

Date: February 2, 2005
Memo to: Industry Cooperators
From: Tim Brenneman
Subject: 2004 Field Trial Results

Attached are the results of our 2004 field trials on diseases of peanuts and pecans. We were fortunate to have two consecutive wet years which were favorable for both peanut growth and disease development. This combination is good for fungicide evaluations and provides good separation of treatments. We have again included a brief interpretive summary at the end of each test, and at the end of each block of reports for a given research farm we have included a table with a complete listing of rain and irrigation events. We also will be printing only a limited number of reports this year, and these will be available by request only. All reports will be available as a pdf file.

This report is the result of a tremendous amount of work and much credit goes to Jimmy Mixon, Pat Hilton, and Lewis Mullis for their conscientious supervision. Also, appreciated are the efforts of Leslie MacDonald, Brett Tucker, Desire Banani, and Eric Jackson. Jason Woodward is working on his Ph.D. and was an important member of our team. The cooperation of other scientists including Dr. Albert Culbreath, Dr. Bob Kemerait, Dr. Corley Holbrook, Dr. Patty Timper, and Dr. Bill Branch is much appreciated.

TABLE OF CONTENTS

2004 PEANUT TESTS

GIBBS FARM

Miscellaneous I	3
Cultivar x Vapam.	7
Lorsban 2	10
Gibbs daily rainfall	
12	

LANG FARM

Crompton	13
Syngenta 1.	15
Gustafson	
17	
Becker Underwood.	19
In Furrow x Seed Quality 1 & 2.	21
Syngenta 2.	25
Lang daily rainfall	27

BLACKSHANK FARM

Miscellaneous 2	
28	
Lorsban 1	
31	
Limb Rot	33
Blackshank daily rainfall.	
35	

ATTAPULGUS

Bayer CBR	36
Fumigant x Twin Row Spacing.	
39	
Tillage x Vapam x Cultivar	41
Attapulgus daily rainfall	
43	

PLAINS

CBR Fungicide.	44
Fumigant Rate	46
Vapam x Fungicide x Cultivar.	48
Plains daily rainfall.	
50	

2004 PECAN TESTS

PONDER FARM

Wichita Fungicide.....	51
Desirable Fungicide.....	54
Ponder daily rainfall.....	58

EVALUATION OF VARIOUS FUNGICIDES FOR THE CONTROL OF FOLIAR AND SOILBORNE PEANUT DISEASES

A. PURPOSE: To evaluate the comparative efficacy of fungicides provided by Bayer, Syngenta, Gowan, and BASF against peanut diseases, mainly leafspot and southern stem rot.

B. EXPERIMENTAL DESIGN:

1. Randomized complete blocks with five replicates.
2. One two-row bed (25 x 6 ft) per plot, 36-inch row spacing.
3. Eight foot alleyways between blocks.
4. Plots were established in an area with a history of a high population of *Sclerotium rolfsii* and some *Cylindrocladium parasiticum*.
5. Variety: Georgia Green

C. APPLICATION OF TREATMENTS:

1. Equipment: Midseason foliar treatments were applied with a CO₂ pressurized belt-pack sprayer using 2 liter bottles and a 20 GPA broadcast boom with three Conejet TX-SS6 hollow cone nozzles per row at 40 PSI.
2. Midseason spray treatments (1-6) were applied on 18 Jun, 29 Jun, 13 Jul, 27 Jul, 9 Aug, and 26 Aug. Midseason treatments (1.5, 4.5) were applied on 22 Jun and 3 Aug. App 7 was not applied due to close proximity to digging. This test was not coversprayed with chlorothalonil.

D. ADDITIONAL INFORMATION:

1. Location: Gibbs Farm, CPES, Tifton, Georgia 31794
2. Crop History: Corn - 2003, Peanut - 2002, Corn - 2001, Peanut

3. Land Prep: Moldboard plowed and marked rows on 30 Mar
4. Soil Fertility Prior To Fertilization:
pH - 6.2 P - 104 K - 112 Ca - 468 Mg - 30
Soil Type: Tifton loamy sand, 2 - 5% slope
5. Herbicides: PPI: Sonalan (2 pt/A) + Dual Magnum (1 pt/A) on 1 Apr
POST: Cadre (1.44 oz/A) + crop oil (0.25% v/v) on 26 May
6. Insecticides: Temik 15G, 4 lb/A in furrow on 11 May
7. Nematicides: Temik 15G, 18 lb/A (12" band) on 11 May
8. Fumigants: Vapam 42%, 20 GPA on 31 Mar
9. Planting Information: Georgia Green, 7 seed/ft on 11 May
10. Additional Crop Practices:
 - A. Cultivate - 16 Jun
 - B. Landplaster, 1000 lb/A broadcast on 30 Jun
11. Harvest Dates:
 - Dug - 20 Sep
 - Picked - 23 Sep

E. **SUMMARY:** Frequent rains resulted in significant levels of both foliar and soilborne diseases. Considering the pressure, all treatments did an acceptable job of leaf spot control, even several extended interval programs. Stem rot pressure was moderate and fairly uniform, whereas CBR was severe in some parts of the field and very light in other parts. Yields were somewhat variable due to the clustered CBR incidence, but good yield increases of up to 1500 lb/A were obtained with treatments such as Folicur and JAU6476 that suppressed both stem rot and CBR.

EVALUATION OF VARIOUS FUNGICIDES FOR THE CONTROL OF FOLIAR AND SOILBORNE PEANUT DISEASES

Yield Treatment	Rate/A	App's ¹		Leaf Spot ²		Stem Rot ³		CBR ⁴	(lb/A)
				8/30	9/10	8/16	9/21	9/21	
EXP-3	1 - 7	3.1	4.6	32.0	29.6	26.8	2801		
EXP-3	1 - 7	3.6	5.0	23.6	27.6	26.0	3387		
Bravo Ultrex	1.36 lb	1, 2 & 7		3.3	5.4	18.0	22.8	11.6	3869
Folicur 3.6F	7.2 fl oz	3 - 6							
Bravo Ultrex	1.36 lb	1, 6 & 7		3.1	5.4	14.8	18.8	10.4	4620
Folicur 3.6F	7.2 fl oz	2 - 5							
Stratego	7.0 fl oz 4275	1		3.2	4.5	13.6	12.8	15.2	
Bravo Ultrex	1.36 lb	2 & 7							
Folicur 3.6F	7.2 fl oz	3 & 5							
+ Stratego	7.0 fl oz								
Folicur 3.6F	7.2 fl oz		4 & 6						
Bravo Ultrex	1.36 lb	1, 2 & 7		3.2	4.3	17.6	18.8	8.8	4652
Folicur 3.6F	5.2 fl oz	3 & 5							
+ USF2010	3.5 fl oz								
Folicur 3.6F	7.2 fl oz		4 & 6						
Bravo Ultrex	1.36 lb	1, 2 & 7		3.1	4.5	12.0	14.8	9.6	4437
Folicur 3.6F	4.75 fl oz	3 - 6							
+ JAU6476 480SC	2.14 fl oz								
USF2010	3.5 fl oz 3205	1 - 7		3.0	4.7	24.4	22.0	29.2	
USF2010	3.5 fl oz 3489	1 - 7		3.0	4.4	29.2	17.6	28.8	
+ Induce	0.1% v/v								
Stratego	7.0 fl oz	1 - 7 2934		3.3	4.6	42.0	33.6	25.6	
Echo 720	1.5 pt	1, 2, 3, 5 & 7		3.3	4.4	18.8	8.8	42.0	3147
Artisan 3.6SE	1.0 qt oz	4 & 6							
Echo 720	1.5 pt	1, 2, 6 & 7		3.3	5.1	13.2	13.2	33.2	3390
NAI-301 480SE	1.0 qt oz	3, 4 & 5							
Headline 2.08F	9.0 fl oz	1.5		3.0	4.2	24.4	17.6	25.6	

Artisan 3.6SE	3582 1.0 qt	4 & 6						
Headline 2.08F	12.0 fl oz	3						
Bravo Weatherstik	1.5 pt	6 & 7						
Bravo Weatherstik	1.5 pt 3251	1, 2, & 7	3.3	4.7	20.0	12.4	40.8	
Amistar 80WG	4.0 oz	3 - 6						
Bravo Weatherstik	1.5 pt 3761	1, 2, & 7	2.8	4.6	14.8	18.8	28.0	
Amistar 80WG + Induce	4.0 oz 0.25% v/v	3 - 6						
Bravo Weatherstik	1.5 pt 3831	1, 2, & 7	3.2	5.1	16.8	14.4	23.6	
Abound 2.08SC	12.0 fl oz	3 - 6						
Bravo Weatherstik	1.5 pt 3495	1, 2, 4, 6 & 7	3.1	4.8	20.4	18.4	26.0	
Abound 2.08SC	18.3 fl oz	3 & 5						

(Continued)

Yield Treatment	Rate/A	App's ¹	Leaf Spot ²		Stem Rot ³		CBR ⁴	
			8/30	9/10	8/16	9/21	9/21	(lb/A)
A13817 515SE	24 fl oz 3753	1, 2 & 4	3.2	4.6	18.4	16.8	31.2	
Abound 2.08SC	18.3 fl oz	3 & 5						
Bravo Weatherstik	1.5 pt	6 & 7						
A13817 515SE	24 fl oz	1.5 & 4		3.6 4396	5.3	17.2	19.6	10.8
Abound 2.08SC	18.3 fl oz	3 & 5						
Bravo Weatherstik	1.5 pt	6 & 7						
Headline 2.08F	9.0 fl oz 4019	1.5	3.2	4.6	12.4	18.4	16.0	
Folicur 3.6F	7.2 fl oz	3 & 6						
Headline 2.08F	12.0 fl oz	4.5						
Bravo Weatherstik	1.5 pt	7						
Headline 2.08F	9.0 fl oz 3979	1.5 & 4.5	3.4	4.5	20.0	12.4	21.6	
Folicur 3.6F	7.2 fl oz	3 & 6						
A13817 515SE	24 fl oz	1.5 & 4.5	3.7 3871	5.2	20.8	14.4	24.0	
Abound 2.08SC + Tilt 3.6EC	18.3 fl oz 4.0 fl oz	3 & 6						
A13817 515SE	24 fl oz	1.5 & 4.5	3.3 3550	4.6	17.6	12.0	32.0	
Headline 2.08F + Moncut 70DF	9.0 fl oz 1.07 lb	3 & 6						
A13817 515SE	24 fl oz	1.5 & 4.5	3.6 3344	4.9	24.0	26.0	27.2	
Abound 2.08SC + Tilt 3.6EC	18.3 fl oz 4.0 fl oz	3 & 6						

Bravo Weatherstik	1.5 pt	7					
Headline 2.08F	9.0 fl oz 3808	1.5	3.6	5.4	22.4	15.2	24.4
Folicur 3.6F	7.2 fl oz	3 & 4.5					
Abound 2.08SC	18.3 fl oz	6					
Echo 720	1.5 pt	1 - 7	3.6 3123	5.0	32.8	32.0	25.6
LSD (P < 0.05)			0.3	0.6	9.0	10.8	22.7
851							

¹ Applications refer to a seven-spray leafspot schedule (1-7) applied every 14 days.

² Florida 1 - 10 scale where 1 = no disease and 10 = dead plant.

^{3 & 4} Percent of row feet infected, based on number of disease loci (up to 12 in of linear row) per plot.

EVALUATION OF FUNGICIDES WITH AND WITHOUT VAPAM ON THREE DISEASE-RESISTANT PEANUT CULTIVARS FOR FOLIAR AND SOILBORNE DISEASE CONTROL

A. PURPOSE: To evaluate the performance of DP-1, GA-01R, and C34-24 peanut utilizing three levels of fungicide input, with and without Vapam, for control of foliar and soilborne diseases.

B. EXPERIMENTAL DESIGN:

1. Split-split plot design in randomized complete blocks with five replicates, whole plots were fungicide treatments, subplots were Vapam vs. no Vapam, and sub-subplots were cultivars.
2. One two-row bed (25 x 6 ft) per plot, 36-inch row spacing.
3. Ten foot alleyways between blocks.
4. Plots were established in an area with a history of a high population of *Sclerotium rolfsii* and *Cylindrocladium parasiticum*.
5. Varieties: DP-1, GA-01R, and C34-24.

C. APPLICATION OF TREATMENTS:

1. Equipment: After land preparation, Vapam preplant treatments were applied with a DC-powered fumigant injector mounted on a two-row KMC Strip Till rig. Vapam was injected under the row at 10 inches deep behind the subsoil shank. Additional tillage components (fluted coulters, soil crumblers, and press wheel) provided a good seedbed and firm fumigant seal. Foliar spray treatments were applied with a CO₂ pressurized belt-

pack sprayer using 2 liter bottles and a 20 GPA broadcast boom with three Conejet TX-SS6 hollow cone nozzles per row at 40 PSI.

1. Vapam (10 GPA) was applied on 31 Mar. Seven sprays (1-7) were applied to Treatment 1 on 18 Jun, 29 Jun, 13 Jul, 28 Jul, 13 Aug, 27 Aug, and 10 Sep. Three sprays (2, 4, 6) were applied to Treatment 2 on 29 Jun, 28 Jul, and 27 Aug. There were no fungicide sprays applied to Treatment 3. This test was not coversprayed with chlorothalonil.

D. ADDITIONAL INFORMATION:

1. Location: Gibbs Farm, CPES, Tifton, Georgia 31794
2. Crop History: Corn - 2002, Peanut - 2001, Corn - 2000, Peanut - 1999
3. Land Prep: Moldboard plowed and marked rows on 29 Mar.
4. Soil Fertility Prior To Fertilization:
pH - 6.2 P - 104 K - 112 Ca - 468 Mg - 30
Soil Type: Tifton loamy sand, 2 - 5% slope
5. Herbicides: PPI: Sonalan (2 pt/A) + Dual Magnum (1 pt/A) on 31 Mar
POST: Cadre (1.44 oz/A) + crop oil (0.25% v/v) on 26 May
6. Insecticides: Temik 15G, 4 lb/A in furrow on 11 May
7. Nematicides: Temik 15G, 18 lb/A (12" band) on 11 May
8. Fumigants: Vapam 42%, 10 GPA on 31 Mar (treated plots only)
9. Planting Information: DP-1, GA-01R, and C34-24
7 seed/ft on 11 May
10. Additional Crop Practices:
 - A. Cultivate - 16 Jun
 - B. Landplaster, 1000 lb/A broadcast on 30 Jun
11. Harvest Dates:
Dug - 5 Oct
Picked - 14 Oct

E. SUMMARY: Significant levels of CBR occurred, but there was no effect of Vapam on any parameter evaluated. Conditions for application were favorable, and the reasons for poor performance are not known. Due to treatment x cultivar interactions, other data are presented by treatment. All cultivars had low TSWV, but with reduced or no sprays stem rot differences were evident with C34-24 being most susceptible and DP-1 being the least. Greatest yield differences were observed where no fungicides were used and DP-1 had the highest yields. With full and reduced input programs, GA-01R had higher yields.

