Peanut Disease Control Field Trials, 2009: Experimental Fungicide & Cultivar Trials

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Peanut Disease Control Field Trials, 2009 Experimental Fungicide and Cultivar Trials

A. K. Hagan, K. L. Bowen, and H. L. Campbell

INTRODUCTION

Fungicides, cultural practices, and resistant cultivars are available for the control of damaging diseases and nematode pests that can limit peanut yield. A management program that incorporates these practices can enhance the control of diseases and nematode pests and can increase crop yield and profit potential.

In order to provide timely information concerning disease management practices, Alabama Agricultural Experiment Station personnel conducted foliar and soil-borne disease as well as nematode control trials at the Wiregrass Research and Extension Center (WREC) in Headland, Alabama, and at the Gulf Coast Research and Extension Center (GCREC) in Fairhope, Alabama. This report summarizes the results of those trials.

During the 2009 production season at the WREC, temperatures were near normal historical averages (Figure 1), and monthly rainfall totals were at or above normal historical averages throughout the entire growing season (Figure 2). As a result of the increased rainfall, leaf spot severity was much worse than previously observed in all trials, and soil-borne disease incidence was similar to that observed in previous years and adversely affected yield.

At the GCREC, temperatures were at or near historical averages throughout the entire growing season (Figure 1), and rainfall totals were at or above normal throughout the entire growing season (Figure 2). More consistent rainfall throughout the growing season led to higher than normal leaf spot severity and higher rust severity. Although stem rot incidence was low, it was similar to that previously observed and resulted in decreased yield.

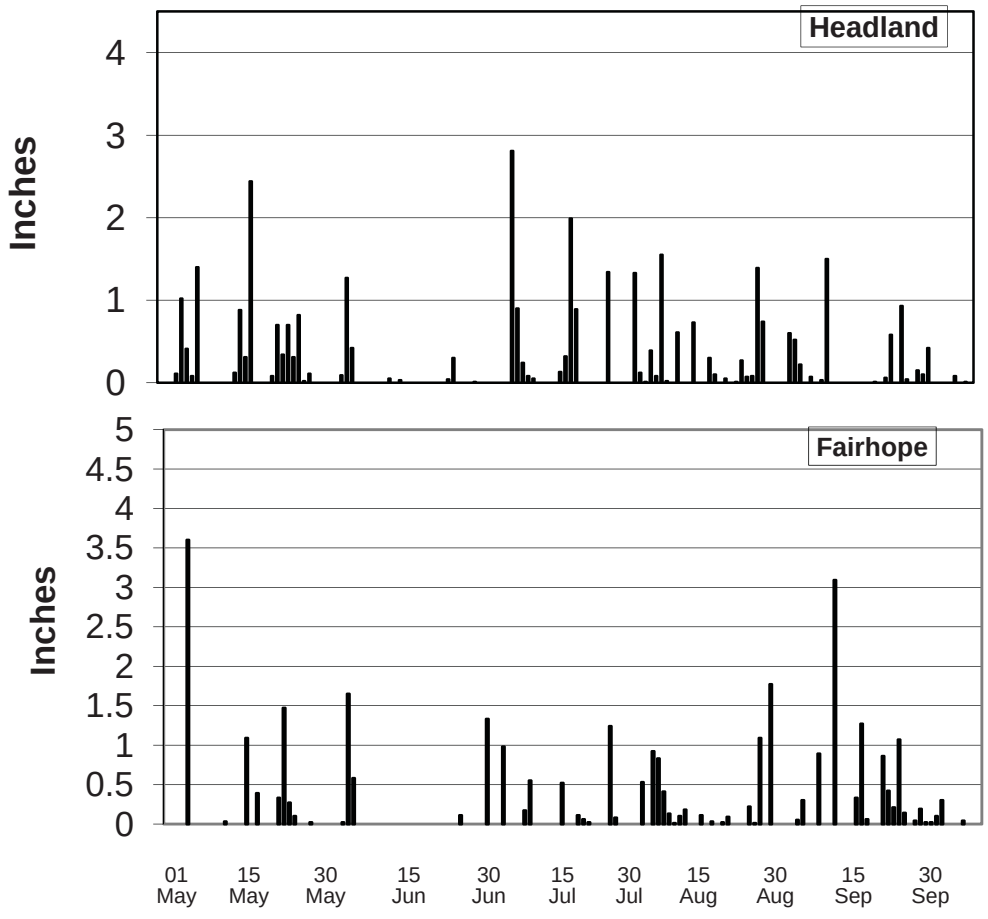

Figure 1. Daily minimum and maximum temperature (ºF), May to October 2009.

