Beaufort County
Cooperative Extension Service

2006 Wheat
On-Farm Test Report

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To: Beaufort County Wheat Producers and Agribusinessmen

From: Gaylon Ambrose
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The 2005 Wheat On-Farm-Test Report was made available because of the donations of land, materials and resources of many individuals, companies and organizations. I especially want to thank Mr. Harold Smith of Haslin Farms and Mrs. Marian Keech and Mr. Henry Riddick of Circle Grove Seeds for their cooperation with the on-farm-tests.

I hope that the information included in this book will be a benefit in helping producers making management decisions. Thank you again for your support of the Cooperative Extension Service in Beaufort County.

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Wheat Variety Tests

In 2005-06 forty-one varieties were evaluated for powdery mildew and leaf rust resistance, lodging resistance, and yield. The variety test was conducted on the Haslin Farms in Belhaven. The test was conducted on a Perquimans silt loam. The plot plan was a randomized complete block design with four replications. Corn was the prior crop and the test was planted November 8 and harvested June 20.

Page three provides the wheat yield performances for Beaufort County based on One- Two- and Three- Year trial data. Wheat variety characteristics are on page 4.

There are four rules to keep in mind when choosing a wheat variety. First, has the variety been evaluated in the Official Variety Test and/or in a nearby county trial over the last two years? Second, select a variety that produces a yield above the average of the varieties tested. Third, does the variety offer a pest resistance to the most limiting pest in your region? Fourth, when planting early, select a variety with a late heading date.

Foliar Fungicide Tests

In 2005 and 2006 an on-farm-test was conducted to demonstrate and evaluate five foliar fungicides for the control of powdery mildew. Coker 9663 and USG 3209 were used in these tests. Headline (8 oz/a), Quadris (8 oz/a), Stratego (10 oz/a), Tilt (4 oz/a) and Quilt (14 oz/a) were applied to Coker 9663 at Feekes 7 and to USG 3209 at Feekes 9. Coker 9663 is susceptible to powdery mildew. All fungicide treatments reduced the incidence of powdery mildew (Graph 1) and Quadris, Headline, Quilt and Stratego significantly increase wheat yield (Graph 2) in 2005. The disease severity was significantly less in the 2006 test. There was not a significant increase in wheat yield with the use of fungicides in 2006, however there was a trend toward increased yields with fungicide use (Graph 3).

Note the efficacy fungicide ratings on page 6.

Nitrogen rates and additives

Two nitrogen fertilizer additives, Agrotain and Super N Concentrate, were evaluated on wheat in 2005 and 2006. Agrotain, a urease inhibitor, and Super N Concentrate, a urease and nitrification inhibitor, were added to a thirty percent UAN nitrogen solution. The nitrogen rates were 0, 30, 60, 90, 120 and 150 pounds per acre. The plot design was a randomized complete block design with six replications in 2005 and four replications in 2006. The plot size was seven feet wide and forty feet long. The variety was NC Neuse in 2005 and McCormick in 2006. Topdress nitrogen was applied with a backpack sprayer on March 4 in 2005 and March 1 in 2006. Agrotain was applied with UAN at 2.2 quarts/ton and Super N Concentrate was applied with UAN at 3.5 gallons/ton.

There was no significant difference in wheat yield with the addition of Agrotain or Super N Concentrate to UAN, regardless of nitrogen rate (Graph 4). There was a significant increase in wheat yield with each increase in nitrogen rate up to 120 pounds per acre (Graph 5).

Soyboost Evaluation

Soyboost was evaluated as fertilizer additive to topdress nitrogen. Soyboost's guaranteed analysis is 5% nitrogen, 10% phosphate (P_2O_5), 5% potash (K_2O), 0.6% boron and 0.3% zinc. In addition, the product contains humic acid. Soyboost was applied at one quart per acre in 37 gallons of UAN. The topdress nitrogen and Soyboost was applied March 4, 2005 and March 1 in 2006. The variety was NC Neuse in 2005 and McCormick in 2006. The plot design was a randomized complete block design with six replications in 2005 and four in 2006. The plots were 7 feet wide and 40 feet long.

There was not a significant increase in wheat yield with the addition of Soyboost to topdress nitrogen (Graphs 6 & 7).