EVALUATION OF FUNGICIDES WITH AND WITHOUT VAPAM ON THREE DISEASE RESISTANT PEANUT CULTIVARS FOR FOLIAR AND SOILBORNE DISEASE CONTROL

Treatment/Cultivar	Rate/A	App's ¹	Stand Count ² 5/31	Leaf spot ³		Stem rot ⁴ 10/05	TSWV ⁵ 8/31	CBR ⁶ 10/05	Yield (lb/A)
				8/20	10/05				
Bravo Ultrex	1.36 lb	1, 2, 7							
Folicur 3.6F	7.2 fl oz	3 & 5							
Abound 2.08F	12.0 fl oz	4 & 6							
DP-1			3.1	1.8	4.4	3.4	5.2	28.4	4659
GA 01-R			2.8	1.7	4.3	7.6	3.8	22.4	4893
C34-24			3.3	1.4	5.0	8.6	6.6	32.2	4547
	LSD (P < 0.05)		0.2	n.s.	0.2	2.9	n.s.	n.s.	322
Folicur 3.6F	7.2 fl oz	2 & 4							
Abound 2.08F	12.0 fl oz	6							
DP-1			----	2.4	6.8	4.2	5.2	31.8	4181
GA 01-R			----	2.3	7.0	13.6	5.0	23.2	4570
C34-24			----	2.8	7.8	18.4	4.4	27.8	4070
	LSD (P < 0.05)		----	n.s.	0.3	5.4	n.s.	n.s.	372
Nontreated									
DP-1			----	3.6	8.4	12.0	5.6	38.0	3116
GA 01-R			----	4.0	9.5	25.0	6.2	40.8	2678
C34-24			----	3.9	8.8	33.2	4.8	42.2	2440
	LSD (P < 0.05)		----	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.

FUMIGANT

Vapam	10 gal	preplant	3.0	2.6	6.8	13.3	5.5	32.3	3901
No Vapam			3.1	2.6	6.9	14.7	4.8	31.5	3911
	LSD (P < 0.05)		0.2	0.4	0.1	2.4	1.1	6.4	192

¹ Applications refer to a seven-spray leafspot schedule (1-7) applied every 14 days, or 2 weeks prior to planting (preplant).

² Stand count is the number of emerged plants per foot of row on 31 May.

³ Florida 1 - 10 scale where 1 = no disease and 10 = dead plant.

^{4, 5, & 6} Percent of row feet infected, based on number of disease loci (up to 12 in of linear row) per plot.

EVALUATION OF LORSBAN 15G FOR THE CONTROL OF PEANUT SOILBORNE DISEASES
TEST 2

A. PURPOSE: To evaluate the additional benefit of Lorsban 15G for southern stem rot control when applied in conjunction with full and reduced rates of Folicur and Abound.

B. EXPERIMENTAL DESIGN:

1. Randomized complete blocks with five replicates.
2. One two-row bed (25 x 6 ft) per plot, 36-inch row spacing.
3. Eight foot alleyways between blocks.
4. Plots were established in an area with a history of a high population of *Sclerotium rolfsii*.
5. Variety: Georgia Green

C. APPLICATION OF TREATMENTS:

1. Equipment: Midseason foliar treatments were applied with a CO₂ pressurized belt-pack sprayer using 2 liter bottles and a 20 GPA broadcast boom with three Conejet TX-SS6 hollow cone nozzles per row at 40 PSI. The Lorsban treatment was banded over the row with a bicycle-type pushcart applicator.
2. Midseason spray treatments (3-6) were applied on 13 Jul, 28 Jul, 13 Aug, and 27 Aug. The Lorsban 15G treatment was applied on 25 Jun (40 DAP). All plots were traveled by tractor and coversprayed with Bravo Ultrex (1.4 lb/A) on 18 Jun, 30 Jun, 13 Jul, 27 Jul, 10 Aug, and 19 Aug.

D. ADDITIONAL INFORMATION:

1. Location: Gibbs Farm, CPES, Tifton, Georgia 31794
2. Crop History: Corn - 2003, Peanut - 2002, Corn - 2001, Peanut - 2000
3. Land Prep: Moldboard plowed and marked rows on 29 Mar
4. Soil Fertility Prior To Fertilization:
pH - 6.2 P - 104 K - 112 Ca - 468 Mg - 30
Soil Type: Tifton loamy sand, 0 - 5% slope
5. Herbicides: PPI: Sonalan (2 pt/A) + Dual Magnum (1 pt/A) on 31 Mar
POST: Cadre (1.44 oz/A) + Crop Oil (0.25% v/v) on 26 May
6. Insecticides: Temik 15G, 4 lb/A in furrow on 11 May
7. Nematicides: Temik 15G, 18 lb/A (12" band) on 11 May
8. Fumigants: Vapam 42%, 20 gal/A on 31 Mar
9. Planting Information: Georgia Green, 7 seed/ft on 11 May
10. Additional Crop Practices:
 - A. Cultivate - 16 Jun
 - B. Landplaster, 1000 lb/A broadcast on 30 Jun
11. Harvest Dates: Dug - 20 Sep Picked - 23 Sep

E. SUMMARY: All treatments except the Lorsban alone significantly reduced the amount of stem rot at harvest, and all treatments except the 2 applications of Folicur plus Lorsban significantly increased yield. This treatment had a high incidence of CBR which was not uniform in the test. Only the Folicur and Folicur plus Lorsban treatment had a higher yield than the Lorsban alone. Although the Lorsban alone increased yield, there were not additive effects of the Lorsban + fungicides. This is perhaps due to the fact that CBR was the primary factor correlated with yield ($r^2 = 0.84$, $P < 0.0001$), whereas the correlation of yield and stem rot was not significant.

OFFICIAL DAILY RAINFALL 2004										
Gibbs Farm, Tifton, GA 31794										
DATA	APR	MAY	JUN	JUL	AUG	SEP	OCT			
1			0.87	0.15		0.83				
2				0.18		0.32				
3		1.63	0.68							
4										
5										
6						3.00				
7			0.08	0.97		2.55				
8	0.59					0.15				
9			0.57							
10					0.90	1.29	0.35			
11					0.17		0.09			
12		0.05			0.46		0.05			
13	0.48		0.15		0.32					
14			0.15							
15				0.51						
16				0.02	0.17					
17				0.20		0.80				
18				0.14			0.29			
19		0.50								
20							0.25			
21			0.24		0.34					
22			0.06							
23			0.87							
24			0.38	0.26						
25										
26	0.33									

27			1.09	0.09		5.70			
28					0.09		0.04		
29					0.25				
30	0.41		0.39		0.52				
31					0.80				
TOTAL	1.81	2.18	5.53	2.52	4.02	14.64	1.07		
Irr									
DATE	APR	MAY	JUN	JUL	AUG	SEP	OCT		
2					1.00				
26		1.00							
TOTAL		1.00			1.00				
Rain + Irr	1.81	3.18	5.53	2.52	5.02	14.64	1.07		

EVALUATION OF CROMPTON SEED TREATMENTS FOR PEANUT DISEASE CONTROL

- A. **PURPOSE:** To evaluate the comparative efficacy of fungicide seed treatments provided by Crompton against peanut seedling diseases.
- B. **EXPERIMENTAL DESIGN:**
1. Randomized complete blocks with six replicates
 2. One two-row bed (25 x 6 ft) per plot, 36-inch row spacing.
 3. Eight foot alleyways between blocks.
 4. Plots were established in an area with a history of peanut production.
 5. Variety: Georgia Green
- C. **APPLICATION OF TREATMENTS:**
1. Equipment: Seed treatments were applied to nontreated commercial seed by Crompton.
 2. Treatments were applied to seed prior to planting on 14 May. All plots were traveled by tractor and coversprayed with Bravo Ultrex (1.4 lb/A) on 18 Jun, 30 Jun, 7 Jul, 16 Jul, 27 Jul, 18 Aug, and 1 Sep. Also, Moncut 70DF (1.5 lb/A) was applied on 7 Jul and 6 Aug for stem rot control.
- D. **ADDITIONAL INFORMATION:**
1. Location: Lang Farm, CPES, Tifton, Georgia 31794
 2. Crop History: Cotton - 2003, Peanut - 2002
 3. Land Prep: Moldboard plowed and marked rows on 6 May
 4. Soil Fertility Prior To Fertilization:
pH - 6.2 P - 110 K - 90 Ca - 534 Mg - 37

Soil Type: Tifton loamy sand, 2 - 5% slope

5. Herbicides: PPI: Sonalan (2 pt/A) + Dual Magnum (1.5 pt/A) on 12 May
6. Insecticides: Temik 15G, 4 lb/A in furrow on 14 May
7. Nematicides: Temik 15G, 10 lb/A (12" band) on 14 May
8. Planting Information: Georgia Green, 94 % germination
7 seed/ft on 14 May
9. Additional Crop Practices:
 - A. Cultivate - 15 Jun
 - B. Landplaster, 1000 lb/A broadcast on 30 Jun
10. Harvest Dates: Dug - 20 Sep Picked - 24 Sep

E. SUMMARY: The excellent quality seed used in this test (94% germ.) resulted in good stands with all treatments and similar yields. Incidence of TSWV and other diseases was low. Stand counts at harvest based on tap root numbers were higher than the early season plant counts, indicating either subsequent emergence or a physical limitation in differentiating plants during early growth.

EVALUATION OF CROMPTON SEED TREATMENTS FOR PEANUT DISEASE CONTROL

Treatment	Rate	Stand count ¹			Dead plants ²		TSWV ³	Stem	Yield (lb/A)	
		27 May	14 Jun	21 Sep	27 May	14 Jun	2 Sep	Rot ⁴		
Nontreated		3.5	3.4	4.4	0.2	0.5	5.0	4.0	4758	
KNF 2830	3 oz/100 lb	3.9	3.7	4.2	0.0	0.0	4.8	5.7	4682	
KNF 2830	4 oz/100 lb	4.0	3.6	4.5	0.0	0.0	4.8	7.0	4532	
KNF 2830	6 oz/100 lb	3.8	3.6	4.1	0.0	0.0	5.0	7.0	4551	
KNF 2830	8 oz/100 lb	3.6	3.4	4.2	0.2	0.0	6.5	3.3	4572	
Vitavax PC	4 oz/100 lb	4.3	4.0	4.7	0.0	0.0	3.7	4.7	4766	
Allegiance	0.75 fl oz/100 lb		3.7	3.8	4.3	0.0	0.0	4.8	7.6	429

Kodiak	0.125fl oz/100 lb	4.1	4.0	4.8	0.0	0.0	4.3	4.0	4304
	LSD (P < 0.05)	0.4	0.5	0.5	n.s.	0.3	2.1	n.s.	n.s.

¹ Stand count is the number of emerged plants per foot of row on 27 May, 14 Jun, and 21 Sep.

² The number of dead or dying plants per plot (50 row feet) on 27 May and 14 Jun.

^{3 & 4} Percent of row feet infected, based on number of disease loci (up to 12 in of linear row) per plot.

EVALUATION OF SYNGENTA SEED TREATMENTS AND IN FURROW SPRAYS FOR SEEDLING DISEASE CONTROL ON GEORGIA GREEN PEANUT, TEST 1

A. PURPOSE: To evaluate the comparative efficacy of seed treatments with and without Abound applied in furrow for control of peanut soilborne and seedling diseases.

B. EXPERIMENTAL DESIGN:

1. Randomized complete blocks with six replicates.
2. One two-row bed (25 x 6 ft) per plot, 36-inch row spacing.
3. Eight foot alleyways between blocks.
4. Plots were established in an area with a history of high levels of *Sclerotium rolfsii*.
5. Variety: Georgia Green

C. APPLICATION OF TREATMENTS:

1. Equipment: Fungicide treatments were applied to nontreated commercial seed by Syngenta. In furrow Abound treatments were applied with a planter mounted CO-2 pressurized sprayer using one TX-8 hollow cone nozzle per row delivering 5 GPA.
2. Seed treatment applications were applied prior to planting. In furrow treatments were applied on 14 May. All plots were traveled by tractor and coversprayed with Bravo Ultrex (1.4 lb/A) on 18 Jun, 30 Jun, 7 Jul, 16 Jul, 27 Jul, 18 Aug, and 1 Sep. Two applications of Moncut 70DF (1.5 lb/A) were made on 7 Jul and 6 Aug for stem rot control.

D. ADDITIONAL INFORMATION:

1. Location: Lang Farm, CPES, Tifton, Georgia 31794

2. Crop History: Cotton - 2003, Peanut - 2002
3. Land Preparation: Moldboard plowed and marked rows on 6 May
4. Soil Fertility Prior To Fertilization:
pH - 6.2 P - 110 K - 90 Ca - 534 Mg - 37
Soil Type: Tifton loamy sand, 2 - 5% slope
5. Herbicides: PPI: Sonalan (2 pt/A) + Dual Magnum (1.5 pt/A) on 12 May
6. Insecticides: Temik 15G, 4 lb/A in furrow on 14 May
7. Nematicides: Temik 15G, 10 lb/A (12" band) on 14 May
8. Planting Information: Georgia Green, 71% germination
7 seed/ft on 14 May
9. Additional Crop Practices:
 A. Cultivate - 15 Jun
 B. Landplaster, 1000 lb/A broadcast on 30 Jun
10. Harvest Dates: Dug - 20 Sep Picked - 24 Sep

E. SUMMARY: Marginal seed quality (71% germ.) resulted in significant stand improvements with all seed treatments. Some of the denser stand was due to fewer dead plants with all seed treatments versus nontreated seed. The primary cause of seedling death was *Aspergillus* crown rot. Although TSWV incidence was very low, large differences in yield were found in plots with treated versus nontreated seed. An equipment problem with treatments 3 and 6 prevented those from being harvested for yield. Stand counts at harvest (based on tap root numbers) were higher than the early season plant counts, indicating either subsequent emergence or a physical limitation in differentiating plants during early growth.