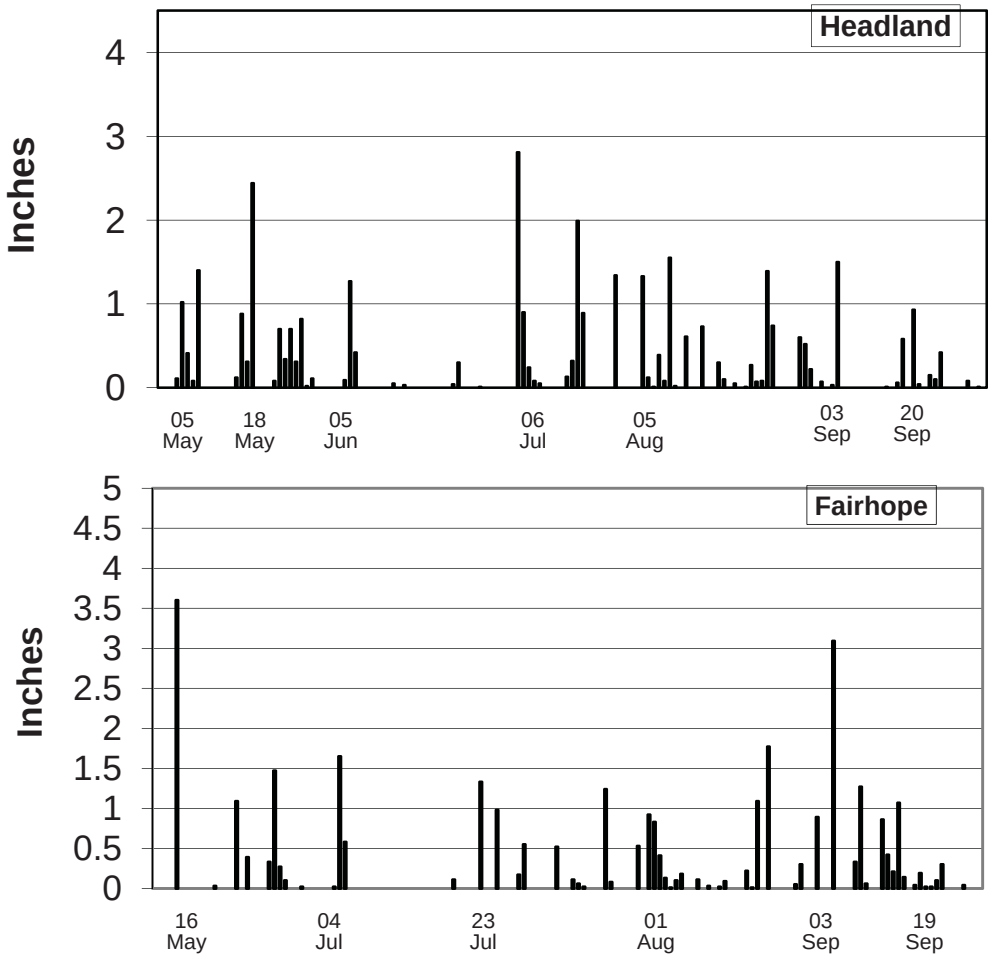

Figure 2. Daily precipitation (inches), May to October 2009.

EVALUATION OF THE EXPERIMENTAL FUNGICIDES DPX LEM 17 200SC, DPX YT 669, AND QFA61 LEM/BRAVO FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHEAST ALABAMA, WREC

H. L. Campbell, A. K. Hagan, K. L. Bowen, and L. W. Wells

Objective: To evaluate the experimental fungicides DPX LEM17 200SC, DPX YT 669, and QFA61 LEM/Bravo and compare them with currently registered fungicides for control of early and late leaf spot and stem rot and yield response in an irrigated peanut production system in southeast Alabama.

Methods: Peanut cultivar AT3085RO was planted on May 20 at the Wiregrass Research and Extension Center in Headland, Alabama, in a field with a history of peanut production. Seed were sown at a rate of approximately five seed per foot of row, and recommendations of the Alabama Cooperative Extension System for tillage, fertility, and weed and nematode control were followed. The soil type was a Dothan sandy loam (organic matter < 1 percent). On May 12, 1 quart per acre of Sonalan + 0.45 ounce per acre of Strongarm were applied and incorporated for preemergent weed control. Thrips were controlled with an in-furrow application of 6.7 pounds per acre of Temik 15G at planting. On June 23, 10 pounds per acre of Temik 15G was applied to the test area. On June 30, 1.5 pints per acre of 2,4 DB were applied for postemergent weed control.

Plots, which consisted of four 30-foot rows spaced 3 feet apart, were arranged in a randomized complete block with six replicates. Plots were located under a central pivot irrigation system and irrigated as needed. Fungicides were applied on a 14- to 21-day schedule on June 25, July 1, July 8, July 23, August 5, August 18, September 8, and September 22 using a four-row, tractor-mounted boom sprayer with three TX8 nozzles per row calibrated to deliver 15 gallons per acre.

Disease Assessment: Early and late leaf spot were visually rated on September 24 using the Florida leaf spot scoring system (1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation; 5 = lesions noticeable in upper canopy with some defoliation; 6 = lesions numerous with significant defoliation; 7 = lesions numerous with heavy defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation; 9 = very few remaining leaves covered with lesions; 10 = completely dead plants).

