

SMALL GRAIN UPDATES

VARIETY RELEASES

Jerry W. Johnson, Department of Crop and Soil Sciences, Griffin Campus, Griffin, GA 30223-1797.

AGS 2031 is a high yielding, excellent high test weight, beardless, medium maturing, and short-medium height soft red winter wheat. It is resistant to current races of leaf and stripe rust, powdery mildew, and soil-borne mosaic virus but is susceptible to current biotypes of Hessian fly in Georgia.

SS 8641 is a high yielding, excellent high test weight, beardless, medium maturing, and medium-tall height soft red winter wheat. It is resistant to current races of leaf and stripe rust, powdery mildew and Hessian fly in Georgia. It also is resistant to soil-borne mosaic virus.

USG 3295 is a high yielding, excellent high test weight, beardless, medium maturing, and short-medium height soft red winter wheat. It is resistant to current races of leaf and stripe rust, powdery mildew, and soil-borne mosaic virus but is susceptible to current biotypes of Hessian fly in Georgia.

Trophy is a new winter oat variety that was co-developed by the Louisiana State University Agricultural Center (LSUAC) and University of Florida and released in 2005 under the SUNGRAINS cooperative small grain breeding program among five Southeastern Universities. Trophy has considerable potential for grain, forage, conservation tillage, and wildlife purposes in the Southern U.S. Trophy was tested as LA9810SBS-58. Exclusive marketing rights for Trophy have been licensed to Terral Seed Inc. of Lake Providence, LA. Trophy is a medium height oat with a semi-compact panicle and very large, plump kernels. Trophy has excellent grain yield, a very high test weight, very good straw strength, and is medium in maturity. It is resistant to prevalent races of crown rust but is susceptible to stem rust.

Horizon 270 is a new winter oat variety that was co-developed by the Louisiana State University Agricultural Center (LSUAC) and University of Florida and released in 2006 under the SUNGRAINS cooperative small grain breeding program among five Southeastern Universities. Horizon 270 has considerable potential for grain, forage, conservation tillage, and wildlife purposes in the Southern U.S. Horizon 270 was tested as LA96006BSB-270-S2. Exclusive marketing rights for Horizon 270 have been licensed to Plantation Seeds, Newton, GA. Horizon 270 is medium-short in height, has excellent grain yield, a good test weight, good straw strength, and is resistant to crown and stem rust. Horizon 270 is short and relatively early so it does not have extremely high forage potential. It does have good early-season forage potential and is competitive across the growing season.

Wheat releases by private companies for production in Georgia include: Coker 9700 and PIO 26R87.

DISEASES

John D. Youmans and James W. Buck, Department of Plant Pathology, Griffin Campus, Griffin, GA 30223-1797.

A mild winter promoted early infections of powdery mildew and disease pressure was at its greatest in Tifton. Plains also had an early infection. The dry weather ultimately held powdery mildew in check.

Stripe rust was found at Plains and the potential for an epidemic was averted with the warmer temperatures observed in the second week of March even though cooler than average temperatures were observed later in March and April. The USDA Stripe Rust Nursery was screened in Griffin and some resistance was identified. With the susceptibility of most production varieties, scouting and understanding the growing season will be key in preventing future epidemics.

The cooler temperatures in late winter along with some soil moisture provided the opportunity for soilborne mosaic virus to develop at Plains and by early February stunting and yellowing were observed. AGS 2000, one of the more widely grown production varieties, is susceptible and mosaic virus was observed.

In a surprising turn of events, since the fall winter conditions were so dry, the aphid populations increased and spring infections of Barley Yellow Dwarf Virus (BYDV) were observed. Griffin, Plains, and Tifton had moderate pressure. The Calhoun location, which usually has some of the highest BYDV in the state, had almost none.

The relatively cool and dry grain-filling period of April held back wheat leaf rust. Leaf rust did increase late in the season but did not affect yields. Oat crown rust was almost non-existent thanks again to the dry conditions.

The upper and lower coastal plains which escaped freeze damage had surprisingly good yields. Low overall disease pressure and dry conditions produced low moisture and high test weight wheat.

INSECTS

G. David Buntin, Department of Entomology, Griffin Campus, Griffin, GA 30223-1797.

The variety test was planted in the fall of 2006 at the Southwest Branch Experiment Station near Plains and was sampled for Hessian fly, *Mayetiola destructor*, infestations in late April and early May, 2007. Wheat entries also were evaluated at the Bledsoe Research Farm near Griffin. Results are shown in the next table. Several wheat varieties showed good levels of Hessian fly resistance at Plains including AGS 2000, AGS 2010, AGS 2060, Jamestown, Pioneer 26R31 and 26R61, NK-Coker 9152, USG 3665, SS 8641, and a number of experimental lines. 'Roberts' and 'Fleming' contain resistance genes but are susceptible in Georgia and will not stand up to a heavy infestation. Varieties with good resistance in southern Georgia may not be resistant in northern Georgia because of the presence of biotype L in northern Georgia. The only currently available variety with biotype L resistance is 'Pioneer 26R61'. Rye and oats also are good hessian-fly resistant alternatives to wheat for forage production, because rye is highly resistant and oats are immune to the insect.