EVALUATION OF SYNGENTA SEED TREATMENTS FOR SOILBORNE AND SEEDLING DISEASE CONTROL ON GEORGIA GREEN PEANUT, TEST 1

Treatment	Rate/A	App's	Stand count ¹		Dead stand ²		Stem 6/14	TSWV ⁴ rot ³	Yield 9/02	(lb/ A)
			5/27	6/14	9/21	5/27				
Nontreated			1.3	1.0	1.6	4.1	6.2	1.7	6.8	3218
Dynasty PD	3.5 oz/100 lb	Seed applied	2.0	1.8	2.8	0.0	0.7	2.7	5.3	4694
Dynasty PD	4.0 oz/100 lb	Seed applied	2.3	1.7	.	0.0	0.3	.	6.0	.

Vitavax PC	4.0 oz/100 lb	Seed applied	2.0	1.9	3.1	0.0	0.5	5.0	7.2	4351
Vitavax PC Abound 2.08	4.0 oz/100 lb 6.0 oz	Seed applied In furrow	2.0	2.0	3.0	0.2	0.3	4.7	5.2	4510
Dynasty PD Abound 2.08	4.0 oz/100 lb 3.0 oz	Seed applied In furrow	2.1	1.9	.	0.0	0.3	.	6.5	.
LSD (P < 0.05)			0.3	0.3	0.4	0.8	1.5	2.5	2.7	397

¹ Stand count is the number of emerged plants per foot of row on 27 May, 14 Jun, and 21 Sep.

² The number of dead or dying plants per plot (50 row ft) on 27 May and 14 Jun.

^{3 & 4} Percent of row feet infected, based on number of disease loci (up to 12 in of linear row) per plot. The stem rot evaluation was taken at digging.

EVALUATION OF GUSTAFSON SEED TREATMENTS FOR PEANUT SEEDLING DISEASE CONTROL

A. PURPOSE: To evaluate the comparative efficacy of fungicide seed treatments provided by Gustafson against peanut seedling diseases.

B. EXPERIMENTAL DESIGN:

1. Randomized complete blocks with six replicates
2. One two-row bed (25 x 6 ft) per plot, 36-inch row spacing.
3. Eight foot alleyways between blocks.
4. Plots were established in an area with a history of peanut production.
5. Variety: Georgia Green

C. APPLICATION OF TREATMENTS:

1. Equipment: Seed treatments were applied to nontreated commercial seed by Gustafson.
2. Treatments were applied to seed prior to planting on 14 May. All plots were traveled by tractor and coversprayed with Bravo Ultrex (1.4 lb/A) on 18 Jun, 30 Jun, 7 Jul, 16 Jul, 27 Jul, 18 Aug, and 1 Sep. Also, Moncut 70DF (1.5 lb/A) was applied on 7 Jul and 6 Aug for stem rot control.

D. ADDITIONAL INFORMATION:

1. Location: Lang Farm, CPES, Tifton, Georgia 31794
2. Crop History: Cotton - 2003, Peanut - 2002
3. Land Prep: Moldboard plowed and marked rows on 6 May
4. Soil Fertility Prior To Fertilization:
pH - 6.2 P - 110 K - 90 Ca - 534 Mg - 37
Soil Type: Tifton loamy sand, 2 - 5% slope
5. Herbicides: PPI: Sonalan (2 pt/A) + Dual Magnum (1.5 pt/A) on 12 May
POST: none

6. Insecticides: Temik 15G, 4 lb/A in furrow on 14 May
7. Nematicides: Temik 15G, 10 lb/A (12" band) on 14 May
8. Planting Information: Georgia Green, 7 seed/ft on 14 May
9. Additional Crop Practices:
 - A. Cultivate - 15 Jun
 - B. Landplaster, 1000 lb/A broadcast on 30 Jun
10. Harvest Dates: Dug - 20 Sep Picked - 24 Sep

E. SUMMARY: Significant seed and seedling disease (*Aspergillus* crown rot) occurred and all seed treatments gave improved stands, less TSWV incidence, and higher yield. All seed treatments gave similar performance, except L1138-A1 which had a little lower stand and more seedling disease than other treatments. Stand counts at harvest (based on tap root numbers) were higher than the early season plant counts, indicating either subsequent emergence or a physical limitation in differentiating plants during early growth.

EVALUATION OF GUSTAFSON SEED TREATMENTS FOR PEANUT SEEDLING DISEASE CONTROL

Yield Treatment	Rate/100 lb	Stand count ¹			Dead plants ²		TSWV ³	
		27 May	14 Jun	21 Sep	27 May	14 Jun	2 Sep	(lb/A)
Nontreated		1.3	1.4	2.0	4.8	6.5	19.7	3383
Vitavax PC	4.0 oz	2.1	1.8	3.0	0.3	0.5	8.7	4598
L1332-A1	4.0 oz	2.2	2.0	3.2	0.0	0.3	10.2	4607
L1138-A1	4.0 oz	1.9	1.5	2.7	0.3	2.7	11.7	4302
L1139-A1	4.0 oz	2.1	2.0	3.4	0.3	0.8	10.0	4416
L1292-A1	4.0 oz	2.2	2.1	3.2	0.0	0.0	12.0	4512
LSD (P < 0.05)		0.3	0.3	0.7	2.1	1.6	6.1	369

¹ Stand count is the number of emerged plants per foot of row on 27 May, 14 Jun, and 21 Sep.

² The number of dead or dying plants per plot (50 row feet) on 27 May and 14 Jun.

³ Percent of row feet infected, based on number of disease loci (up to 12 in of linear row) per plot.

EVALUATION OF EXPERIMENTAL GRANULAR AND LIQUID INOCULANTS FOR PEANUT SEEDLING DISEASE CONTROL

- A. **PURPOSE:** To evaluate the comparative efficacy of various seed inoculants provided by Becker Underwood against peanut seedling diseases.
- B. **EXPERIMENTAL DESIGN:**
1. Randomized complete blocks with six replicates
 2. One two-row bed (25 x 6 ft) per plot, 36-inch row spacing.
 3. Eight foot alleyways between blocks.
 4. Plots were established in an area with a history of peanut production.
 5. Variety: Georgia Green
- C. **APPLICATION OF TREATMENTS:**
1. Equipment: Granular inoculant treatments were preweighed and applied by hand in the open furrow. Liquid inoculant treatments were applied with a planter-mounted CO-2 pressurized sprayer using one TX-8 nozzle per row delivering 5 GPA at 25 PSI.
 2. Treatments were applied at planting on 14 May. All plots were traveled by tractor and coversprayed with Bravo Ultrex (1.4 lb/A) on 18 Jun, 30 Jun, 7 Jul, 16 Jul, 27 Jul, 18 Aug, and 1 Sep. Also, Moncut 70DF (1.5 lb/A) was applied on 7 Jul and 6 Aug for stem rot control.
- D. **ADDITIONAL INFORMATION:**
1. Location: Lang Farm, CPES, Tifton, Georgia 31794
 2. Crop History: Cotton - 2003, Peanut - 2002
 3. Land Prep: Moldboard plowed and marked rows on 6 May
 4. Soil Fertility Prior To Fertilization:
pH - 6.2 P - 110 K - 90 Ca - 534 Mg - 37
Soil Type: Tifton loamy sand, 2 - 5% slope
 5. Herbicides: PPI: Sonalan (2 pt/A) + Dual Magnum (1.5 pt/A) on 12 May

6. Insecticides: Temik 15G, 4 lb/A in furrow on 14 May
7. Nematicides: Temik 15G, 10 lb/A (12" band) on 14 May
8. Planting Information: Georgia Green, 93% germination
7 seed/ft on 14 May
9. Additional Crop Practices:
 - A. Cultivate - 15 Jun
 - B. Landplaster, 1000 lb/A broadcast on 30 Jun
10. Harvest Dates:

Dug - 20 Sep
Picked - 24 Sep

E. SUMMARY: Excellent quality seed treated with Vitavax PC (4 oz/100 lb) were used resulting in good stands and very little seedling disease. TSWV incidence was low and there was little other disease, so yields in all treatments were high.

EVALUATION OF EXPERIMENTAL GRANULAR AND LIQUID INOCULANTS FOR PEANUT SEEDLING DISEASE CONTROL

Treatment	Rate	Stand count ¹		Dead plants ²		TSWV ³ 9/08	Yield (lb/A)
		5/31	6/14	5/31	6/14		
BUGR1 (Granule)	6 oz/1000 ft	4.1	4.2	0.0	0.2	4.7	4606
BUGR2 (Granule)	6 oz/1000 ft	4.0	4.0	0.0	0.0	5.0	4720
BULQ (Liquid)	15 fl oz	3.8	3.8	0.0	0.2	5.3	4733
BULQBS-L1 (Liquid) (Inoculant + Biofungicide B)	15 fl oz	3.8	3.7	0.0	0.0	6.3	4471
BULGBS-D (Liquid) (Inoculant + Biofungicide B)	15 fl oz	4.0	3.9	0.0	0.2	4.7	4738
BULQBS-L2 (Liquid) (Inoculant B + Biofungicide C)	15 fl oz	3.9	3.8	0.2	0.8	7.3	4585
Bacterium Inoculant A	400 g/100 lb						
Lift	4 oz/100 lb	4.0	3.9	0.0	0.2	6.3	4829
Nontreated		4.0	3.9	0.0	0.0	5.0	4791
LSD (P < 0.05)		0.3	0.3	0.2	0.6	2.2	361

¹ Stand count is the number of emerged plants per foot of row on 31 May and 14 Jun.

² The number of dead or dying plants per plot (50 row feet) on 31 May and 14 Jun.

³ & ⁴ Percent of row feet infected, based on number of disease loci (up to 12 in of linear row) per plot.

EVALUATION OF SEED QUALITY FOR PEANUT DISEASE CONTROL, TEST 1 & TEST 2

A. **PURPOSE:** To evaluate the comparative efficacy of three rates of Abound applied in furrow on three seed lots of Georgia Green (70, 80, and 90 percent germination) for control of peanut seedling and soilborne diseases.

B. **EXPERIMENTAL DESIGN:**

1. Split plot design in randomized complete blocks with five replicates. Whole plots were in furrow treatments, and subplots were seed lots.
2. One two-row bed (25 x 6 ft) per plot, 36-inch row spacing.
3. Eight foot alleyways between blocks.
4. Plots were established in an area with a history of high levels of *Sclerotium rolfsii*.
5. Variety: Georgia Green, 70%, 80%, and 90% germination

C. **APPLICATION OF TREATMENTS:**

1. **Equipment:** In furrow Abound treatments (2, 4, and 6 oz/A) were applied with a planter-mounted CO₂ pressurized sprayer with a single TX-8 nozzle per row delivering 5 gallons per acre at 25 PSI. Three specific seed lots of Georgia Green (70, 80, and 90 percent germination) were used in both tests.
2. In furrow treatments were applied at planting on 14 May in Test 1, and 3 Jun in Test 2. Test 1 plots were traveled by tractor and coversprayed with Bravo Ultrex (1.4 lb/A) on 18 Jun, 30 Jun, 7 Jul, 16 Jul, 27 Jul, 18 Aug, and 1 Sep. Two applications of Moncut 70DF (1.5 lb/A) were made on 7 Jul and 6 Aug for stem rot control. Test 2 plots were traveled by tractor and coversprayed with Bravo Ultrex (1.4 lb/A) on 30 Jun, 13 Jul, 27 Jul, 6 Aug, 18 Aug, 1 Sep, and 22 Sep. Moncut 70DF (1.5 lb/A) was applied on 6 Aug and 1 Sep for stem rot control.

D. **ADDITIONAL INFORMATION:**

1. **Location:** Lang Farm, CPES, Tifton, Georgia 31794, both tests
2. **Crop History:** Cotton - 2003, Peanut - 2002, Test 1
Cotton - 2003, Cotton - 2002, Cotton - 2001, Test 2

3. Land Prep: Moldboard plowed and marked rows on 6 May (Test 1) and 28 May (Test 2)
4. Soil Fertility Prior To Fertilization:
pH - 6.2 P - 110 K - 90 Ca - 534 Mg - 37
Soil Type: Tifton loamy sand, 2 - 5% slope
5. Herbicides: PPI: Sonalan (2 pt/A) + Dual Magnum (1.5 pt/A)
Test 1, 6 May
Test 2, 2 Jun
6. Insecticides: Temik 15G, 4 lb/A in furrow
Test 1, 14 May
Test 2, 3 Jun
7. Nematicides: Temik 15G, 10 lb/A (12" band)
Test 1, 14 May
Test 2, 3 Jun
8. Planting Information:
Georgia Green, 70, 80, and 90% germ, reported from source
69, 62, and 86% germ (tested at planting) with
887, 832, and 760 seed/lb, respectively
Test 1, planted 14 May, 7 seed/ft
Test 2, planted 3 Jun, 7 seed/ft
9. Additional Crop Practices:
 - A. Cultivate - 15 Jun (Test 1) and 15 Jul (Test 2)
 - B. Landplaster, 1000 lb/A broadcast on 30 Jun, both tests
10. Harvest Dates:

	Test 1	Test 2
Dug -	20 Sep	12 Oct
Picked -	24 Sep	18 Oct

E. SUMMARY: The same seed were used for both trials, and seed germination evaluations at planting differed from those reported by the supplier (see #8 above). In Test 1 there were treatment by seed quality interactions, so data are presented by germination class. Better stands were obtained in this test and TSWV incidence was low. The low rate of Abound increased yield on the 70% germination seed only, and no other in furrow sprays affected plant stand or yield. In Test 2, with the 90% germination seed the stands were higher, TSWV incidence was lower, and yields increased by at least 1000 lb/A compared to the poorer quality seed. The in furrow treatments had little effect on stand, TSWV, or yield, but the 2 oz rate of Abound had a little better growth and yield than the 6 oz rate.