Counts of stem rot loci (one locus was defined as ≤ 1 foot of consecutive symptoms and signs of the disease) were made on October 8 immediately after plot inversion. Plots were harvested on October 19, and yields were reported at 7.13 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

Results: During the 2009 peanut production season, temperatures were near normal and monthly rainfall totals were above normal throughout the season. Leaf spot severity progressed during the season, and at the time of inversion the untreated controls were almost completely defoliated (data not shown). Programs that included DPX YT 669, DPX LEM 17 200SC, or QFA 61 were equally effective in controlling leaf spot control but were not significantly better than Bravo WS and gave significantly better leaf spot control than the Headline(1.5)/Abound (3,5)/Bravo WS (4,6,7), Bravo WS/Folicur, and Bravo WS/Bravo WS + Convoy programs. Stem rot incidence was higher than in previous years. The best stem rot control was observed with the DPX YT 669/DPX LEM 17/Bravo WS, Headline/DPX LEM 17/Bravo WS, and Headline (1.5)/Abound (3,4,5)/Bravo WS(6,7) programs, and all had significantly lower stem rot incidence than the Bravo WS standard. Stem rot ratings for the other fungicide treatments and Bravo WS were similar. Yield for the fungicide programs that included DPX YT 669 and DPX LEM 17 was significantly higher than the Bravo WS standard. Only the Bravo WS/Folicur program yielded significantly less than the Bravo WS standard.

EVALUATION OF THE EXPERIMENTAL FUNGICIDES DPX LEM 17 200SC, DPX YT 669, AND QFA61 LEM/BRAVO FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHEAST ALABAMA, WREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	SR[3]	Yield *lb/A*
DPX YT 669 9.0 fl oz	1,5	3.0	2.7	5397
DPX LEM 17 200 SC 16.0 fl oz	3,4,5			
Bravo WS 24.0 fl oz	6,7			
Headline 2.09EC 9.0 fl oz	1,5	3.0	2.0	5461
DPX LEM 17 200SC 16.0 fl oz	3,4,5			
Bravo WS 24.0 fl oz	6,7			
DPX YT 669 6.0 fl oz	1,2	3.0	4.0	5114
DPX LEM 17 200SC 16.0 fl oz	3,4,5			
Bravo WS 24.0 fl oz	6,7			
QFA61 LEM/Bravo 14.5 fl oz	1,2	3.0	5.0	4872
Abound 2.08SC 18.2 fl oz	3,5			
Bravo WS 24.0 fl oz	4,6,7			
Headline 2.09EC 9.0 fl oz	1,5	3.7	4.2	4945
Abound 2.08SC 18.2 fl oz	3,5			
Bravo WS 24.0 fl oz	4,6,7			
Tilt 3.6EC 2.0 fl oz + Bravo WS 16.0 fl oz	1,2	3.5	5.2	4799
Abound 2.08SC 18.2 fl oz	3,5			
Bravo WS 24.0 fl oz	4,6,7			
Headline 2.09EC 9.0 fl oz	1,5	3.5	2.0	5018
Abound 18.2 fl oz	3,4,5			
Bravo WS 24.0 fl oz	6,7			
Bravo WS 24.0 fl oz	1,2,7	4.5	5.8	3759
Folicur 3.6F 7.2 fl oz	3,4,5,6			
Bravo WS 24.0 fl oz	1,2,4,6,7	3.3	4.2	5195
Abound 2.08SC 18.2 fl oz	3,5			
Bravo WS 24.0 fl oz	1,2,4,6,7	4.2	4.3	4453
Bravo WS 16.0 fl oz + Convoy 13.0 fl oz	3,5			
Headline 2.09EC 9.0 fl oz	1,5	4.0	6.5	4372
Folicur 3.6F 7.2 fl oz	3,5			
Headline 2.09EC 9.0 fl oz	4,6			
Bravo WS 24.0 fl oz	7			
Bravo WS 24.0 fl oz.	1,2,7	3.7	5.2	4622
Provost 433SC 8.0 fl oz	3,4,5,6			
Bravo WS 24.0 fl oz	1-7	3.5	6.2	4413
LSD ($P \leq 0.05$)		***0.6***	***2.2***	***465***

[1] Fungicide applications were made at 14- to 21-day intervals unless otherwise indicated.
[2] Early and late leaf spot (LS) were assessed using the Florida leaf spot scoring system (1 = no disease;… 10 = completely dead plants).
[3] Stem rot (SR) incidence is expressed as the number of disease hits per 60 feet of row.
Mean separation within columns was according to Fisher's protected least significant difference (LSD) test (P=0.05).

EVALUATION OF TOPGUARD FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHEAST ALABAMA, WREC

H. L. Campbell, A. K. Hagan, K. L. Bowen, and L. W. Wells

Objective: To evaluate Topguard and compare it with currently registered fungicides for control of early and late leaf spot and stem rot and yield response in an irrigated peanut production system in southeast Alabama.

