6.27
24	TX02U7325	65	58	65	68	64	20.96	11.71	19.08	19.15	17.73	3.24	3.57	5.10	4.92	4.21	6.25	5.62	6.21	6.58	6.17
	Mean	66	61	73	73	68	20.41	11.00	17.21	17.49	16.51	4.68	4.36	4.60	4.56	4.54	7.47	7.68	6.72	7.08	7.20
	CV (%)					4					8.45				17.72						6.68
	LSD (0.05)					4					1.97				1.14						0.68
	R ²					0.91					0.90				0.38						0.87