Wheat Performance in Beaufort County Based on One- Two- and Three-Year Trial data

Variety	Three Year 2004-2006 Grain Yield bu / ac	Three Year 2004-2006 *Grain Yield Rank*	Two Year 2005-2006 Grain Yield bu / ac	Two Year 2005-2006 *Grain Yield Rank*	One Year 2006 Grain Yield bu / ac	One Year 2006 *Grain Yield Rank*
V Tribute	93.9	*1*	90.6	*14*	80.6	*11*
SS 8308	90.7	*2*	98.7	*2*	83.8	*2*
McCormick	87.8	*3*	83.3	*26*	70.1	*37*
NC-Neuse	87.1	*4*	84.3	*25*	82.7	*5*
SS 8302	86.9	*5*	90.8	*10*	87.1	*1*
USG 3209	86.0	*6*	94.9	*3*	77.5	*18*
P 26R12	85.0	*7*	86.9	*20*	79.3	*13*
SS 535	84.1	*8*	94.8	*4*	77.8	*17*
C 9184	82.8	*9*	83.1	*27*	74.8	*27*
C9312	81.6	*10*	87.1	*19*	79.0	*14*
SS 8309	81.5	*11*	86.8	*21*	81.1	*9*
Roane	79.7	*12*	81.5	*30*	76.6	*20*
P 26R24	79.1	*13*	92.4	*8*	74.4	*28*
C 9663	79.0	*14*	90.8	*10*	75.4	*23*
P 26R15	78.6	*15*	86.7	*22*	79.0	*14*
C 9295	77.8	*16*	82.1	*28*	72.4	*31*
SS 550	77.8	*17*	90.4	*15*	70.8	*34*
SS 520	77.4	*18*	93.7	*5*	67.3	*39*
P 26R61	76.9	*19*	82.1	*28*	76.1	*22*
P 26R38	75.7	*20*	79.7	*32*	75.4	*23*
SS 566	74.1	*21*	86.5	*23*	77.4	*19*
P 26R58	71.8	*22*	85.8	*24*	81.3	*8*
P 26R31			102.0	*1*	82.0	*7*
SS 8404			93.2	*6*	83.7	*3*
USG 3592			92.9	*7*	76.5	*21*
V 9412			91.7	*9*	82.9	*4*
SS MPV 57			90.8	*10*	69.5	*38*
C 9436			90.7	*13*	80.3	*12*
USG 3706			90.2	*16*	73.9	*29*
V McIntosh			88.2	*17*	70.4	*36*
C 9511			87.7	*18*	71.6	*32*
NC00-15332			81.2	*31*	65.2	*40*
V 9510			77.8	*33*	75.4	*23*
C 9553					70.8	*34*
C B990133					71.1	*33*
Cooper					80.8	*10*
Crawford					73.7	*30*
P XW04C					75.0	*26*
Panola					82.2	*6*
SS 38306					62.7	*41*
V Dominion					78.6	*16*
Average	81.6		88.4		76.2	
LSD (0.05)	ns		ns		13.3	
CV%	13.0		8.2		12.6	