Methods: Peanut cultivar AT3085RO was planted at the Wiregrass Research and Extension Center in Headland, Alabama, in a field with a history of peanut production on May 20. The soil type was a Dothan sandy loam (organic matter < 1 percent). Seed were sown at a rate of approximately five seed per foot of row, and recommendations of the Alabama Cooperative Extension System for tillage, fertility, and weed and nematode control were followed. On March 23, the test area was turned. On May 12, 1 quart per acre of Sonalan + 0.45 ounce per acre of Strongarm were applied and incorporated for preemergent weed control. Thrips were controlled with an in-furrow application of 6.7 pounds per acre of Temik 15G at planting. On June 23, 10 pounds per acre of Temik 15G was applied to the test area. On June 30, 1.5 pints per acre of 2,4 DB was applied for postemergent weed control.

Plots, which consisted of four 30-foot rows spaced 3 feet apart, were arranged in a randomized complete block with six replicates. Plots were located under a central pivot irrigation system and irrigated as needed. Fungicides were applied on a 14-day schedule using a four-row, tractor-mounted boom sprayer with three TX8 nozzles per row calibrated to deliver 15 gallons per acre on June 24, July 8, July 24, August 5, August 18, September 8, and September 22.

Disease Assessment: Early and late leaf spot were visually rated on September 28 using the Florida leaf spot scoring system (1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation; 5 = lesions noticeable in upper canopy with some defoliation; 6 = lesions numerous with significant defoliation; 7 = lesions numerous with heavy defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation; 9 = very few remaining leaves covered with lesions; 10 = completely dead plants).

Counts of stem rot loci (one locus was defined as ≤ 1 foot of consecutive symptoms and signs of the disease) were made on October 8 immediately after plot inversion. Plots were harvested on October 19, and yields were reported at 8.1 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

Results: During the 2009 peanut production season, temperatures were at or near normal and monthly rainfall totals were above normal. Leaf spot severity progressed during the season, and at the time of inversion the untreated controls were almost completely defoliated (data not shown). With the exception of the Bravo WS/Topguard + Bravo WS program, all other Topguard programs gave significantly poorer leaf spot control than the season-long Bravo WS standard. While the level of leaf spot control obtained with the Bravo WS/Folicur and Bravo WS/Bravo WS + Convoy programs was significantly worse compared with the Bravo WS standard, other programs and Bravo WS gave similar levels of control. The Headline/Folicur/Headline/Bravo WS program gave better control of stem rot than did all the Toguard programs except Bravo WS/Topguard (28 fluid ounces). Stem rot incidence with the Bravo WS standard and the remaining fungicide programs was similar. The Bravo WS/Provost program had better yields than did the Bravo WS/Topguard (7 fluid ounces), Bravo WS/Topguard (10 fluid ounces), Bravo Ws/Topguard (14 fluid ounces), Bravo WS/Folicur, and Bravo WS/Bravo WS + Convoy programs. Yields for all fungicide programs were similar to the Bravo WS standard.

EVALUATION OF TOPGUARD FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHEAST ALABAMA, WREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	SR[3]	Yield *lb/A*
Bravo WS 24.0 fl oz	1,2,7	4.2	4.8	4195
Topguard 7.0 fl oz	3,4,5,6			
Bravo WS 24.0 fl oz	1,2,7	4.3	3.8	4292
Topguard 10.0 fl oz	3,4,5,6			
Bravo WS 24.0 fl oz	1,2,7	4.0	4.5	4243
Topguard 14.0 fl oz	3,4,5,6			
Bravo WS 24.0 fl oz	1,2,7	4.0	3.0	4638
Topguard 28.0 fl oz	3,4,5,6			
Bravo WS 24.0 fl oz	1,2,7	3.2	3.8	4792
Topguard 7.0 fl oz + Bravo WS 16.0 fl oz	3,4,5,6			
Bravo WS 24.0 fl oz	1,2,7	4.0	3.0	4219
Folicur 3.6F 7.2 fl oz	3,4,5,6			
Bravo WS 24.0 fl oz	1,2,4,6,7	3.3	3.2	4711
Abound 2.08SC 18.5 fl oz	3,5			
Bravo WS 24.0 fl oz	1,2,7	4.2	2.7	4243
Bravo WS 16.0 fl oz + Convoy 13.0 fl oz	3,4,5,6			
Headline 2.09EC 6.0 fl oz	1,2	3.0	1.7	4638
Folicur 3.6F 7.2 fl oz	3,5			
Headline 2.09EC 9.0 fl oz	4			
Bravo WS 24.0 fl oz	6,7			
Bravo WS 24.0 fl oz	1,2,7	3.0	3.2	4840
Provost 433SC 8.0 fl oz	3,4,5,6			
Bravo WS 24.0 fl oz	1-7	3.3	3.7	4468
LSD (P ≤ 0.05		***0.4***	***2.1***	***438***

[1] Fungicide applications were made at 14-day intervals unless otherwise indicated.

[2] Early and late leaf spot (LS) were assessed using the Florida leaf spot scoring system (1 = no disease;… 10 = completely dead plants).

[3] Stem rot (SR) incidence is expressed as the number of disease hits per 60 feet of row.

Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

EVALUATION OF PROLINE 480SC, PROVOST 433SC, AND ABSOLUTE 500SC FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHEAST ALABAMA, WREC

H. L. Campbell, A. K. Hagan, K. L. Bowen, and L. W. Wells

Objective: To evaluate Proline 480SC in-furrow, Provost 433SC, and Absolute 500SC and compare them with other currently registered fungicides for control of early and late leaf spot and stem rot and yield response in an irrigated peanut production system in southeast Alabama.