EVALUATION OF PEANUT SEED QUALITY FOR SOILBORNE DISEASE CONTROL, TEST 1

Yield	Stand count ¹			Dead ²	Growth ³	rot ⁴	Stem	Rad ⁵	TSWV ⁶
	5/31	6/14	9/21	6/14	8/02		7/15	9/02	(lb/A)
70% germination									
Nontreated	2.6	2.2	3.1	0.0	39.8	4.0	58.4	7.8	4399
Abound 2 oz	2.5	2.3	2.9	0.0	41.4	4.4	60.7	4.6	4841
Abound 4 oz	2.7	2.5	3.0	0.0	41.9	5.6	59.4	3.8	4713
Abound 6 oz	2.6	2.3	2.9	0.0	39.2	5.6	61.2	5.2	4550
LSD (P<0.05)	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	2.3	428
80% germination									
Nontreated	2.6	2.3	3.0	0.0	39.8	5.2	62.7	6.2	4710
Abound 2 oz	2.7	2.5	3.2	0.0	43.4	6.0	61.2	4.6	4364
Abound 4 oz	2.7	2.4	2.9	0.0	42.4	3.2	60.7	5.6	4640
Abound 6 oz	2.4	2.3	3.0	0.2	38.8	4.4	60.7	4.6	4695
LSD (P<0.05)	n.s.	n.s.	n.s.	n.s.	4.0	n.s.	n.s.	n.s.	n.s.
90% germination									
Nontreated	2.8	2.5	3.9	0.0	45.2	6.4	62.9	4.6	4814
Abound 2 oz	2.8	2.5	3.7	0.0	43.8	6.8	62.5	4.2	4650
Abound 4 oz	2.8	2.4	3.7	0.0	46.9	8.8	61.2	3.2	4724
Abound 6 oz	2.6	2.4	3.6	0.0	43.3	7.2	61.3	4.6	4568
LSD (P<0.05)	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.

¹ Stand count is the number of emerged plants per foot of row on 31 May, 14 Jun, and 21 Sep.

² The number of dead of dying plants per plot (50 row feet) on 14 Jun.

³ Height of the main stem (cm) on 2 Aug.

⁴ Percent of row feet infected, based on number of disease loci (up to 12 in on linear row) per plot rated on 9 Sep.

⁵ Radiometer reading is based upon the percentage of light reflectance (810 nm) taken from the crop canopy on 15 Jul.

⁶ Percent of row feet infected, based on number of disease loci (up to 12 in of linear row) per plot.

EVALUATION OF PEANUT SEED QUALITY FOR SOILBORNE DISEASE CONTROL, TEST 2

	Stand count ¹		Dead ² 6/23	Growth ³ 8/18	Radiometer ⁴		TSWV ⁵ 10/07	Yield (lb/A)
	6/16	6/23			7/08	8/04		
FUNGICIDE								
Nontreated	2.1	2.3	0.0	27.8	51.9	51.8	12.4	3279
Abound 2 oz	2.3	2.4	0.0	28.5	56.6	55.1	13.8	3500
Abound 4 oz	2.2	2.3	0.0	28.4	53.7	52.5	13.8	3256
Abound 6 oz	2.0	2.3	0.1	27.0	51.3	52.1	13.6	3066
LSD (P<0.05)	0.2	n.s.	n.s.	1.3	3.3	3.0	n.s.	234
SEED GERMINATION								
70% germ	1.8	2.1	0.1	26.6	51.6	51.7	16.9	2967
80% germ	1.7	2.1	0.0	26.4	51.3	49.9	15.2	2843
90% germ	3.0	2.8	0.0	30.9	57.2	57.0	8.2	4016
LSD (P<0.05)	0.2	0.2	n.s.	1.1	2.8	2.6	2.8	203

¹ Stand count is the number of emerged plants per foot of row on 16 and 23 Jun.

² The number of dead of dying plants per plot (50 row feet) on 23 Jun.

³ Height of the main stem (cm) on 18 Aug.

⁴ Radiometer reading is based upon the percentage of light reflectance (810 nm) taken from the crop canopy on 8 Jul and 4 Aug.

⁵ Percent of row feet infected, based on number of disease loci (up to 12 in of linear row) per plot.

EVALUATION OF SYNGENTA SEED TREATMENTS FOR SEEDLING DISEASE CONTROL ON GEORGIA GREEN PEANUT, TEST 2

A. **PURPOSE:** To evaluate the comparative efficacy of seed treatments provided by Syngenta and Gustafson against peanut seedling diseases.

B. **EXPERIMENTAL DESIGN:**

1. Randomized complete blocks with five replicates.
2. One two-row bed (25 x 6 ft) per plot, 36-inch row spacing.
3. Eight foot alleyways between blocks.
4. Plots were established in an area with a history of high levels of *Sclerotium rolfsii*.
5. Variety: Georgia Green

C. **APPLICATION OF TREATMENTS:**

1. **Equipment:** Fungicide treatments were applied to nontreated commercial seed by Syngenta. In furrow Abound treatments were applied with a planter mounted CO-2 pressurized sprayer using one TX-8 hollow cone nozzle per row delivering 5 GPA at 25 PSI.
2. Seed treatment applications were applied prior to planting. In furrow treatments were applied on 2 Jun. All plots were traveled by tractor and coversprayed with Bravo Ultrex (1.4 lb/A) on 30 Jun, 13 Jul, 27 Jul, 6 Aug, 18 Aug, 1 Sep, and 22 Sep.

D. **ADDITIONAL INFORMATION:**

1. **Location:** Lang Farm, CPES, Tifton, Georgia 31794
2. **Crop History:** Cotton - 2003, Cotton - 2002, Cotton - 2001
3. **Land Prep:** Moldboard plowed and marked rows on 28 May
4. **Soil Fertility Prior To Fertilization:**
pH - 6.0 P - 67 K - 81 Ca - 420 Mg - 40
Soil Type: Tifton loamy sand, 2 - 5% slope
5. **Herbicides:** PPI: Sonalan (2 pt/A) + Dual Magnum (1.5 pt/A) on 1 Jun
6. **Insecticides:** Temik 15G, 4 lb/A in furrow on 2 Jun

7. Nematicides: Temik 15G, 10 lb/A (12" band) on 2 Jun
8. Planting Information: Georgia Green, 71% germination
7 seed/ft on 2 Jun
9. Additional Crop Practices:
- A. Cultivate, 1 Jul
- B. Landplaster, 1000 lb/A broadcast on 30 Jun
10. Harvest Dates:
- Dug - 12 Oct
- Picked - 18 Oct

E. SUMMARY: This test is a repeat of the one on page 15. Stands were lower in this trial and TSWV incidence was much higher. All treatments performed similarly by increasing stand, reducing TSWV, and greatly increasing yield versus nontreated seed.

EVALUATION OF SYNGENTA SEED TREATMENTS FOR SEEDLING DISEASE CONTROL ON GEORGIA GREEN PEANUT, TEST 2

Treatment	Rate/A	App's	Stand count ¹		Dead ²	TSWV ³	Yield	(lb/A)
			6/16	6/28	6/28	10/07		
Nontreated			1.3	1.2	1.0	49.2	2061	
Dynasty PD	3.5 oz/100 lb	Seed applied	2.6	2.3	0.0	17.6	3253	
Dynasty PD	4 oz/100 lb	Seed applied	2.7	2.4	0.0	20.0	3268	
Vitavax PC	4 oz/100 lb	Seed applied	2.7	2.2	0.0	13.6	3413	
Vitavax PC Abound 2.08	4 oz/100 lb 6 oz	Seed applied In furrow	2.5	2.4	0.0	13.6	3555	
Dynasty PD Abound 2.08	4 oz/100 lb 3 oz	Seed applied In furrow	2.6	2.2	0.0	17.6	3404	
LSD (P < 0.05)			0.4	0.2	0.9	12.7	599	

¹ Stand count is the number of emerged plants per foot of row on 16 and 28 Jun.

² The number of dead or dying plants per plot (50 row ft) on 28 Jun.

³ Percent of row feet infected, based on number of disease loci (up to 12 in of linear row) per plot.

OFFICIAL DAILY RAINFALL 2004							
Lang Farm							
Tifton, Georgia 31794							
DATE	APR	MAY	JUN	JUL	AUG	SEP	OCT
1			0.80	0.30			
2		0.50					
3			0.50	0.80			
4			0.20				
5						1.50	
6						4.30	
7			0.90	0.80		0.30	
8	1.10		0.10				
9			2.40				
10					0.90		0.30
11							0.10
12		0.10			0.40	0.20	0.20
13	0.40		1.10			0.10	
14			0.40				
15			0.10	0.30			
16							0.30
17					0.30	0.60	
18				3.10			
19		0.10					0.30
20							
21			1.50				
22			0.50				
23			0.50				
24			0.50				
25							
26				0.10			
27	0.90		1.20			6.40	
28			0.10	0.30			
29	0.50			0.20			0.20
30	1.10		0.30		0.40		
31					0.10		
TOTAL	4.00	0.70	11.10	5.90	2.10	13.40	1.40
Irr							
DATE	APR	MAY	JUN	JUL	AUG	SEP	OCT
2					0.70		
4					1.10		
9					0.70		
19		0.50					
23				0.70			
24		0.50					

26					0.60					
28		0.60		0.70						
TOTAL		1.60		1.40	3.10					
Rain + Irr	4.00	2.30	11.10	7.30	5.20	13.40	1.40			

EVALUATION OF VARIOUS FUNGICIDES FOR THE CONTROL OF PEANUT SOILBORNE DISEASES

A. PURPOSE: To evaluate the comparative efficacy of fungicides provided by Bayer, Syngenta, and Nichino against peanut soilborne diseases, mainly southern stem rot.

B. EXPERIMENTAL DESIGN:

1. Randomized complete blocks with four replicates.
2. One two-row bed (25 x 6 ft) per plot, 36-inch row spacing.
3. Seven foot alleyways between blocks.
4. Plots were established in an area with a history of a high population of *Sclerotium rolfsii*.
5. Variety: Georgia Green

C. APPLICATION OF TREATMENTS:

1. Equipment: Midseason foliar treatments were applied with a CO₂ pressurized belt-pack sprayer using 2 liter bottles and a 20 GPA broadcast boom with three Conejet TX-SS6 hollow cone nozzles per row at 40 PSI.
2. Midseason spray treatments (1-7) were applied on 22 Jun, 6 Jul, 19 Jul, 3 Aug, 18 Aug, 31 Aug, and 13 Sep. All plots were traveled by tractor and coversprayed with Bravo Ultrex (1.4 lb/A) on 29 Jun, 7 Jul, 16 Jul, 27 Jul, 9 Aug, 19 Aug, and 1 Sep.

D. ADDITIONAL INFORMATION:

1. Location: Blackshank Farm, CPES, Tifton, Georgia 31794
2. Crop History: Peanut - 2003, Peanut - 2002, Peanut - 2001, Peanut -
3. Land Prep: Moldboard plowed and marked rows on 22 Apr

2000

4. Soil Fertility Prior To Fertilization:
 pH - 6.3 P - 74 K - 66 Ca - 564 Mg - 39
 Soil Type: Fuquay sand, 0 - 5% slope

5. Herbicides: PPI: Sonalan (2 pt/A) + Dual Magnum (1.5 pt/A) on 13 May
 POST: none

6. Insecticides: Temik 15G, 4 lb/A in furrow on 18 May

7. Nematicides: Telone II, 10 GPA broadcast on 29 Apr
 Temik 15G, 18 lb/A (12" band) on 18 May

8. Planting Information: Georgia Green, 7 seed/ft on 18 May

9. Additional Crop Practices:
 - A. Cultivate - 16 Jun
 - B. Landplaster, 1000 lb/A broadcast on 30 Jun

10. Harvest Dates:

Dug - 21 Sep
 Picked - 25 Sep

E. SUMMARY: This test had severe stem rot pressure, with the best treatments giving yield increases over 2100 lb/A. Folicur and Moncut treatments did well, and the Moncut plus Headline program was very strong. It should be noted that Artisan (trt 3) was not applied until sprays 4 and 6, which was too late in a year like 2004. Abound was not as effective as expected, but Amistar with no adjuvant had good efficacy.

Treatment	Rate/A	App's ¹	22 Aug	21 Sep	(lb/A)
Folicur 3.6F	7.2 fl oz	3 - 6	15.0	21.5	3756
Folicur 3.6F + JAU6476 480SC	4.75 fl oz 2.14 fl oz	3 - 6	17.0	30.0	3403
Artisan 3.6SE	1.0 qt	4 & 6	35.5	54.5	280 0
NAI-301 480SE	45 fl oz	3, 4, & 5	7.5	15.0	3801
Moncut 70DF	1.07 lb	3 & 5	15.5	29.0	388 6
Headline 2.08F Moncut 70DF Headline 2.08F	6.0 fl oz 1.07 lb 9.0 fl oz	1 & 2 3 & 5 4	4.5	11.5	4706
Headline 2.08F Moncut 70DF Headline 2.08F	9.0 fl oz 1.07 lb 6.0 fl oz	2 3 & 5 4	6.0	17.0	3971
Headline 2.08F	12.0 fl oz	3 - 6	24.0	54.0	2930
Headline 2.08F	9.0 fl oz	3 - 6	22.0	49.0	3304
Amistar 80WG	6.0 oz	3 & 5	20.5	28.5	368 7
Amistar 80WG + Induce	6.0 oz 0.25% v/v	3 & 5	24.0	41.0	318 9
Abound 2.08SC	18.3 fl oz	3 & 5	32.0	54.0	286 1
Abound 2.08SC + Tilt 3.6EC	18.3 fl oz 4.0 fl oz	3 & 5	33.5	43.5	2889
EXP-3	1 - 4	39.0	67.0	1950	
Kphite	1.0 qt	1 - 7	44.0	65.0	2799
Nontreated			57.5	77.0	2603
LSD (P < 0.05)			12.9	18.5	688

¹ Applications refer to a seven-spray leafspot schedule (1-7) applied every 14 days.

² Percent of row feet infected, based on number of disease loci (up to 12 in of linear row) per plot.