Warm weather encouraged aphid populations in the fall months throughout the state. Aphids caused direct injury to wheat and also transmit barely yellow dwarf virus (BYDV). Nevertheless, BYDV infection generally was not severe throughout the state. Although the level of expression of symptoms varies between varieties, no varieties are fully resistant or tolerant of BYDV infection. Systemic insecticide seed treatments and properly timed foliar applications of insecticides can reduce aphid numbers and minimize BYDV incidence.

Consult your local county extension agent and 2007 Georgia Pest Management handbook for a list of recommended insecticides and for management practice for these and other insect pests of small grains.

**Hessian fly infestations in wheat entries in the 2006-2007
Georgia State Small Grain Variety Test,
Plains and Griffin, Georgia**

Brand-Variety	Plains		Griffin	
	% infested	No./stem	% infested	No./stem
Chesapeake	61.7*	1.37*	36.7*	0.55*
AGS 2031 (GA951395-3A31)	51.7*	0.77*	10.0	0.12
Pioneer 26R87	41.7*	0.82*	11.7*	0.48*
Dominion	38.3*	0.68*	30.0*	0.43*
USG 3295	38.3*	0.63*	10.0	0.12
McIntosh	36.7*	0.67*	3.3	0.03
VA 02W-555	36.7*	0.58*	5.0	0.08
Roberts	35.0*	0.65*	16.7*	0.20
LA978UC-101-1-1-1-C	35.0*	0.42*	8.3	0.10
GA991109-6A7	28.3*	0.40*	8.3	0.22
SS 520	28.3*	0.72*	5.0	0.05
Panola	25.0*	0.42*	8.3	0.10
USG 3477	23.3*	0.25	51.7*	0.90*
NK-Coker 9553	23.3*	0.42*	3.3	0.05
Pioneer 26R12	21.7*	0.33*	31.7*	0.67*
MSU 1007R	18.3*	0.37*	25.0*	0.50*
SS 8404	18.3*	0.25	3.3	0.05
USG 3209	16.7*	0.33*	23.3*	0.45*
NK-Coker 9700	15.0*	0.18	8.3	0.15
USG 3209/USG 3592 Blend	13.3	0.25	16.7*	0.43*
SS 8308	13.3	0.18	20.0*	0.43*
GA-Gore	13.3	0.15	11.7*	0.22
LA99005UC31-3-C	11.7	0.22	1.7	0.02
AGS 2000/USG 3209 Blend	11.7	0.20	6.7	0.10
LA98214D-14-1-2-B	11.7	0.18	3.3	0.03
GA991109-6E8	8.3	0.12	0	0
USG 3592	8.3	0.10	11.7*	0.23
Magnolia	8.3	0.10	0	0
GA98401-5E45	6.7	0.13	10.0	0.17
Pioneer 26R31	6.7	0.12	11.7*	0.18
SS 8641	6.7	0.07	1.7	0.02
Pioneer 26R61	5.0	0.10	0	0
GA981621-5E34	5.0	0.05	6.7	0.10
GA02603-T-7	5.0	0.05	8.3	0.22
USG 3665	3.3	0.08	21.7*	0.45*
GA991227-6A33	3.3	0.03	15.0*	0.63*
Fleming	3.3	0.03	10.0	0.17
JGL Exp. 703	3.3	0.03	3.3	0.03
AGS 2010	3.3	0.03	1.7	0.03
GA98338-6A11	1.7	0.07	11.7*	0.23
GA98401-5E23	1.7	0.05	10.0	0.22
AGS 2000	1.7	0.03	8.3	0.22
GA991371-6E13	1.7	0.02	3.3	0.03
AGS 2060	1.7	0.02	1.7	0.05
LA98133D-160-3-B	1.7	0.02	0	0

**Hessian fly infestations in wheat entries in the 2006-2007
Georgia State Small Grain Variety Test,
Plains and Griffin, Georgia (Continued)**

Brand-Variety	Plains		Griffin	
	% infested	No./stem	% infested	No./stem
GA011450-DH2-5A45	1.7	0.02	0	0
GA991369-5A17	0	0	6.7	0.25
LA978UC-36-H-B	0	0	6.7	0.18
Jamestown	0	0	6.7	0.18
GA991371-6E12	0	0	6.7	0.08
GA96693-4E16	0	0	3.3	0.07
GA991336-6E9	0	0	3.3	0.07
LA98202D-641-C	0	0	3.3	0.03
GA981622-5E35	0	0	1.7	0.03
GA991209-6E33	0	0	1.7	0.02
GA951231-4E25	0	0	0	0
GA961567-4A35	0	0	0	0
GA951298-6E44	0	0	0	0
GA951231-4E26	0	0	0	0
GA98244-6E42	0	0	0	0
LSD _(0.05)	17.5	0.33	13.8	0.38
LSD _(0.10)	14.6	0.28	11.5	0.32
<i>F</i>	6.39	5.45	3.82	2.18
<i>P</i>	0.0001	0.0001	0.0001	0.0002

* Significantly different than zero ($P < 0.1$); % infested data arcsine-square-root transformed before analysis.