Methods: Peanut cultivar AT3085RO was planted at the Wiregrass Research and Extension Center in Headland, Alabama, in a field with a history of peanut production on May 20. The soil type was a Dothan sandy loam (organic matter < 1 percent). Seed were sown at a rate of approximately five seed per foot of row, and recommendations of the Alabama Cooperative Extension System for tillage, fertility, and weed and nematode control were followed. On March 11, the test area was turned. On May 12, 1 quart per acre of Sonalan + 0.45 ounce per acre of Strongarm were applied and incorporated for preemergent weed control. Thrips were controlled with an in-furrow application of 6.7 pounds per acre of Temik 15G at planting. On June 23, 10 pounds per acre of Temik 15G was applied to the test area.

Plots, which consisted of four 30-foot rows spaced 3 feet apart, were arranged in a randomized complete block with six replicates. Plots were located under a central pivot irrigation system and irrigated as needed. Fungicides were applied on a 14-day schedule using a four-row, tractor-mounted boom sprayer with three TX8 nozzles per row calibrated to deliver 15 gallons per acre on June 24, July 10, July 27, August 14, August 22, September 9, and September 23.

Disease Assessment: Early and late leaf spot were visually rated on September 28 and again on October 22 prior to inversion using the Florida leaf spot scoring system (1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation; 5 = lesions noticeable in upper canopy with some defoliation; 6 = lesions numerous with significant defoliation; 7 = lesions numerous with heavy defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation; 9 = very few remaining leaves covered with lesions; 10 = completely dead plants).

Due to excessive rainfall and poor drainage conditions, plots were dug about two weeks later than normal. Counts of stem rot loci (one locus was defined as ≤ 1 foot of consecutive symptoms and signs of the disease) were made on October 22 immediately after plot inversion. Plots were harvested on October 26, and yields were reported at 10.1 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

Results: During the 2009 peanut production season, temperatures were at or near normal and monthly rainfall totals were above normal. Leaf spot severity progressed during the season, and at the time of inversion the untreated controls were completely defoliated (data not shown). All fungicide treatment programs, with the exception of the Echo/Echo + Folicur, Echo/Folicur, Echo/Abound, and Echo/Echo + Convoy programs, gave significantly better leaf spot control than the season-long Echo 720 standard when rated five days after the last fungicide application. All programs that included either Proline or Provost plus the Echo/Absolute program and the Headline/Folicur/Headline/Echo program provided significantly better leaf spot control than did all other programs. When rated again at the time of inversion, all programs that included Proline or Provost with the exeption of the Echo/Provost (10.7 fluid ounces) program, plus the Echo/Absolute program continued to provide better leaf spot control than all other programs. The addition of Proline in-furrow reduced the amount of stem rot incidence observed. The best stem rot control was observed in all plots containing either Proline or Provost as well as the Echo/Absolute program. Stem rot incidence with the Echo 720 standard and the remaining fungicide programs was similar. Despite the late harvest date, yield results from the plots that included Proline or Provost as well as the Echo/Absolute treatment program yielded significantly higher than all other fungicide treatment programs. All remaining fungicide treatment yields were similar to the Echo 720 standard.

EVALUATION OF PROLINE480SC, PROVOST 433SC, AND ABSOLUTE 500SC FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHEAST ALABAMA, WREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	LS	SR[3]	Yield *lb/A*
Proline 480SC 5.7 fl oz	In-furrow	2.5	5.4	3.2	3572
Echo 720 24.0 fl oz	1,2,7				
Provost 433SC 8.0 fl oz	3,4,5,6				
Proline 480SC 5.7 fl oz	In-furrow	2.4	5.0	1.4	3795
Echo 720 24.0 fl oz	1,2,7				
Provost 433SC 8.0 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,7	3.0	5.6	4.0	3117
Provost 433SC 8.0 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,7	2.7	6.2	3.4	3040
Provost 433SC 10.7 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,7	2.9	5.4	4.0	3582
Absolute 500SC 3.5 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,7	3.8	6.8	7.2	2168
Absolute 500SC 3.5 fl oz + Folicur 3.6F 5.2 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,7	4.4	6.6	4.6	2497
Echo 720 24.0 fl oz + Folicur 3.6 F 7.2 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,7	5.2	8.0	8.2	1936
Folicur 3.6F 7.2 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,4,6,7	4.7	7.2	9.2	2356
Abound 2.08SC 18.2 fl oz	3,5				
Echo 720 24.0 fl oz	1,2,7	5.0	7.4	7.0	2304
Echo 720 24.0 fl oz + Convoy 13.0 fl oz	3,4,5,6				
Headline 2.09EC 6.0 fl oz	1,2	4.2	6.8	5.8	2691
Folicur 3.6F 7.2 fl oz	3,5				
Headline 2.09EC 9.0 fl oz	4				
Echo 720 24.0 fl oz	6,7				
Echo 720 24.0 fl oz	1-7	5.2	7.0	7.6	2110
LSD (P ≤ 0.05)		***0.4***		***2.1***	***438***