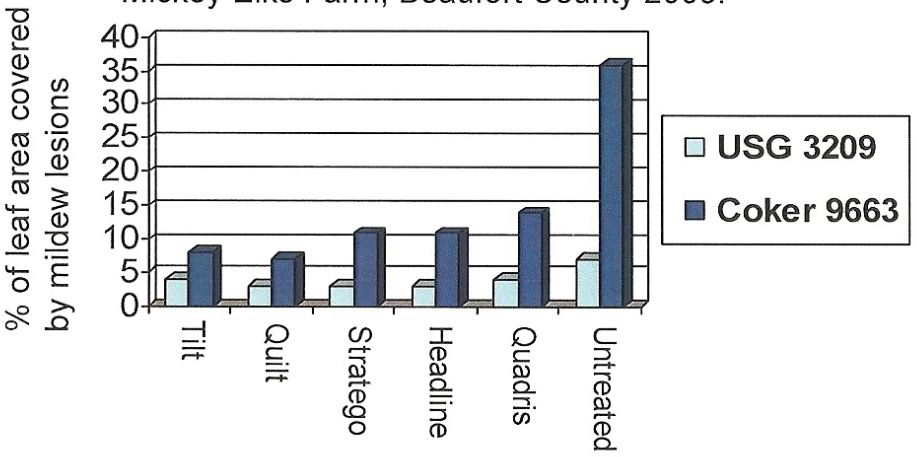
Wheat Variety Characteristics

Variety	Heading Date	Powdery Mildew	Leaf Rust	Hessian Fly Type-L	Barley Yellow Dwarf	Soilborne Wheat Mosaic	Wheat Spindle Streak	Head Scab	Stripe Rust
AgriPro Coker 9184	Late	MS	MS	Poor	F/P	MR	R	MS	MS
AgriPro Coker 9295	Med	MS	MR	Poor	Poor	MR	MR	S	MR
AgriPro Coker 9312	Med	S	MR	Good	-	R	R	MR	MS
AgriPro Coker 9436	Late	MR	-	-	-	MR	-	-	-
AgriPro Coker 9511	-	-	-	-	-	-	-	-	-
AgriPro Coker 9553	-	-	-		-	-	-	-	-
AgriPro Coker 9663	Early	S	MR	Poor	Good	S	MS	MS	MR
AgriPro Cooper	Late	S	MS	-	-	R	R	-	-
AgriPro Crawford	Early	MR	R	Fair	Fair	MR	MR	MS	MR
AgriPro Panola	Med	MR	MS	-	-	MR	MS	-	-
NC Neuse	Late	R	MR	Good	F/P	R	MS	MR	MS
Roane	Late	S	S	Good	Good	MS	R	MR	MS
McCormick	Med	R	MR	Fair	-	MR	R	MR	MS
Pioneer 26R12	Med	MR	MR	Good	F/P	MR	R	MS	MS
Pioneer 26R15	Med	MR	MR	Good	-	MR	R	MR	MR
Pioneer 26R24	Med	S	MS	F/P	F/P	MR	MR	S	S
Pioneer 26R31	Early	R	-	-	-	MR	-	-	-
Pioneer 26R38	Early	MS	MS	Good	-	MR	MS	-	-
Pioneer 26R58	Med	MS	MR	Poor	-	MR	R	-	-
Pioneer 26R61	Med	MS	MR	Good	F/P	MR	R	S	MR
SS 520	Early	MR	MS	Poor	Good	MR	R	MS	S
SS 535	Late	MR	S	F/P	Fair	-	R	S	MS
SS 550	Med	MS	S	Poor	G/F	MS	R	MS	S
SS 566	Late	R	MS	F/P	F/P	-	MR	MS	MS
SS 8302	Med	S	MS	Fair	-	MR	-	MR	R
SS 8308	Med	R	MS	-	-	R	-	-	-
SS 8309	Late	MR	MS	Poor	-	S	-	MR	S
SS 8404	-	-	-	-	-	-	-	-	-
SS 38306	-	-	-	-	-	-	-	-	-
SS MPV 57	Late	MS	MS	-	-	R	-	-	-
Vigoro 9412	-	-	-	-	-	-	-	-	-
Vigoro 9510	-	-	-	-	-	-	-	-	-
Vigoro Dominion	-	-	-	-	-	-	-	-	-
Vigoro McIntosh	-	-	-	-	-	MR	-	-	-
Vigoro Tribute	Med	R	MS	G/F	G/F	S	MR	MR	MS
USG 3209	Med	MR	S	Fair	Fair	R	R	MS	MR
USG 3592	Med	MS	MR	Poor	-	MR	R	S	MS
USG 3706	-	-	-	-	-	-	-	-	-

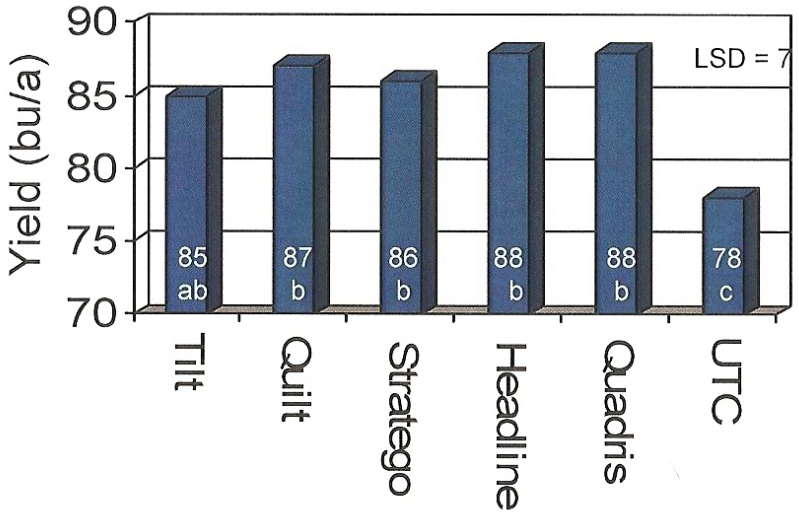
S, MS, MR, and R stand for Susceptible, Moderately Susceptible, Moderately Resistant, and Resistant, respectively.