EVALUATION OF LORSBAN 15G FOR THE CONTROL OF PEANUT SOILBORNE DISEASES TEST 1

- A. **PURPOSE:** To evaluate the additional benefit of Lorsban 15G for southern stem rot control when applied in conjunction with full and reduced rates of Folicur and Abound.
- B. **EXPERIMENTAL DESIGN:**
1. Randomized complete blocks with four replicates.
 2. One two-row bed (25 x 6 ft) per plot, 36-inch row spacing.
 3. Seven foot alleyways between blocks.
 4. Plots were established in an area with a history of a high population of *Sclerotium rolfsii*.
 5. Variety: Georgia Green
- C. **APPLICATION OF TREATMENTS:**
1. **Equipment:** Midseason foliar treatments were applied with a CO₂ pressurized belt-pack sprayer using 2 liter bottles and a 20 GPA broadcast boom with three Conejet TX-SS6 hollow cone nozzles per row at 40 PSI. Lorsban treatments were banded over the row with a bicycle-type pushcart applicator.
 2. Midseason spray treatments (3-6) were applied on 19 Jul, 3 Aug, 18 Aug, and 31 Aug. The Lorsban 15G treatment (40 DAP) was applied on 25 Jun. All plots were traveled by tractor and coversprayed with Bravo Ultrex (1.4 lb/A) on 29 Jun, 7 Jul, 16 Jul, 27 Jul, 9 Aug, 19 Aug, and 1 Sep.
- D. **ADDITIONAL INFORMATION:**
1. **Location:** Blackshank Farm, CPES, Tifton, Georgia 31794
 2. **Crop History:** Peanut - 2003, Peanut - 2002, Peanut - 2001, Peanut - 2000
 3. **Land Prep:** Moldboard plowed and marked rows on 22 Apr
 4. **Soil Fertility Prior To Fertilization:**
pH - 6.3 P - 74 K - 66 Ca - 564 Mg - 39
Soil Type: Fuquay sand, 0 - 5% slope
 5. **Herbicides:** PPI: Sonalan (2 pt/A) + Dual Magnum (1.5 pt/A) on 13 May
POST: none
 6. **Insecticides:** Temik 15G, 4 lb/A in furrow on 20 May
 7. **Nematicides:** Telone II, 10 GPA broadcast on 29 Apr
Temik 15G, 10 lb/A (12" band) on 18 May
 8. **Planting Information:** Georgia Green, 93% germination, 7 seed/ft on 18 May
 9. **Additional Crop Practices:**
 - A. Cultivate - 15 Jun

B. Landplaster, 1000 lb/A broadcast on 30 Jun

10. Harvest Dates: Dug - 21 Sep Picked - 23 Sep

E. SUMMARY: All fungicide programs reduced stem rot incidence, and all but the reduced rate Abound and the Lorsban alone increased yield. The trend in yield was for Lorsban plus fungicide to have higher yield than the fungicide alone, but this was significant only for the reduced Folicur program. Insect damage was relatively light and did not appear to have a major impact on the outcome.

EVALUATION OF LORSBAN 15G FOR THE CONTROL OF PEANUT SOILBORNE DISEASES, TEST 1

Treatment	Rate/A	App's ¹	TSWV ² 2 Sep	Stem Rot ³		% Pod Injury ⁴	Yield (lb/A)
				20 Aug	21 Sep		
Folicur 3.6F	7.2 fl oz	3 - 6	4.5	11.5	23.5	3.3	3553
Folicur 3.6F	7.2 fl oz	3 & 5	4.5	17.5	27.0	6.5	3593
Abound 2.08F	18.3 fl oz	3 & 6	6.5	21.5	26.5	5.3	3648
Abound 2.08F	12.0 fl oz	3 & 6	3.5	15.0	23.5	5.0	3441
Folicur 3.6F + Lorsban 15G	7.2 fl oz 13.0 lb	3 - 6 40 DAP	3.5	9.0	14.0	2.3	4062
Folicur 3.6F + Lorsban 15G	7.2 fl oz 13.0 lb	3 & 5 40 DAP	5.5	12.0	23.5	3.0	3945
Abound 2.08F + Lorsban 15G	18.3 fl oz 13.0 lb	3 & 6 40 DAP	4.0	5.5	13.0	3.3	3931
Abound 2.08F + Lorsban 15G	12.0 fl oz 13.0 lb	3 & 6 40 DAP	2.5	12.5	26.0	3.3	4207
Lorsban 15G	13.0 lb	40 DAP	3.5	14.0	38.5	0.5	3354
Nontreated			2.5	49.5	63.5	4.0	2758
LSD (P < 0.05)			2.8	6.9	13.5	4.3	735

¹ Applications refer to a four-spray stem rot schedule (3-6) applied every 14 days, or stage of growth (40 days after planting).

² & ³ Percent of row feet infected, based on number of disease loci (up to 12 in of linear row) per plot.

⁴ Based on a 100-pod sample per plot at harvest.

EVALUATION OF REGISTERED FUNGICIDES FOR THE CONTROL OF LIMB ROT ON C-209 PEANUT

- A. **PURPOSE:** To evaluate the comparative efficacy of fungicides provided by Bayer, Syngenta, Gowan, and BASF against *Rhizoctonia* limb rot.
- B. **EXPERIMENTAL DESIGN:**
1. Randomized complete blocks with five replicates.
 2. One two-row bed (20 x 6 ft) per plot, 36-inch row spacing.
 3. Five foot alleyways between blocks.
 4. Plots were established in an area with a history of *Rhizoctonia* limb rot, and supplemental inoculum was applied midseason specifically for this test.
 5. Variety: C209-6-49
- C. **APPLICATION OF TREATMENTS:**
1. **Equipment:** Midseason foliar treatments were applied with a CO₂ pressurized belt-pack sprayer using 2 liter bottles and a 20 GPA broadcast boom with three Conejet TX-SS6 hollow cone nozzles per row at 40 PSI.
 2. *Rhizoctonia*-colonized oat inoculum (1000 ml per 20 row ft) was applied by hand on 12 Aug and irrigation was applied for several consecutive days. Belt-pack spray treatments (4-7) were applied on 12 Aug, 26 Aug, 9 Sep, and 29 Sep. All plots were traveled by tractor and coversprayed with Bravo Ultrex (1.4 lb/A) on 29 Jun, 7 Jul, 16 Jul, 27 Jul, 9 Aug, 19 Aug, and 1 Sep. Moncut 70DF (1.5 lb/A) was applied on 7 Jul for stem rot control.
- D. **ADDITIONAL INFORMATION:**
1. **Location:** Blackshank Farm, CPES, Tifton, Georgia 31794
 2. **Crop History:** Peanut - 2003, Peanut - 2002, Peanut - 2001, Peanut - 2000
 3. **Land Prep:** Moldboard plowed and marked rows on 22 Apr
 4. **Soil Fertility Prior To Fertilization:**
pH - 6.0 P - 97 K - 45 Ca - 472 Mg - 28
Soil Type: Tifton loamy sand, 2 - 5% slope
 5. **Herbicides:** PPI: Sonalan (2 pt/A) + Dual Magnum (1.5 pt/A) on 13 May
POST: Cadre (1.44 oz/A) + crop oil (0.25% v/v) on 17 Jun

6. Insecticides: Temik 15G, 4 lb/A in furrow on 21 May
7. Nematicides: Telone II, 10 GPA broadcast on 29 Apr
Temik 15G, 10 lb/A (12" band) on 21 May
8. Planting Information: C209-6-49, 7 seed/ft on 21 May
9. Additional Crop Practices:
 - A. Cultivate - 15 Jun
 - B. Landplaster, 1000 lb/A broadcast on 30 Jun
10. Harvest Dates: Dug - 18 Oct Picked - 22 Oct

E. **SUMMARY:** In spite of the additional inoculum applied, levels of limb rot still were not severe. All treatments resulted in a reduction of disease severity compared to the control, but there were no differences between treatments, and only Folicur significantly increased yield. One application of Moncut 70DF (1.5 lb/A) was applied earlier to all plots to minimize stem rot, and the residual from this treatment may have had some suppression of the epidemic.

EVALUATION OF REGISTERED FUNGICIDES FOR THE CONTROL OF LIMB ROT ON C-209 PEANUT

Treatment	Rate/A	App's ¹	Limb rot ²	TSWV ³ 2 Sep	Yield (lb/A)
Folicur 3.6F	7.2 fl oz	3 - 6	16.4	1.5	4715
Stratego 250EC	14.0 fl oz	3 & 5	21.8	2.0	4425
Abound 2.08F	1.15 pt	3 & 5	18.8	2.0	4290
Moncut 70DF	1.07 lb	3 & 5	19.2	2.5	4588
Headline 2.09EC	12.0 fl oz	3 - 6	19.6	2.5	4562
Nontreated			28.4	2.0	4134
LSD (P < 0.05)			6.7	2.1	508

¹ Applications refer to a four-spray limb rot schedule (3-6) applied every 14 days.

² Limb rot was rated as percent severity of colonized stems and leaves evaluated after digging.

³ Percent of row feet infected, based on number of disease loci (up to 12 in of linear row) per plot.

OFFICIAL DAILY RAINFALL 2004							
Blackshank Farm, Tifton, GA 31794							
DATE	APR	MAY	JUN	JUL	AUG	SEP	OCT
1			0.05	0.15		0.08	
2			0.43	0.83			

3		1.52	0.44						
4									
5									
6									
7			0.48	0.63		6.45			
8			0.04			0.10			
9			1.98						
10					0.90	0.66	0.11		
11					0.07		0.08		
12		0.29			0.37		0.30		
13	0.52		1.06		0.14				
14			1.06						
15				0.15					
16									
17						0.45			
18				2.97			0.32		
19		0.02							
20									
21			3.27		0.06				
22			0.60						
23			0.93						
24			0.53						
25									
26	0.78								
27			1.30	0.17		6.30			
28							0.43		
29									
30	0.42		0.40		0.55				
31									
TOTAL	1.72	1.83	12.57	4.90	2.09	14.04	1.24		
DATE	APR	MAY	JUN	JUL	AUG	SEP	OCT		Irr
3					1.00				
14				1.00					
19		1.00							
25					1.00				
29				1.00					
TOTAL		1.00		2.00	2.00				
Rain + Irr	1.72	2.83	12.57	6.90	4.09	14.04	1.24		

EVALUATION OF BAYER FUNGICIDES APPLIED IN FURROW FOR CBR CONTROL ON GEORGIA GREEN PEANUT

- A. PURPOSE: To evaluate the comparative efficacy of Folicur 3.6F and JAU6476 480SC for control of *Cylindrocladium* black rot (CBR).
- B. EXPERIMENTAL DESIGN:

1. Randomized complete blocks with four replicates
2. One two-row bed (25 x 6 ft) per plot, 36 inch row spacing.
3. Ten foot alleyways between blocks.
4. Plots were established in an area with a history of a high population of *Cylindrocladium parasiticum*.
5. Variety: Georgia Green

C. APPLICATION OF TREATMENTS:

1. Equipment: In furrow sprays were applied with a planter mounted CO₂ pressurized sprayer using one TX-8 hollow cone nozzle per row delivering 5 GPA at 25 PSI. Midseason foliar treatments were applied with a CO-2 pressurized belt-pack sprayer using 2-liter bottles and a 20 GPA broadcast boom with three Conejet TX-SS6 hollow cone nozzles per row at 40 PSI.
2. In furrow treatments were applied on 19 May. Midseason belt pack foliar spray treatments (2-5) were applied on 29 Jun, 14 Jul, 26 Jul, and 13 Aug. Plots were coversprayed with Bravo Weatherstik (1.5 pt/A) on 9 Jun, 21 Jun, 6 Jul, 20 Jul, 3 Aug, 17 Aug, 31 Aug, and 14 Sep. Moncut 70DF (1.4 lb/A) was applied on 6 Jul and 3 Aug for stem rot control. Also, Tilt (4 oz/A) was tank-mixed with the 17 Aug Bravo application.

D. ADDITIONAL INFORMATION:

1. Location: Attapulgus Research and Education Center, Attapulgus, GA 31715
2. Crop History: Peanut - 2003, Peanut - 2002, Peanut - 2001
3. Land Prep: Moldboard plowed and marked rows November, 2003
4. Soil Fertility Prior To Fertilization:
pH - 6.0 P - 91 K - 63 Ca - 474 Mg - 57
Soil Type: Norfolk Loamy Sand
5. Herbicides:
PREPLANT: Roundup (1 qt/A) on 24 Mar
PPI: Sonalan (1 qt/A) + Dual Magnum (1.3 pt/A) on 20 April
PRE-EMERGENCE: Roundup (22 oz/A) + Valor (2 oz/A)
+ crop oil (1 qt/A) on 19 Apr
POST: Cadre (1.44 oz/A) on 21 Jul
6. Insecticides: Temik 15G, 4 lb/A in furrow on 19 May

7. Nematicides: None
8. Fumigants: None
9. Planting Information: Georgia Green, 80% germination
7 seed/ft on 19 May
10. Harvest Dates: Dug - 30 Sep Picked - 6 Oct

E. SUMMARY: Plant stands were generally similar across treatments, and although significant CBR occurred, it was not uniformly distributed which added variability to the results. The only treatment significantly increasing yield was the JAU6476 (2.1 oz) + Folicur (4.8 oz) either with or without additional JAU6476 in furrow.