[1] Fungicide applications were made at 14-day intervals unless otherwise indicated.
[2] Early and late leaf spot (LS) were assessed using the Florida leaf spot scoring system (1 = no disease;… 10 = completely dead plants).
[3] Stem rot (SR) incidence is expressed as the number of disease hits per 60 feet of row.
Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

EVALUATION OF CONVOY AND ARTISAN FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHEAST ALABAMA, WREC

H. L. Campbell, A. K. Hagan, K. L. Bowen, and L. W. Wells

Objective: To evaluate Convoy and Artisan and compare them with other currently registered fungicides for control of early and late leaf spot and stem rot and yield response in an irrigated peanut production system in southeast Alabama.

Methods: Peanut cultivar AT3085RO was planted on May 20 in a field with a history of peanut production at the Wiregrass Research and Extension Center in Headland, Alabama. Seed were sown at a rate of approximately five seed per foot of row. The soil type was a Dothan sandy loam (organic matter < 1 percent). Recommendations of the Alabama Cooperative Extension System for tillage, fertility, and weed and nematode control were followed. On May 12, 1 quart per acre of Sonalan + 0.45 ounce per acre of Strongarm were applied and incorporated for preemergent weed control. Thrips were controlled with an in-furrow application of 6.7 pounds per acre of Temik 15G at planting. On June 23, 10 pounds per acre of Temik 15G was applied to the test area. On June 30, 1.5 pints per acre of 2,4 DB was applied for postemergent weed control.

Plots, which consisted of four 30-foot rows spaced 3 feet apart, were arranged in a randomized complete block with six replicates. Plots were located under a central pivot irrigation system and irrigated as needed. Fungicides were applied at 14-, 21-, or 28-day intervals on June 25, July 1, July 8, July 24, August 5, August 13, August 18, September 8, and September 23 using a four-row, tractor-mounted boom sprayer with three TX8 nozzles per row calibrated to deliver 15 gallons per acre.

Disease Assessment: Early and late leaf spot were visually rated on October 6 using the Florida leaf spot scoring system (1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation; 5 = lesions noticeable in upper canopy with some defoliation; 6 = lesions numerous with significant defoliation; 7 = lesions numerous with heavy defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation; 9 = very few remaining leaves covered with lesions; 10 = completely dead plants).

Counts of stem rot loci (one locus was defined as ≤ 1 foot of consecutive symptoms and signs of the disease) were made on October 15 immediately after plot inversion. Plots were harvested on October 22, and yields were reported at 9.6 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant (LSD) test ($P \leq 0.05$).

Results: During the 2009 peanut production season, temperatures were near normal and monthly rainfall totals were above normal throughout the season. Leaf spot severity progressed during the season, and at the time of inversion the untreated controls were almost completely defoliated (data not shown). Best leaf spot control was obtained with the Echo/Provost and Headline/Folicur/Headline/Echo programs. All of the other programs with the exception of the Headline (1.5)/Echo + Artisan (3, 4.5, 6)/Topsin + Echo (7), and Headline (1.5)/Convoy + Echo (3,4,5,6)/Echo (7) programs were equally as effective in controlling leaf spot as the Echo 720 standard. The Headline (1.5)/Convoy + Echo (3,4,5,6)/Echo (7) program had the highest incidence of stem rot. Incidence of stem rot was similar for all other programs and none of the treatment programs had significantly better stem rot control than did the full-season Echo 720 standard. Highest yields were reported for the Echo/Provost and Headline/Folicur/Headline/Echo programs. Yields for the Artisan and Convoy programs and all other programs were not significantly different than the Echo 720 standard.

EVALUATION OF CONVOY AND ARTISAN FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHEAST ALABAMA, WREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	SR[3]	Yield *lb/A*
Headline 2.09Ec 9.0 fl oz	1,5	5.2	5.3	3267
Artisan 26.0 fl oz + Echo 720 16.0 fl oz	3,4,5			
Topsin M 5.0 fl oz + Echo 720 16.0 fl oz	6			
Headline 2.09EC 9.0 fl oz	1,5	6.0	5.2	3009
Echo 720 16.0 fl oz + Artisan 18.0 fl oz	3,4,5,6			
Topsin M 5.0 fl oz + Echo 720 16.0 fl oz	7			
Headline 2.09EC 9.0 fl oz	1,5	5.3	4.2	2823
Echo 720 16.0 fl oz + Artisan 16.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	7			
Headline 2.09Ec 9.0 fl oz	1,5	5.5	4.5	3332
Convoy 21.0 fl oz + Echo 720 24.0 fl oz	3,4,5			
Topsin M 5.0 fl oz + Echo 720 16.0 fl oz	6			
Headline 2.09Ec 9.0 fl oz	1,5	5.8	5.7	3082
Convoy 15.0 fl oz + Echo 720 24.0 fl oz	3,4,5,6			
Topsin M 5.0 fl oz + Echo 720 16.0 fl oz	7			
Headline 2.09EC 9.0 fl oz	1,5	6.0	9.0	2638
Convoy 13.0 fl oz + Echo 720 16.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	7			
Echo 720 24.0 fl oz	1,2,7	5.8	5.2	2614
Folicur 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	4.3	3.0	4130
Provost 433SC 8.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,4,6,7	4.8	2.8	3533
Abound 2.08SC 18.5 fl oz	3,5			
Echo 720 24.0 fl oz	1,2,7	5.8	5.5	2686
Echo 720 16.0 fl oz + Convoy	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	5.5	4.7	3073
Echo 720 24.0 fl oz + Convoy 21.0 fl oz	3,5			
Headline 2.09EC 9.0 fl oz	1,5	4.2	5.0	3649
Folicur 3.6F 7.2 fl oz	3,5			
Headline 2.09 EC 6.0 fl oz	4,6			
Echo 720 24.0 fl oz	7			
Echo 720 24.0 fl oz	1-7	5.3	6.3	3090
LSD (P ≤ 0.05)		***0.6***	***4.1***	***532***