Impact of foliar fungicides on powdery mildew and wheat yield, Mickey Elks Farm 2005 and Haslin Farms 2006, Beaufort County.

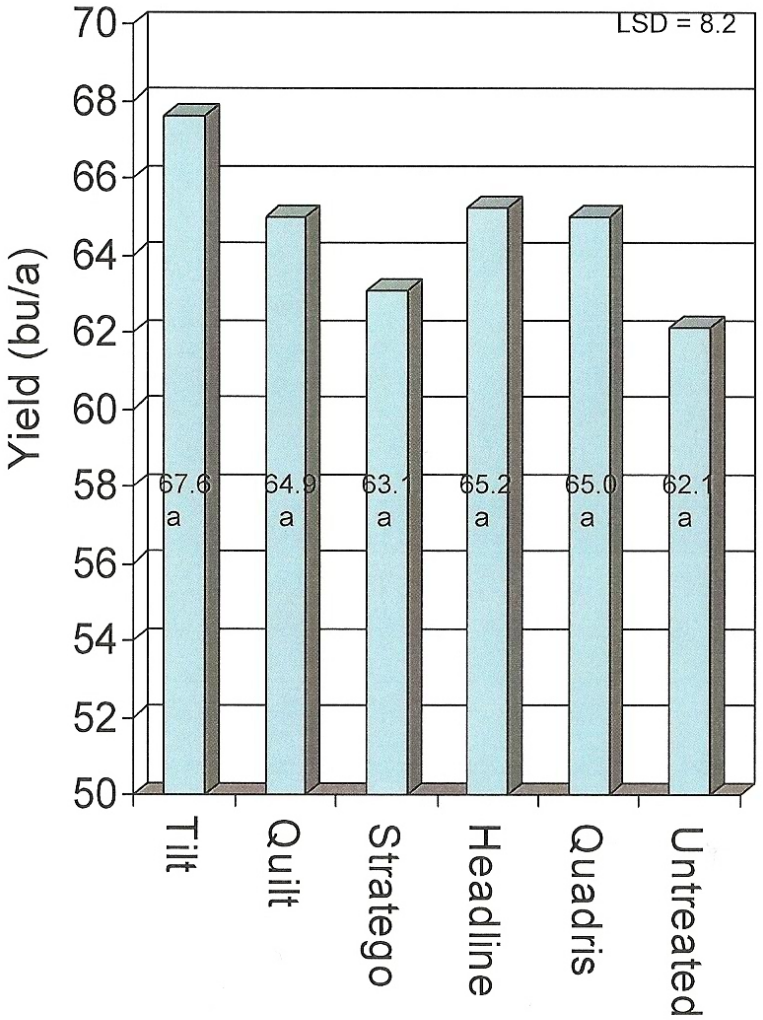
Graph 1.Impact of fungicide on powdery mildew, Mickey Elks Farm, Beaufort County 2005.



Graph 2.Fungicide impact on wheat yield, Mickey Elks Farm, Beaufort County 2005.



Graph 3. Fungicide impact on wheat yield, Haslin Farms, Beaufort County 2006.



Efficacy of fungicides for wheat disease control based on appropriate application timing. (Courtesy of Dr. Erik Stromberg, VPI)