EVALUATION OF BAYER FUNGICIDES APPLIED IN FURROW FOR CBR CONTROL ON GEORGIA GREEN PEANUT

Treatment	App's ¹	Rate/A	Stand count ² 9 Jun	Dead plant ³ 9 Jun	CBR ⁴ 30 Sep	Yield (lb/A)
Untreated			2.5	0.8	28.5	2904
Captan 400 + Allegiance	Seed trt Seed trt	4 fl oz/100 lb 4 fl oz/100 lb	2.9	0.0	12.7	3378

Captan 400 + Allegiance + JAU6476 100FS	Seed trt Seed trt	4 fl oz/100 lb 4 fl oz/100 lb 0.77 fl oz	2.8	0.5	22.5	3129
Captan 400 + Allegiance + JAU6476 100FS	Seed trt Seed trt	4 fl oz/100 lb 4 fl oz/100 lb 1.54 fl oz	2.8	0.3	8.7	3538
Captan 400 + Allegiance + JAU6476 100FS	Seed trt Seed trt	4 fl oz/100 lb 4 fl oz/100 lb 3.08 fl oz	2.5	0.0	21.0	3143
Vitavax PC	Seed trt	4 oz/100 lb	3.0	0.3	28.7	3504
Vitavax PC JAU6476 480SC + Folicur 3.6F	Seed trt 2 - 5	4 oz/100 lb 2.1 fl oz 4.8 fl oz	2.8	0.0	15.5	3851
Vitavax PC Folicur 3.6F	Seed trt 2 - 5	4 oz/100 lb 7.2 fl oz	2.7	0.0	26.5	3346
Vitavax PC JAU6476 480SC + JAU6476 480SC + Folicur 3.6F	Seed trt 2 - 5 In furrow	4 oz/100 lb 5.7 fl oz 2.1 fl oz 4.8 fl oz	2.7	0.0	21.0	3513
Vitavax PC JAU6476 480SC + JAU6476 480SC + Folicur 3.6F	Seed trt 2 - 5 In furrow	4 oz/100 lb 2.9 fl oz 2.1 fl oz 4.8 fl oz	2.6	0.0	4.5	4272
JAU6476 480SC	Seed trt	4 oz/100 lb		2.4 3488	0.3	8.5
JAU6476 480SC + Folicur 3.6F	2 - 5	2.1 fl oz 4.8 fl oz				
Vitavax PC JAU6476 480SC	Seed trt In furrow	4 oz/100 lb 5.7 fl oz	2.7	0.0	16.7	3489
LSD (P < 0.05)			0.3	0.7	16.9	872

¹ Applications refer to a four-spray stem rot schedule (1-7) applied every 14 days, at planting (in furrow), or amount applied per 100 lbs of seed (seed trt).

² Stand count is the number of emerged plants per foot of row on 9 Jun.

³ The number of dead or dying plants per plot (50 row ft) on 9 Jun.

⁴ Percent of row feet infected, based on number of disease loci (up to 12 in of linear row) per plot on 30 Sep.

EVALUATION OF VAPAM APPLICATION FOR CBR CONTROL ON TWIN ROW GEORGIA GREEN PEANUT

A. PURPOSE: To evaluate the comparative efficacy of three methods of Vapam placement in twin row Georgia Green peanut for control of *Cylindrocladium* black rot (CBR).

B. EXPERIMENTAL DESIGN:

1. Randomized complete blocks with six replicates
2. One twin two-row bed (25 x 6 ft) per plot, 36- and 20-inch row spacing.
3. Ten foot alleyways between blocks.
4. Plots were established in an area with a history of a high population of *Cylindrocladium parasiticum*.
5. Variety: Georgia Green

C. APPLICATION OF TREATMENTS:

1. Equipment: After the land was prepared, Vapam treatments were applied preplant with a DC-powered fumigation rig mounted onto a KMC strip till implement. Vapam was injected 10" deep using a subsoil shank set on 28" centers and an 8" fixed wing as follows: one nozzle under each row mounted on the end of the fixed wing, one nozzle under the outside only, or one nozzle centered between the rows on the subsoil shank itself. Two fumigant rates (10 & 15 GPA) were used for each of the three Vapam placement methods. Mounted directly behind the subsoil shank were tillage coulters, a 14 inch soil crumbler, and rubber tire press wheels assuring a firm fumigant seal.
2. Vapam treatments (outside row, center between twins, and split nozzles under each twin) were applied on 19 Apr. Plots were coversprayed with Bravo Weatherstik (1.5 pt/A) on 9 Jun, 21 Jun, 6 Jul, 20 Jul, 3 Aug, 17 Aug, 31 Aug, and 14 Sep. Moncut 70DF (1.4 lb/A) was applied on 6 Jul and 3 Aug for stem rot control.

D. ADDITIONAL INFORMATION:

1. Location: Attapulgus Research and Education Center, Attapulgus, GA 31715
2. Crop History: Peanut - 2003, Peanut - 2002, Peanut - 2001
3. Land Preparation: Moldboard plowed and marked rows November, 2003
4. Soil Fertility Prior To Fertilization:
pH - 6.0 P - 91 K - 63 Ca - 474 Mg - 57
Soil Type: Norfolk Loamy Sand
5. Herbicides: PREPLANT: Roundup (1qt/A) on 24 Mar
PPI: Sonalan (1 qt/A) + Dual Magnum (1.3 pt/A) on 20 Apr
PRE-EMERGENCE: Roundup (22 oz/A) + Valor (2 oz/A)
+ crop oil (1qt/A) on 19 May
POST: Cadre (1.44 oz/A) on 21 Jul
6. Insecticides: Temik 15G, 4 lb/A in furrow on 19 May
7. Nematicides: None
8. Fumigants: Vapam 42%, 10 or 15 GPA on 19 Apr (treatments only)

9. Planting Information:
 Georgia Green - 3.5 seed/ft/row (twin row) on 19 May

10. Harvest Dates: Dug - 30 Sep Picked - 6 Oct

E. SUMMARY: The fumigant provided no disease suppression with any of the application methods. This was verified by the similar isolation frequencies of the pathogen between treatments, and the lack of yield differences. Conditions were favorable during fumigant application, and the reasons for poor performance are unknown.

EVALUATION OF VAPAM APPLICATION FOR CBR CONTROL ON TWIN ROW GEORGIA GREEN PEANUT

Treatment	Rate/A	App's ¹	CBR ² 30 Sep	% CBR in roots ³	Yield (lb/A)
Vapam 42%	10 gal	Split (5 GPA per twin)	57.0	71.4	2865
Vapam 42%	15 gal	Split (7.5 GPA per twin)	43.7	----	3274
Vapam 42%	10 gal	Outside row	56.3	62.5	3046
Vapam 42%	15 gal	Outside row	49.3	----	2957
Vapam 42%	10 gal	Center between twins	61.3	63.4	2841
Vapam 42%	15 gal	Center between twins	51.2	----	3281
Nontreated			53.2	70.5	2970
LSD (P < 0.05)			14.5	n.s.	n.s.

¹ Applications refer to fumigant placement at preplant (two weeks prior to planting).

² Percent of row feet exhibiting symptoms of *Cylindrocladium* black rot (CBR), based on number of disease loci (up to 12 in of linear row) per plot. The 30 Sep evaluation was taken following digging.

³ Isolation frequency of *Cylindrocladium parasiticum* in tap roots at digging, based on 12 plants chosen at random from each plot.

EVALUATION OF STRIP AND CONVENTIONAL TILLAGE WITH AND WITHOUT VAPAM FOR CBR CONTROL ON GEORGIA GREEN, GA-02C, AND CARVER PEANUT

A. PURPOSE: To evaluate the comparative efficacy of strip vs. conventional tillage with and without Vapam for control of *Cylindrocladium* black rot (CBR).

B. EXPERIMENTAL DESIGN:

1. Split plot design with randomized complete blocks with six replicates
 Whole plots were Vapam vs. no Vapam and subplots were fungicide treatments.

2. One two-row bed (30 x 6 ft) per plot, 36 inch row spacing.
3. Ten foot alleyways between blocks.
4. Plots were established in an area with a history of a high population of *Cylindrocladium parasiticum*.
5. Varieties: Georgia Green, GA-02C, and Carver

C. APPLICATION OF TREATMENTS:

1. Equipment: After the land was prepared, Vapam treatments were applied preplant with a DC-powered fumigation rig mounted on a KMC strip tillage implement. Fumigant was injected at 10 GPA directly under the row. Additional components on each row included tillage coulters, 14 inch soil crumbler, and rubber tire press wheels to assure a firm Vapam seal.
2. Vapam treatments were applied on 19 Apr. Plots were coversprayed with Bravo Weatherstik (1.5 pt/A) on 9 Jun, 21 Jun, 6 Jul, 20 Jul, 3 Aug, 17 Aug, 31 Aug, and 14 Sep. Moncut 70DF (1.4 lb/A) was applied on 6 Jul and 3 Aug for stem rot control.

D. ADDITIONAL INFORMATION:

1. Location: Attapulgus Research and Education Center, Attapulgus, GA 31715
2. Crop History: Peanut - 2003, Peanut - 2002, Peanut - 2001
3. Land Prep: Moldboard plowed and marked beds November, 2003.
Strip till beds were planted in wheat (90 lb/A) on 5 Nov.
Stale beds were reshaped and wheat in strip till beds was "burned down" with Roundup in March, 2003.
4. Soil Fertility Prior To Fertilization:

pH - 6.0 P - 91 K - 63 Ca - 474 Mg - 57
Soil Type: Norfolk Loamy Sand
5. Herbicides:

OVER THE TOP:	Sonalan (1 qt/A) + Dual Magnum (1.3 pt/A) on 20 Apr
PRE-EMERGENCE:	Roundup (22 oz/A) + Valor (2 0z/A) + crop oil (1 qt/A) on 19 May
POST:	Cadre (1.44 oz/A) on 21 Jul
6. Insecticides: Temik 15G, 4 lb/A in furrow on 19 May
7. Nematicides: None
8. Fumigants: Vapam 42%, 10 GPA on 19 Apr (treatments only)
9. Planting Information: 7 seed/ft on 19 May
Georgia Green, GA-02C, and Carver, 93%, 93%, and 94% germination, respectively

10. Harvest Dates: Dug - 30 Sep Picked - 6 Oct

E. SUMMARY: There were no differences in any parameters evaluated between conventional and strip tillage. The fumigant also had very little effect on disease and no effect on yield. The CBR resistance of GA-02C was evident with > 50% reduction in CBR incidence and a more than 700 lb/A yield increase compared to either Georgia Green or Carver.

EVALUATION OF STRIP AND CONVENTIONAL TILLAGE WITH AND WITHOUT VAPAM FOR CBR CONTROL ON GEORGIA GREEN, GA 02-C, AND CARVER PEANUT

	Stand Count ¹	CBR 30 Sep	Yield (lb/A)
TILLAGE PROGRAM			
Conventional	3.3	61.6	2985
Strip	3.3	64.3	2986
LSD (P < 0.05)	n.s.	n.s.	n.s.
FUMIGANT PROGRAM			
Vapam (10 GPA)	—	59.1	3051
No Vapam	—	66.8	2919
LSD (P < 0.05)	---	5.9	n.s.
CULTIVAR			
Georgia Green	3.3	79.4	2795
GA-02C	3.2	35.3	3501
Carver	3.2	74.1	2659
LSD (P < 0.05)	0.1	7.2	215

¹ The number of emerged plants per foot of row on 9 Jun.

² Percent of row feet infected, based on number of disease loci (up to 12 in of linear row) per plot at digging.

OFFICIAL DAILY RAINFALL 2004							
Attapulcus, Georgia							
DATE	APR	MAY	JUN	JUL	AUG	SEP	OCT
1		0.07	1.16			0.01	
2			0.75				
3		0.10	0.27				
4			0.34	0.01			
5			0.05			0.47	
6			0.01			3.21	
7	0.12		0.39			0.09	
8	0.10			0.46			
9				0.31			
10					3.02	0.07	0.06

11			0.56		0.22	0.02	0.07
12	0.33			0.31	0.60		0.09
13	0.36		0.48	0.11		0.08	0.01
14			0.50	0.01	0.08		0.06
15			0.26	0.15	0.19	0.06	0.66
16			0.06	0.29	0.10	1.80	
17				0.60			
18				0.51	0.01		
19		0.13	0.14	0.01			0.79
20		0.55	0.01		0.44		0.88
21		0.01	0.01		0.07		
22			0.11		0.93		
23			0.33		0.04		
24			0.85				
25			0.01				
26	0.12		0.12			0.57	
27			0.68	0.08		1.85	
28			0.13				
29			0.66		0.02		
30	1.89				0.17		
31		1.08					
TOTAL	2.92	1.94	7.88	2.85	5.89	8.23	2.62
Irr							
DATE	APR	MAY	JUN	JUL	AUG	SEP	OCT
2					0.50	0.50	
4					0.50		
26		0.50		0.50			
29		0.50					
TOTAL		1.00		0.50	1.00	0.50	
Rain +							
Irr	2.92	3.94	7.88	3.35	6.89	8.73	2.62

EVALUATION OF VARIOUS FUNGICIDES FOR CBR CONTROL ON GEORGIA GREEN PEANUT IN A GREENVILLE SANDY CLAY SOIL

- A. PURPOSE: To evaluate the comparative efficacy of fungicides provided by Bayer, Syngenta, and BASF, against soilborne peanut diseases, mainly *Cylindrocladium* black rot (CBR).
- B. EXPERIMENTAL DESIGN:
1. Randomized complete blocks with six replicates
 2. One two-row bed (30 x 6 ft) per plot, 36-inch row spacing.
 3. Ten foot alleyways between blocks.
 4. Plots were established in an area with a history of a high population of *Cylindrocladium parasiticum*.
 5. Variety: Georgia Green

C. APPLICATION OF TREATMENTS:

1. Equipment: Midseason spray treatments were applied with a CO₂ pressurized belt-pack sprayer consisting of 2 liter bottles and a 20 GPA broadcast boom with three Conejet TX-SS6 hollow cone nozzles per row at 40 PSI.
2. Belt-pack spray treatments (2-5) were applied on 28 Jun, 9 Jul, 21 Jul, and 5 Aug. Plots were coversprayed with Bravo Weatherstik (1.5 pt/A) on 9 Jun, 25 Jun, 9 Jul, 23 Jul, 6 Aug, 19 Aug, and 2 Sep. Tilt (4 oz/A) was added to the 9 Jul Bravo spray. Headline (12 oz/A) was used for the 23 Jul coverspray instead of Bravo.