[1] Fungicide applications were made at 14-, 21-, and 28-day intervals unless otherwise indicated.
[2] Early and late leaf spot (LS) were assessed using the Florida leaf spot scoring system (1 = no disease;… 10 = completely dead plants).
[3] Stem rot (SR) incidence is expressed as the number of disease hits per 60 feet of row.
Mean separation within columns was according to Fisher's protected least significant difference (LSD) test (*P*=0.05).

EVALUATION OF TEBUZOL 3.6F, TOPSIN M, ELAST, AND UNICORN FUNGICIDES FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHEAST ALABAMA, WREC

H. L. Campbell, A. K. Hagan, K. L. Bowen, and L. W. Wells

Objective: To evaluate Tebuzol 3.6F, Topsin M, Elast, and Unicorn, and compare them with other currently registered fungicides for control of early and late leaf spot and stem rot and yield response in an irrigated peanut production system in southeast Alabama.

Methods: Peanut cultivar AT3085RO was planted on May 20 in a field with a history of peanut production at the Wiregrass Research and Extension Center in Headland, Alabama. Seed were sown at a rate of approximately five seed per foot of row. The soil type was a Dothan sandy loam (organic matter < 1 percent). Recommendations of the Alabama Cooperative Extension System for tillage, fertility, and weed and nematode control were followed.

Plots, which consisted of four 30-foot rows spaced 3 feet apart, were arranged in a randomized complete block with six replicates. Plots were located under a central pivot irrigation system and irrigated as needed. Fungicides were applied on a 14-day schedule on June 25, July 9, July 27, August 6, August 19, September 9, and September 22 schedule using a four-row, tractor-mounted boom sprayer with three TX8 nozzles per row spaced 12 inches apart calibrated to deliver 15 gallons per acre at 50 psi.

Disease Assessment: Early and late leaf spot were visually rated on September 28 using the Florida leaf spot scoring system (1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation; 5 = lesions noticeable in upper canopy with some defoliation; 6 = lesions numerous with significant defoliation; 7 = lesions numerous with heavy defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation; 9 = very few remaining leaves covered with lesions; 10 = completely dead plants).

Counts of stem rot loci (one locus was defined as ≤ 1 foot of consecutive stem rot damaged plants per row) were made on October 8 immediately after plot inversion. Plots were harvested on October 19, and yields were reported at 10.1 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test $P \leq 0.05$).

Results: During the 2009 peanut production season, temperatures were near normal and monthly rainfall totals were above normal throughout the season. Leaf spot severity progressed during the season, and at the time of inversion the untreated controls were almost completely defoliated (data not shown). The best leaf spot control was obtained with the Echo/Provost program and the lowest amount of leaf spot control was seen with the Echo/Echo + Convoy, and Headline/Folicur/Headline/Echo programs. The Echo/Elast + Folicur program gave leaf spot control similar to the season-long Echo 720 treatment. However, the Elast/Folicur, Elast/Elast + Convoy and both Unicorn treatments gave less control than the Echo-only standard. Stem rot incidence was significantly lower for Echo/Provost and Echo/Abound than for other fungicide programs. The Echo/Echo + Convoy and Headline/Folicur/Headline/Echo programs had significantly higher stem rot incidence than all other fungicide programs except the Elast/Folicur program. Yield for the Echo/Provost program was significantly higher compared with all other programs except for the Echo 720 standard. All other programs except the Echo/Tebuzol + Topsin/Tebuzol, Echo/Elast + Folicur, Echo/Unicorn (3.5 pounds), Echo Unicorn (4.5 pounds), and Echo/Abound had lower yields than the Echo 720 standard.

