

# WHEAT VARIETAL PERFORMANCE 1999 - 2000

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**Location:** Edisto Research and Education Center, Barnwell Co. SC, Field B-6 C

**Design:** RCB with 5 replicates; plot size 40' x 6.33' (8 rows x 8" spacing)

**Soil Type:** Varina loamy sand

**Rotation:** Previous crops - corn 1999; peanut 1998; corn 1997

## Land

**Preparation:** Disk 2X , Terra-max Worksaver 12 - 13 inches deep perpendicular to plots. Plots were laid out with a 5-shank (12" spacing) chisel plow equipped with a spring-loaded leveling board.

**Planting date:** Nov. 29, 1999

**Seeding:** Seeding rate was calibrated by variety (24 seed / ft) and planted with a Hege plot drill (8 rows, 8" spacing).

## General

**Fertility:** No pre-plant fertilizer.  
30 lbs N (11.3 gpa S-25) were applied Dec 20. 66 lbs N (25 gal S-25) were applied Feb 23 (GS 23). **Total N = 96 lbs / ac. Total S = 13.5 lbs/ac.**

**Fungicide:** None

**Herbicide:** Express 75DF - 0.25 oz /ac Jan 17(GS 2.2).

**Insecticide:** Warrior T (1 gal / 33 ac) was applied Feb 23.

**Application:** Herbicide, N, and aphicide were applied with a tractor-mounted, three-point-hitch sprayer delivering 20 gallons per acre (gpa) through Tee Jet 8003 flat fan nozzles at 40 psi.

**Sampling:** Jointing dates (GS 31) were determined by uprooting representative plants from border rows and examining the main stem. 50% heading dates were determined by examining each variety in one range. Blackville HF infestation was determined in May by examining a total

of 60 stems/variety. Ten stems / replicate (50 stems) were examined from the variety test field and another 10 stem replicate was taken from single row plots planted Oct 28 in a separate field located adjacent to a known HF source (last year's wheat stubble). These 20 ft. strips were planted with an 8-row Hege plot drill and alternating rows were seeded with a HF susceptible cultivar (NK Coker 9704 - rows 1, 3, 5, 7, and 8). Test varieties were randomly assigned to rows 2, 4, and 6. Florence HF infestation was determined from 40 stems/variety pulled from the state variety trial at the Pee Dee Research and Education Center. Infested stems were sent from Blackville and Florence locations to Purdue University for HF race identification (data pending). Rust was rated in one replicate by counting the number of pustules on ten flag leaves per variety. Powdery mildew severity was too low to rate, but was present in some varieties (Table 1). Plots were harvested with an Almaco plot combine. Test weight was taken by funneling a subsample of grain through a Seedburo No. 151 filling hopper and weighing one dry pint of grain on an electronic scale. Grain moisture content was measured with a Burrows DMC-700 moisture meter. All yields were adjusted to 13.5% moisture before analysis.

**Observations:** Low rainfall in April (1.35") and no rainfall in May.

**Analysis:** ANOVA, Fisher's protected LSD, (P=0.05). Yield LSD = 3.6 bu / ac.

**Table 1. Maturity, Hessian fly and disease susceptibility ratings, yield, and test weight for wheat cultivars. Blackville, SC 1999-00.**

Variety	Maturity		Hessian Fly Blackville		Hessian Fly Florence	Rust Ratings		Powdery Mildew	Yield	Test weight	Potential or known disadvantages in Lower Coastal Plain of SC
	50% Joint Date	50% Head Date	% stem inf.	/stem	/stem	pust./ FL Apr 28	% FL inc. Apr 28	present?	bu/ac	lbs/bu	
USG 3209	Mar 7	Apr 7	43 bc	1.10 c	---	9	100	n	89.3 a	58.9 gf	hf, rust?
Pioneer 26R46	Mar 8	Apr 8	<b>13 fg</b>	<b>0.13 efg</b>	---	<1	<b>20</b>	n	88.7 ab	60.5 bcd	tw?, rust?
Pioneer 26R24	Mar 12	Apr 10	30cde	0.42 cde	0.83	38	100	n	85.5 bc	59.4 ef	rust, hf?
AGS 2000	Mar 9	Apr 8	<b>5 gh</b>	<b>0.08 fg</b>	0.30	<b>0</b>	<b>0</b>	y	84.2 c	59.7 def	
Pioneer 2580	Mar 11	Apr 8	35 cde	0.65 cd	0.65	10	100	n	84.1 c	60.0 de	hf, rust
Pioneer 2684	Mar 11	Apr 8	28 def	0.45 cde	0.20	3	80	n	83.3 c	61.7 a	rust?
Pioneer 26R61	Mar 9	Apr 9	<b>2 h</b>	<b>0.02 g</b>	<b>0.0</b>	<1	<b>10</b>	n	82.1 c	61.1 abc	
Ga 90524E35	Mar 10	Apr 7	22 ef	0.37 def	0.40	<b>0</b>	<b>0</b>	y	82.0 c	56.6 i	tw, pm?
Coker 9663	Mar 9	Apr 7	32 cde	0.75 cd	<b>0.15</b>	<b>0</b>	<b>0</b>	y	77.0 d	60.1 cde	pm, hf, lodging
Coker 9134	Mar 10	Apr 10	67 a	1.8 b	---	30	100	y	76.8 d	58.9 fg	hf, pm, rust
Coker 9704	Mar 14	Apr 12	70 a	2.3 ab	0.60	<b>1</b>	<b>20</b>	y	75.6 de	61.3 ab	hf, pm
Coker 9835	Mar 7	Apr 10	20 ef	0.38 def	0.60	101	100	n	74.9 def	57.8 h	pm, rust
BL 940026	Mar 9	Apr 9	40 cd	0.83 cd	---	<b>1</b>	40	y	72.9 ef	57.3 hi	tw, pm?
USG 3408	Mar 8	Apr 17	60 ab	2.1 ab	---	<b>0</b>	<b>0</b>	n	72.8 ef	60.1 cde	hf, pm, rust?
Santee	Mar 12	Apr 17	70 a	2.0 ab	---	<1	<b>10</b>	y	71.3 f	59.2 ef	hf, pm?
BL 930390	Mar 16	Apr 15	75 a	3.0 a	---	3	50	y	66.8 g	57.8 gh	hf, tw, pm?, rust

Planted Nov 29, 1999. Harvested May 23, 2000.

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AGS = AgSouth Genetics