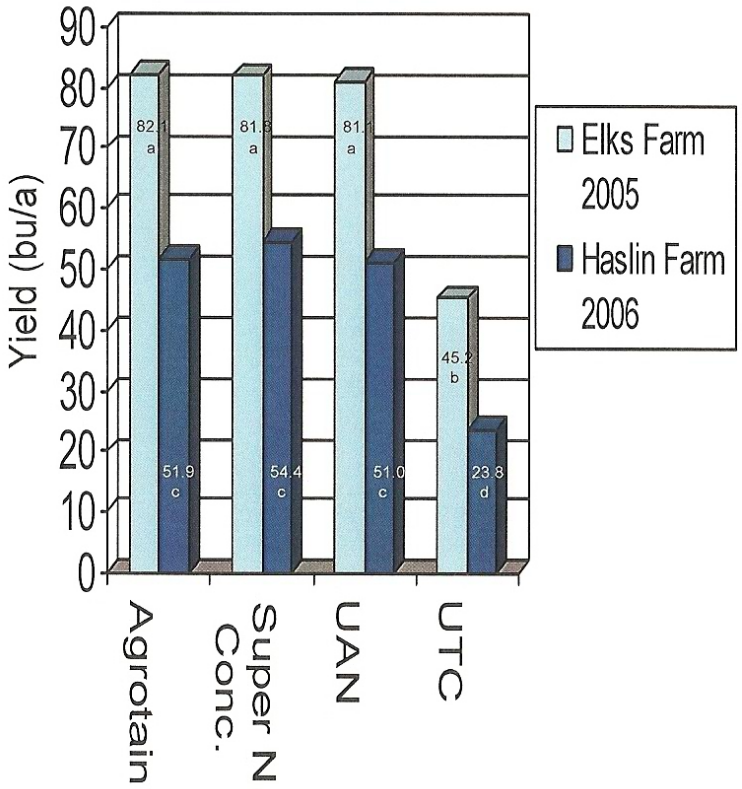
Product	Fungicide	Rate/A	Powdery Mildew	Stagonospora Leaf/glume blotch	Septoria Leaf blotch	Leaf Rust	Head Scab
Tilt 3.6 EC	Propiconazole 41.8%	4 oz	+++*	+++	+++	+++	+
Quadris 2.08 SC	Azoxystrobin 22.9%	6.3 to 10.8 oz	=(+)**	+++	+++	++++	
Quilt 200SC	Azoxystrobin 7.0% Propiconazole 11.7%	14 oz	+++	+++	+++	++	
Stratego 250 EC	Propiconazole 11.4% Trifloxystrobin 11.4%	10 oz	++	+++	+++	++	
Headline 2.09 EC	Pyraclostrobin 23.6%	4 oz	++	+++	+++	++++	

Table1. Yield performance of hulless barley varieties, Haslin Farms, Beaufort County 2006.

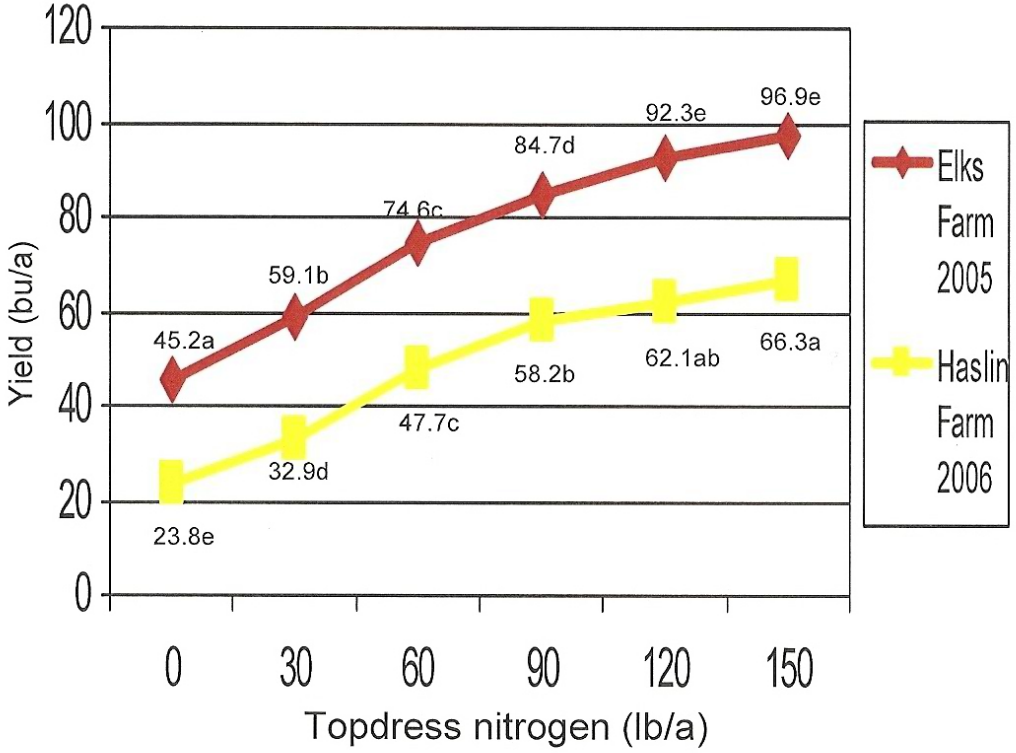
Variety	Yield (bu/a)
VA04H-53	87.7
VA01H-125	84.8
Doyce	83.3
VA-1H-68	82.6
VA04H-100	82.2
VA00H-65	82.0
VA03H-58	76.3
VA03H-64	76.1
VA03H-61	69.7
VA04H-113	63.7
VA04H-26	60.4
AVERAGE	77.1

Impact of nitrogen rates and nitrogen fertilizer additives on wheat yield, Mickey Elks Farm 2005 and Haslin Farms 2006, Beaufort County.