D. ADDITIONAL INFORMATION:

1. Location: Southwest GA Branch Station, Plains, Georgia 31780
2. Crop History: Peanut - 2003, Peanut - 2002, Cotton - 2001, Corn - 2000
3. Land Prep: Moldboard plowed and marked rows on 19 Mar
4. Soil Fertility Prior To Fertilization:
 pH - 6.3 P - 75 K - 210 Ca - 942 Mg - 178
 Soil Type: Greenville sandy clay
5. Herbicides:
 PPI: Sonalan (2qt/A) + Dual (1.3 pt/A) on 7 Apr
 PRE-EMERGENCE: Valor (1 oz/A) + Roundup (1 qt/A) on 14 May
6. Insecticides: Temik 15G, 4 lb/A in furrow on 12 May
7. Fumigants: Vapam 42%, 10 GPA on 7 Apr (treated plots only)
8. Planting Information: Georgia Green, 7 seed/ft on 12 May
9. Harvest Dates: Dug - 24 Sep Picked - 1 Oct

E. SUMMARY: Severe CBR developed, although it generally came in very late in the year. Other diseases were present at only low incidence. The only fungicide increasing yield was JAU6476, and every treatment with that chemical, except as an in furrow spray alone, had an increased yield.

EVALUATION VARIOUS FUNGICIDES FOR CBR CONTROL ON GEORGIA GREEN PEANUT IN A GREENVILLE SANDY CLAY SOIL

Treatments	App's ¹	Rate/A	Stand Count ²	Stem Rot ³	CBR ⁴ 24 Sep	Yield (lb/A)
Folicur 3.6F	2 - 5	7.2 fl oz		No data	3.7	60.7 24 99
Abound 2.08F	2 & 4	18 fl oz		No data	3.3	62.7 26 48

JAU6476 480SC 3281	2 - 5	5.7 fl oz	No data	2.0	40.7	
Headline 2.09 EC	2 - 5	9.0 fl oz	No data	4.0	63.7	25 98
Stratego	2 & 4	14 fl oz	No data	5.7	64.0	2402
JAU6476 480SC 3247 + Folicur 3.6F	2 - 5	2.1 fl oz 4.8 fl oz	No data	3.3	44.7	
JAU6476 480SC + JAU6476 480SC + Folicur 3.6F	In furrow 2 - 5	5.7 fl oz 2.1 fl oz 4.8 fl oz	No data	1.7	34.3	35 74
JAU6476 480SC + JAU6476 480SC + Folicur 3.6F	In furrow 2 - 5	2.9 fl oz 2.1 fl oz 4.8 fl oz		3.0	3.7	46.0
JAU6476 480SC	In furrow	5.7 fl oz		3.0	3.7	49.7
JAU6476 480SC + JAU6476 480SC	In furrow 2 - 5	5.7 fl oz 5.7 fl oz	No data	5.3	35.7	37 32
Abound 2.08F	In furrow	6.0 fl oz	3.1	5.7	56.3	2434
Abound 2.08F + Abound 2.08F	In furrow 2 & 4	6.0 fl oz 18 fl oz	No data	1.7	60.3	2553
Folicur 3.6F	2 & 4	7.2 fl oz	No data	1.3	52.0	26 00
Abound 2.08F	3 & 5	18 fl oz				
Headline 2.09 EC	2	9.0 fl oz	No data	2.7	54.3	26 18
Folicur 3.6F Headline 2.09 EC	3 & 5 4	7.2 fl oz 12 fl oz				
Nontreated			3.2	4.0	55.3	2402
LSD (P < 0.05)			n.s.	3.4	15.5	676

¹ Applications refer to a four-spray stem rot schedule (2-5) applied every 14 days, or at planting (in furrow).

² Stand count is the number of emerged plants per foot of row on 10 Jun.

³ & ⁴ Percent of row feet infected at digging, based on number of disease loci (up to 12 in of linear row) per plot.

EVALUATION OF THREE VAPAM RATES FOR CBR CONTROL ON GEORGIA GREEN PEANUT

A. **PURPOSE:** To evaluate the comparative efficacy of three rates of Vapam against soilborne peanut diseases, mainly *Cylindrocladium* black rot (CBR), where nematodes were not a limiting production factor.

B. **EXPERIMENTAL DESIGN:**

1. Randomized complete blocks with six replicates
2. One two-row bed (30 x 6 ft) per plot, 36-inch row spacing.
3. Ten foot alleyways between blocks.
4. Plots were established in an area with a history of a high population of *Cylindrocladium parasiticum*.
5. Variety: Georgia Green

C. APPLICATION OF TREATMENTS:

1. Equipment: After the land was prepared, Vapam treatments were applied preplant with a DC- powered fumigant rig mounted onto a KMC strip till implement. Vapam was injected 10 inches deep using a subsoil shank on 28" centers with an 8" fixed wing as follows: 10 GPA with one nozzle directly under each row, 20 GPA with 10 GPA directly under each row and 10 GPA offset 4" inside each row, or 30 GPA with 15 GPA directly under each row and 15 GPA offset 4" inside each row.. Additional tillage components on each row included fluted coulters, 14 inch soil crumbler, and rubber tire press wheels.
2. Vapam treatments (10, 20, and 30 GPA) were applied on 7 Apr. Plots were cover-sprayed with Bravo Weatherstik (1.5 pt/A) on 9 Jun, 25 Jun, 9 Jul, 23 Jul, 6 Aug, 19 Aug, and 2 Sep. Tilt (4 oz/A) was added to the 9 Jul Bravo coverspray. Headline (12 oz/A) was used instead of Bravo for the 23 Jul coverspray.

D. ADDITIONAL INFORMATION:

1. Location: Southwest GA Branch Station, Plains, Georgia 31780
2. Crop History: Peanut - 2003, Peanut - 2002, Cotton - 2001, Corn - 2000
3. Land Prep: Moldboard plowed and marked rows on 19 Mar
4. Soil Fertility Prior To Fertilization:
pH - 6.3 P - 75 K - 210 Ca - 942 Mg - 178
Soil Type: Greenville sandy clay
5. Herbicides:
PPI: Sonalan (1 qt/A) + Dual (1.3 pt/A) on 7 Apr
PRE-EMERGENCE: Valor (1 oz/A) + Roundup (1qt/A) on 14 May
6. Insecticides: Temik 15G, 4 lb/A in furrow on 13 May
7. Nematicides: None
8. Fumigants: Vapam 42%, 10, 20, or 30 GPA on 7 Apr (as specified by trt)

9. Planting Information: Georgia Green, 7 seed/ft on 12 May
10. Harvest Dates: Dug - 24 Sep Picked - 1 Oct

E. SUMMARY: This illustrated a step-wise response in both CBR incidence and yield to increasing rates of metam sodium. Such high rates would not be economically possible, unless they were also being used to control nematodes. That is being evaluated in other tests.

EVALUATION OF THREE VAPAM RATES FOR CBR CONTROL ON GEORGIA GREEN PEANUT

Treatment	Rate/A	App's ¹	CBR ² Digging	Stem Rot ³	Yield (lb/A)
Nontreated			67.0	5.0	2284
Vapam 42%	10 gal	preplant, single shank	54.7	7.0	2946
Vapam 42%	20 gal	preplant, single shank	47.3	7.3	3299
Vapam 42%	30 gal	preplant, single shank	39.3	6.7	3456
LSD (P < 0.05)			15.8	6.0	755

¹ Applications refer to two weeks prior to planting (preplant).

² Percent of row feet exhibiting symptoms of *Cylindrocladium* black rot (CBR), based on number of disease loci (up to 12 in of linear row) per plot.

³ Percent of row feet infected at digging, based on number of disease loci (up to 12 in of linear row) per plot.

EVALUATION OF ABOUND AND FOLICUR WITH AND WITHOUT VAPAM FOR CBR CONTROL ON THREE PEANUT CULTIVARS IN A GREENVILLE SANDY CLAY

A. PURPOSE: To evaluate the singular and combined effects of foliar fungicides and fumigation against *Cylindrocladium* black rot on Georgia Green, GA-02C, and Carver peanut.

B. EXPERIMENTAL DESIGN:

- Split-split plot design in randomized complete blocks with six replicates. Whole plots were cultivars, subplots were Vapam vs. no Vapam, and sub-subplots were fungicide treatments.
- One two-row bed (30 x 6 ft) per plot, 36-inch row spacing.

3. Ten foot alleyways between blocks.
4. Plots were established in an area with a history of a high population of *Cylindrocladium parasiticum*.
5. Varieties: Georgia Green, GA-02C, and Carver

C. APPLICATION OF TREATMENTS:

1. Equipment: After the land was turned and the rows marked, Vapam preplant treatments were applied with a DC-powered fumigation rig mounted on a KMC Rip Strip tillage implement. Fumigant was injected directly under the row at 10 inches deep on a wing offset 4" from a subsoil shank set on 28" centers. Additional components mounted on each row included fluted coulters, a 14 inch soil crumbler, and rubber tire press wheels which provided an adequate seedbed and a firm fumigant seal. Abound and Folicur spray treatments were applied with a CO₂ pressurized belt-pack sprayer consisting of 2 liter bottles and a 20 GPA broadcast boom with three Conejet TX-SS6 hollow cone nozzles per row at 40 PSI.
2. Vapam (10 GPA) was applied on 7 Apr. Folicur spray treatments (2 & 4) were applied on 28 Jun and 21 Jul. Abound spray treatments (3 & 5) were applied on 9 Jul and 5 Aug. Plots were coversprayed with Bravo Weatherstik (1.5 pt/A) on 9 Jun, 25 Jun, 9 Jul, 23 Jul, 6 Aug, 19 Aug, and 2 Sep. Tilt (4oz/A) was added to the 9 Jul Bravo coverspray. Headline (12 oz/A) was used in place of Bravo for the 23 Jul coverspray.

D. ADDITIONAL INFORMATION:

1. Location: Southwest GA Branch Station, Plains, Georgia 31780
2. Crop History: Peanut - 2003, Peanut - 2002, Cotton - 2001, Corn - 2000
3. Land Prep: Moldboard plowed and marked rows on 19 Mar
4. Soil Fertility Prior To Fertilization:
pH - 6.3 P - 75 K - 210 Ca - 942 Mg - 178
Soil Type: Greenville sandy clay
5. Herbicides:
PPI: Sonalan (1 qt/A) + Dual (1.3 pt/A) on 7 May
PRE-EMERGENCE: Valor (1 oz/A) + Roundup (1 qt/A) on 14 May
6. Insecticides: Temik 15G, 4 lb/A in furrow on 12 May
7. Nematicides: None
8. Fumigants: Vapam 42%, 10 GPA on 7 Apr (treated plots only)
9. Planting Information:
Georgia Green, GA-02C, and Carver - 7 seed/ft on 12 May
10. Harvest Dates: Dug - 24 Sep Picked - 1 Oct

- E. **SUMMARY:** Very little stem rot occurred in this test and the primary disease was CBR, which was relatively severe in all three cultivars. There was a small but significant reduction in disease from both fungicide and Vapam, as well as about a 400 lb/A yield increase. The biggest difference in yield was due to cultivar with Carver having the highest by 550 lb/A, followed by GA-02C, then Georgia Green.

EVALUATION OF ABOUND AND FOLICUR WITH AND WITHOUT VAPAM FOR CBR CONTROL ON THREE PEANUT CULTIVARS IN A GREENVILLE SANDY CLAY

Yield Treatment	Rate/A	App's ¹	Stand count ²	Rot ³	Stem 24 Sep	CBR ⁴ (lb/A)	
CULTIVAR							
Georgia Green			3.2	3.2	7.4	58.7	3096
Carver			3.2	9.1	48.0	4016	
GA-02C			3.2	6.5	52.8	3466	
LSD (P < 0.05)			n.s.	2.4	7.8	327	
FUNGICIDE PROGRAM							
Folicur 3.6F	7.2 fl oz		2 & 4	---	6.1	47.6	37
Abound 2.08F	12 fl oz	3 & 5					39
Nontreated (Bravo only)			---	9.2	58.7	3313	
LSD (P < 0.05)			---	2.0	6.3	267	
FUMIGANT PROGRAM							
Vapam	10 gal		preplant	---	7.9	47.2	3731
No Vapam			---	7.4	59.1	3320	
LSD (P < 0.05)			---	n.s.	6.3	267	

¹ Applications refer to a four-spray stem rot schedule (2-5) applied every 14 days, or two weeks prior to planting (preplant).

² Stand count is the number of emerged plants per foot of row on 10 Jun.

^{3 & 4} Percent of row feet infected at digging, based on number of disease loci (up to 12 in of linear row) per plot.

OFFICIAL DAILY RAINFALL 2004										
Southwest Georgia Branch Experiment Station, Plains, GA 31780										
DATE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
1						0.55	1.00		0.08	
2		0.03				0.13	0.16		0.07	
3		0.16			2.15	0.14				
4						0.46	0.23			
5	0.04									
6	0.05	0.01					1.91			
7		0.88	0.06						5.20	

8				0.25		0.51	0.40		0.88	
9	0.12			0.06		0.02				
10		0.03	0.01							
11		0.06							0.78	0.07
12		1.16						3.88	1.80	0.17
13		0.03		0.44	0.22	0.83		0.71		
14				0.02		0.97		0.08	0.10	
15		0.85				0.28			0.05	0.15
16		0.05	0.06			0.80			0.14	
17	0.48		0.09		0.26	0.10	0.40		3.00	
18	0.09					1.03	0.50			
19	0.29						0.40			
20										0.42
21										
22						1.52				
23						0.25		0.46		
24		0.21				0.62				0.13
25		0.16				0.04				
26	1.30	2.33				0.07	0.05			
27	1.00	0.02		0.61		0.23	0.10		0.90	
28						0.42	0.58		1.00	
29						0.19				
30			0.01	0.44		0.24				
31			0.05					0.37		
TOTAL	3.37	5.98	0.28	1.82	2.63	9.40	5.73	5.50	14.00	0.94
Irr										
DATE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
2								0.10		
5				0.50						
12					0.50					
18								0.70		
TOTAL				0.50	0.50			0.80		
Rain + Irr	3.37	5.98	0.28	2.32	3.13	9.40	5.73	6.30	14.00	4.94

EVALUATION OF FUNGICIDES FOR SCAB CONTROL ON WICHITA PECAN, 2004

A. PURPOSE: To evaluate the comparative efficacy of registered and experimental fungicides against pecan foliar and nut diseases, mainly scab.

B. EXPERIMENTAL DESIGN:

1. Randomized complete blocks with four replicates.
2. Each replication consisted of single-tree treatments.

3. The orchard was established in 1988 with alternating rows of Wichita and Desirable planted on a 40 x 40 ft spacing in a north-south pattern. The treatments in this test were applied to Wichita only.

C. APPLICATION OF TREATMENTS:

1. Equipment: All spray treatments were applied with a Model AF100-32 pto-driven air-blast sprayer (Durand-Wayland, Inc.) delivering 95 gallons per acre at 125 PSI traveling 2 MPH.
2. Calendar-based spray treatments (1-10) were applied on 9 Apr, 22 Apr, 5 May, 20 May, 3 Jun, 17 Jun, 2 Jul, 15 Jul, 29 Jul, and 16 Aug.

D. ADDITIONAL INFORMATION:

1. Location: Ponder Farm, Coastal Plain Exp. Station, Tifton, Georgia 31794
2. Summer fertilization: Applied 10-10-10 (5 lb/tree) + zinc (0.25 lb/tree) to young trees on 23 Jul
3. Soil Fertility Prior To Fertilizing:

<u>0 - 6"</u>	<u>6 - 12"</u>
pH - 6.1	pH - 6.0
P - 44	P - 14
K - 51	K - 61
Ca - 873	Ca - 305
Mg - 231	Mg - 59

Soil Type: Tifton loamy sand, (2-5% slope)

4. Herbicide strips:
Surflan (4 qts/A) + Roundup (2qts/A) on 20 Apr
Touchdown (4 qts/A) on 28 May
Roundup (3 qts/A) on 7 Jul
Touchdown (4 qts/A) on 18 Aug
Roundup (3 qts/A) on 29 Sep
5. Insecticides: None

6. Harvest information:

Nut quality was so poor on Wichita that there was no harvest data collected.

- E. SUMMARY: This was a very wet year with a total of 16 rain events in June alone. Although no harvest data was obtained, the leaf and nut scab data were very good. The best comparison of nut scab efficacy would be the July 8 incidence and the Aug 24 severity ratings, where large differences were evident between treatments.

EVALUATION OF FUNGICIDES FOR SCAB CONTROL ON WICHITA PECAN, 2004

Treatment	Rate/A	App's ¹	Leaf Scab		Nut Scab				Leaf Ret ⁶ 12/06
			14 May Inc. ²	les/leaf ³	Incidence ⁴ 7/08	8/24	Severity ⁵ 7/08	8/24	
Orbit 45WP + Super Tin 80WP	4.0 fl oz 5.0 oz	1 - 10	5.1	.15	85.2	100	11.3	51.6	60
USF2010	5.0 fl oz	1 - 10	1.0	.02	48.9	100	4.6	27.8	78
USF2010	6.0 fl oz	1 - 10	1.3	.01	34.8	96.9	2.6	15.0	73
Stratego 250EC	10.0 fl oz	1 - 10	0.2	.00	21.4	100	1.4	15.6	70

Stratego 250SE	10.0 fl oz	1 - 10	0.8	.01	53.5	96.9	5.1	26.9	75
Enable 2F + Elast 400F	4.0 fl oz 25.0 fl oz	1 - 10	2.1	.04	53.9	100	6.0	45.5	73
Enable 2F + Elast 400F	6.0 fl oz 25.0 fl oz	1 - 10	0.2	.00	37.5	100	3.5	36.3	60
Enable 2F + Elast 400F	4.0 fl oz 37.5 fl oz	1 - 10	1.8	.03	29.7	100	4.5	19.3	70
Enable 2F + Elast 400F	6.0 fl oz 37.5 fl oz	1 - 10	0.7	.01	23.4	100	2.4	21.8	83
Rubigan 1AS + Elast 400F	9.0 fl oz 25.0 fl oz	1 - 10	1.2	.01	68.5	100	11.7	30.7	63
GWN-4400 1EC + Elast 400F	9.0 fl oz 25.0 fl oz	1 - 10	5.7	.09	55.5	100	6.2	36.9	70
Rubigan 1AS + Super Tin 80WP	9.0 fl oz 5.0 oz	1 - 10	3.7	.10	87.8	100	16.8	46.7	65
GWN-4400 1EC + Super Tin 80WP	9.0 fl oz 5.0 oz	1 - 10	3.2	.08	100	100	25.3	62.2	43
Nontreated			11.8	.34	100	100	59.4	97.5	35
LSD (P < 0.05)			2.9	.10	19.0	3.6	4.9	10.2	28

¹ Based on a calendar schedule (1-10) at 2-week intervals for the entire spray season.

² Based on ratings of eight terminals per tree. Incidence is the percentage of leaflets on the middle leaf on each terminal with any scab present.

³ The average number of lesions per leaf.

⁴ Based on rating eight nut clusters per tree. Incidence is the percentage of nuts with any scab.

⁵ Based on rating eight nut clusters per tree. Severity is the percentage of shuck area covered with scab.

⁶ Based on a visual assessment of the percent retention (0 - 100) of foliage on whole trees.

EVALUATION OF FUNGICIDES FOR SCAB CONTROL ON DESIRABLE PECAN, 2004

A. **PURPOSE:** To evaluate the comparative efficacy of registered and experimental fungicides against pecan foliar and nut diseases, mainly scab.

B. **EXPERIMENTAL DESIGN:**

1. Randomized complete blocks with four replicates.
2. Each replication consisted of single-tree treatments.
3. The orchard was established in 1988 with alternating rows of Wichita and Desirable planted on a 40 x 40 ft spacing in a north-south pattern. The treatments in this test

were applied to Desirable.

C. APPLICATION OF TREATMENTS:

1. Equipment: All spray treatments were applied with a Model AF100-32 pto-driven air-blast sprayer (Durand-Wayland, Inc.) delivering 95 gallons per acre at 125 PSI traveling 2 MPH.
2. Calendar-based spray treatments (1-8) were applied on 15 Apr, 28 Apr, 11 May, 4 Jun, 23 Jun, and 14 Jul, 4 Aug, and 23 Aug. This test was coversprayed on 4 May with zinc (1 gal/A), nickle (90g/100 gal), and urea (4 lb/A).

D. ADDITIONAL INFORMATION:

1. Location: Ponder Farm, Coastal Plain Exp. Station, Tifton, Georgia 31794
2. Summer fertilization: None
3. Soil Fertility Prior To Fertilizing:

<u>0 - 6"</u>		<u>6 - 12"</u>	
pH -	6.1	pH -	6.0
P -	44	P -	14
K -	51	K -	61
Ca -	873	Ca -	305
Mg -	231	Mg -	59

Soil Type: Tifton loamy sand, (2-5% slope)

4. Herbicide strips:

Surflan (4 qts/A) + Roundup (2 qts/A) on 20 Apr
Touchdown (4 qts/A) on 28 May
Roundup (3 qts/A) on 7 Jul
Touchdown (4 qts/A) on 18 Aug
Roundup (3 qts/A) on 29 Sep

5. Insecticides: none
6. Harvest information:

Desirables were shook with a Savage Model 2138 pto-driven tree shaker on 26 Oct. Nut yields were obtained on 27 and 28 Oct, and samples were collected to determine quality.

- E. **SUMMARY:** Frequent rains in June resulted in relatively heavy scab pressure for Desirable in this orchard where it historically has lower disease levels. All treatments were effective on leaf scab and provided reasonably good nut scab control. However, some products were more effective than others. Nut quality parameters were similar for all fungicides, and all had much fewer nuts/lb than did nontreated plots.

TABLE 1: DISEASE RATINGS, DESIRABLE, 2004

Treatment	Rate/A	App's ¹	Leaf Inc.	Scab ² les/leaf	Nut Scab				Leaf Ret. 12/6	
					Incidence ⁵		Severity ⁵			
					7/8	8/24	7/8	8/24		
Orbit 45WP + Super Tin 80WP	4.0 oz 3.75 oz	1 - 8	0.9	.01	4.2	77.1	0.1	5.0	15	
Stratego 250EC Propimax 3.6EC + Super Tin 80WP	10 fl oz 4.0 fl oz 5.0 oz	1 - 3 4 - 8	0.0	.00	0.0	73.4	0	3.8	30	
Enable 2F + Elast 400F	4.0 fl oz 37.5 fl oz	1 - 8		0.5	.02	3.1	42.2	0.1	2.3	60
Enable 2F + Elast 400F	6.0 fl oz 37.5 fl oz	1 - 8		0.5	.01	5.7	45.3	0.3	2.9	38
Enable 2F + Elast 400F	4.0 fl oz 25.0 fl oz	1 - 8		0.0	.00	1.6	67.2	0.1	3.0	48
Enable 2F	6.0 fl oz	1 - 8		1.0	.01	4.2	42.2	0.4	1.9	50

+ Elast 400F	25.0 fl oz									
Enable 2F + Super Tin 80WP	4.0 fl oz 5.0 oz	1 - 8	1.2	.03		5.7	80.2	0.3	8.8	25
Propimax 3.6EC + Super Tin 80WP	4.0 fl oz 5.0 oz	1 - 8	2.2	.04		7.8	84.4	0.7	8.1	35
Propimax 3.6EC + Super Tin 80WP	4.0 fl oz 5.0 oz	1 - 3	0.2	.00		7.8	62.5	0.6	4.8	30
Enable 2F + Elast 400F	6.0 fl oz 25.0 fl oz	4 - 8								
Rubigan 1AS + Elast 400F	9.0 fl oz 25.0 fl oz	1 - 8	1.2	.03		4.7	92.2	0.3	10.0	33
GWN-4400 1EC + Elast 400F	9.0 fl oz 25.0 fl oz	1 - 8	1.3	.04		3.6	87.0	0.2	6.8	48
Rubigan 1AS + Super Tin 80WP	9.0 fl oz 5.0 oz	1 - 8	3.6	.07		19.8	100.0	1.8	15.2	18
GWN-4400 1EC + Super Tin 80WP	9.0 fl oz 5.0 oz	1 - 8	1.1	.02		22.9	91.7	1.9	11.6	20
Nontreated			12.0	.34		93.2	100.0	11.9	59.8	0
LSD (P < 0.05)			2.6	.08		10.4	18.7	1.2	4.6	24

¹ Based on an eight-spray calendar schedule (1-8) on a 2-week interval prepollination (1-3) and a 3-week interval post pollination (4-8).

² Based on ratings of eight terminals per tree. Severity is the percentage of leaf cover with scab lesions.

⁴ Based on rating eight nut clusters per tree. Incidence is the percentage of nuts with any scab.

⁵ Based on rating eight nut clusters per tree. Severity is the percentage of shuck area covered with scab lesions.

³ Based on a visual assessment of the percent retention (0 - 100) of foliage on whole trees.

TABLE 2: NUT QUALITY, DESIRABLE, 2004

Treatment	Rate/A	App's	% fill ¹	Nuts per lb	% kernels ²			
					dark	med	light	golden
Orbit 45WP + Super Tin 80WP	4.0 oz 3.75 oz	1 - 8	50.5	50.2	5.3	4.5	2.0	88.3
Stratego 250EC Propimax 3.6EC + Super Tin 80WP	10 fl oz 4.0 fl oz 5.0 oz	1 - 3 4 - 8	51.7	46.3	0.8	3.3	1.5	94.5
Enable 2F + Elast 400F	4.0 fl oz 37.5 fl oz	1 - 8	50.9	49.4	4.0	2.3	4.0	89. 8
Enable 2F	6.0 fl oz	1 - 8	51.5	47.7	3.7	2.0	2.0	92.

+ Elast 400F	37.5 fl oz								3
Enable 2F	4.0 fl oz	1 - 8	51.3	47.8	2.3	4.8	1.0	92.0	
+ Elast 400F	25.0 fl oz								
Enable 2F	6.0 fl oz	1 - 8	51.3	47.6	2.8	3.8	3.0	90.5	
+ Elast 400F	25.0 fl oz								
Enable 2F	4.0 fl oz	1 - 8	50.7	48.4	1.3	4.0	1.0	93.8	
+ Super Tin 80WP	5.0 oz								
Propimax 3.6EC	4.0 fl oz	1 - 8	51.6	51.9		2.0	5.0	1.3	91.7
+ Super Tin 80WP	5.0 oz								
Propimax 3.6EC	4.0 fl oz	1 - 3	51.4	50.0		4.5	2.5	0.5	92.5
+ Super Tin 80WP	5.0 oz								
Enable 2F	6.0 fl oz	4 - 8							
+ Elast 400F	25.0 fl oz								
Rubigan 1AS	9.0 fl oz	1 - 8	50.8	50.2	1.8	4.1	1.8	92.3	
+ Elast 400F	25.0 fl oz								
GWN-4400 1EC	9.0 fl oz	1 - 8	50.9	48.1		2.3	4.3	1.0	92.5
+ Elast 400F	25.0 fl oz								
Rubigan 1AS	9.0 fl oz	1 - 8	50.7	49.6	2.0	3.7	3.0	91.3	
+ Super Tin 80WP	5.0 oz								
GWN-4400 1EC	9.0 fl oz	1 - 8	51.4	54.3	2.3	2.6	2.9	92.3	
+ Super Tin 80WP	5.0 oz								
Nontreated			49.5	65.6	5.4	5.3	1.3	87.9	
LSD (P < 0.05)		n.s.	5.6	4.5	3.6	2.9	6.6		

¹ The percent kernel weight of a 50-nut sample.

² The percent of halves in a 50-nut sample that were visually assessed and placed in the indicated categories.

OFFICIAL DAILY RAINFALL 2004			
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Ponder Farm										
Ty Ty, Georgia										
DATE	APR	MAY	JUN	JUL	AUG	SEP	OCT			
1			1.50	1.10		0.10				
2			0.25	0.15						
3		1.35	0.25		0.25					
4			0.35							
5										
6				1.00		6.00				
7			0.30							
8	8.35		0.10	0.90						
9	9.90		1.05							
10			0.70							
11					1.20		0.35			
12					0.15		0.25			
13	0.60				0.45	0.25	0.10			
14			0.20			0.20				
15			0.50			0.15	0.50			
16			0.20		1.00	0.15				
17						0.25				
18					0.80					
19		0.10		1.50						
20							0.55			
21										
22			2.40							
23					0.50					
24			0.40							
25			0.10							
26				0.15						
27	1.05			0.25						
28			1.60			6.00				
29			0.40							
30	0.60									
31					0.60					
TOTAL	20.50	1.45	10.30	5.05	4.95	13.10	1.75			