Graph 4. Impact of nitrogen additives on wheat yield.



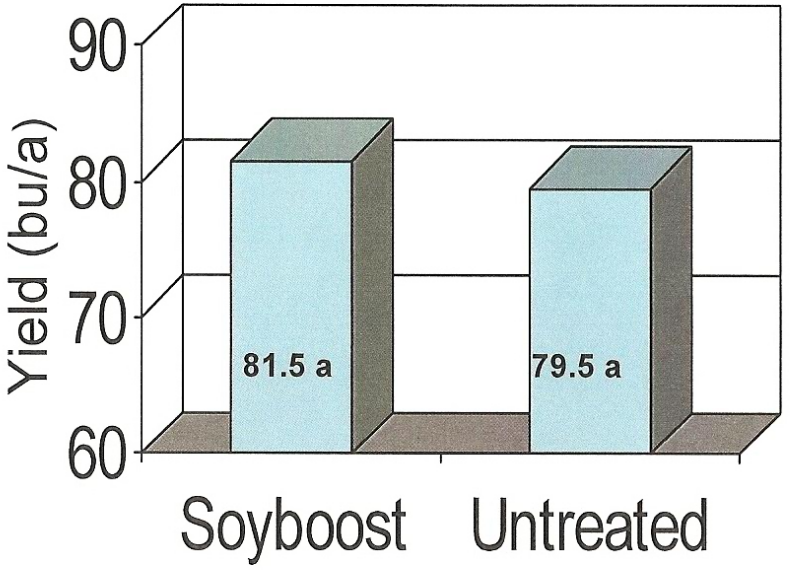
Graph 5. Impact of nitrogen rate on wheat yield.



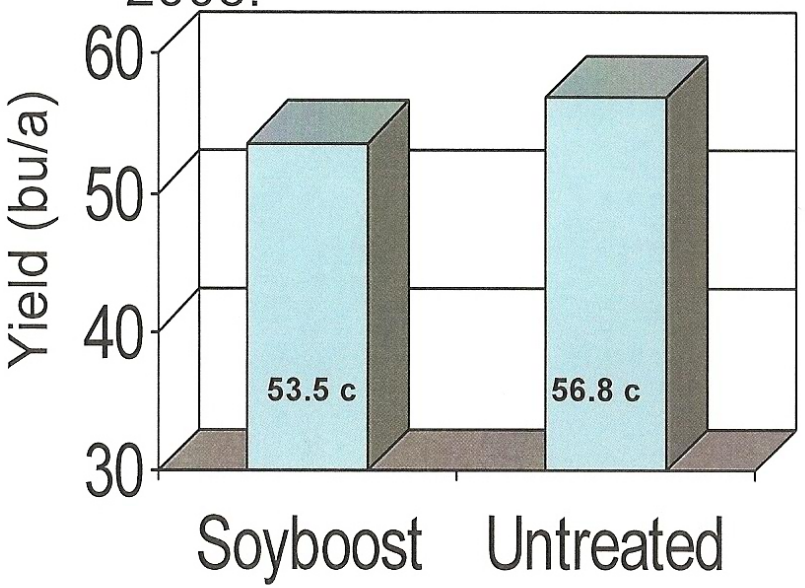
- Agrotain, a urease inhibitor, and Super N Concentrate, a urease and nitrification inhibitor, were added to a thirty percent UAN nitrogen solution.
- There was no significant difference in wheat yield with the addition of Agrotain or Super N Concentrate to UAN, regardless of nitrogen rate.
- There was a significant increase in wheat yield with each increase in nitrogen rate up to 120 pounds per acre.

Impact of Soyboost on wheat yield in Beaufort County, 2005-06.

Graph 6. Impact of Soyboost on wheat yield, Elks Farm, 2005.



Graph 7. Impact of Soyboost on wheat yield, Haslin Farm, 2006.



- Soyboost's guaranteed analysis is 5% nitrogen, 10% phosphate ($P_2 0_5$), 5% potash ($K_2 0$), 0.6% boron and 0.3% zinc.
- There was not a significant increase in wheat yield with the addition of Soyboost to topdress nitrogen on the Elks Farm in 2005 or on Haslin Farms in 2006.

Beaufort County 2006 Wheat On-Farm-Testing Sponsors

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