EVALUATION OF TEBUZOL 3.6F, TOPSIN M, ELAST, AND UNICORN FUNGICIDES FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHEAST ALABAMA, WREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	SR[3]	Yield *lb/A*
Echo 720 24.0 fl oz	1,2,7	4.5	2.5	3896
Tebuzol 3.6F 7.2 fl oz + Topsin M 5.0 fl oz	3,5			
Tebuzol 3.6F 7.2 fl oz	4,6			
Echo 720 24.0 fl oz	1,2,7	4.7	3.5	3590
Elast 12.8 fl oz + Folicur 3.6F 7.2 fl oz	3,4,5,6			
Elast 15.0 fl oz	1,2,7	5.5	8.8	3098
Folicur 3.6F 7.2 fl oz	3,4,5,6			
Elast 15.0 fl oz	1,2,7	5.5	6.7	3057
Elast 12.8 fl oz + Convoy 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	5.0	5.2	3808
Unicorn 3.5 lb	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	4.8	6.2	3646
Unicorn 4.5 lb	3,4,5,6			
Equus 720 24.0 fl oz	1,2,7	6.0	7.2	3348
Folicur 3.6F 7.2 fl oz	3,4,5,6			
Equus 720 24.0 fl oz	1,2,7	3.0	2.0	4582
Provost 433SC 8.0 fl oz	3,4,5,6			
Equus 720 24.0 fl oz	1,2,4,6,7	4.2	1.7	3541
Abound 2.08EC 18.5 fl oz	3,5			
Equus 720 24.0 fl oz	1,2,7	7.0 a	11.7	2589
Equus 720 16.0 fl oz + Convoy 13.0 fl oz	3,4,5,6			
Headline 2.09EC 9.0 fl oz	1,2	6.8	12.0	2517
Folicur 3.6F 7.2 fl oz	3,5			
Headline 2.09EC 6.0 fl oz	4			
Equus 720 24.0 fl oz	6,7			
Echo 720 24.0 fl oz	1-7	4.2	2.5	4058
LSD (P ≤ 0.05)		**0.5**	**3.8**	**570**

[1] Dates for fungicide applications 1-7 are listed in the text.
[2] Early and late leaf spot (LS) were assessed using the Florida leaf spot scoring system (1 = no disease;… 10 = completely dead plants).
[3] Stem rot (SR) incidence is expressed as the number of disease hits per 60 feet of row.
Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

EVALUATION OF ECHO 720, MUSCLE 3.6F, AND EMINENT 125SL FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHEAST ALABAMA, WREC

H. L. Campbell, A. K. Hagan, K. L. Bowen, and L. W. Wells

Objective: To evaluate Echo 720, Muscle 3.6F, and Eminent 125SL and compare them with other currently registered fungicides for control of early and late leaf spot and stem rot and yield response in an irrigated peanut production system in southeast Alabama.

Methods: Peanut cultivar AT3085RO was planted on May 20 in a field with a history of peanut production at the Wiregrass Research and Extension Center in Headland, Alabama. Seed were sown at a rate of approximately five seed per foot of row. The soil type was a Dothan sandy loam (organic matter < 1 percent). Recommendations of the Alabama Cooperative Extension System for tillage, fertility, and weed and nematode control were followed. On May 12, 1 quart per acre of Sonalan + 0.45 ounce per acre of Strongarm were applied and incorporated for preemergent weed control. Thrips were controlled with an in-furrow application of 6.7 pounds per acre of Temik 15G at planting. On June 23, 10 pounds per acre of Temik 15G was applied to the test area. On June 30, 1.5 pints per acre of 2,4 DB was applied for postemergent weed control.

Plots, which consisted of four 30-foot rows spaced 3 feet apart, were arranged in a randomized complete block with six replicates. Plots were located under a central pivot irrigation system and irrigated as needed. Fungicides were applied on a 14- to 21-day interval on June 25, July 1, July 8, July 27, August 6, August 18, September 9, and September 22 using a four-row, tractor-mounted boom sprayer with three TX8 nozzles per row spaced 12 inches apart calibrated to deliver 15 gallons per acre at 50 psi.

Disease Assessment: Early and late leaf spot were visually rated on September 28 using the Florida leaf spot scoring system (1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation; 5 = lesions noticeable in upper canopy with some defoliation; 6 = lesions numerous with significant defoliation; 7 = lesions numerous with heavy defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation; 9 = very few remaining leaves covered with lesions; 10 = completely dead plants).

Counts of stem rot loci (one locus was defined as ≤ 1 foot of consecutive stem of damaged plants per row) were made on October 8 immediately after plot inversion. Plots were harvested on October 15, and yields were reported at 9.8 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test $P \leq 0.05$).

Results: During the 2009 peanut production season, temperatures were near normal and monthly rainfall totals were above normal throughout the season. Leaf spot severity progressed during the season, and at the time of inversion the untreated controls were almost completely defoliated (data not shown). With the exception of the Echo/Muscle, Echo + Eminent/Echo + Muscle (13.0 fluid ounces), Echo/Folicur, and Echo/Echo + Convoy treatment regimes, all other treatment programs gave significantly better leaf spot control than the season-long Echo 720 program. While Echo 720 + Eminent (1,2,7)/Echo 720 + Muscle (3,4,5,6) and Echo 720/Provost programs had lower stem rot loci counts than did the full-season Echo 720 standard, disease incidence of stem rot was similar for all other programs. The Echo 720/Provost program had significantly higher yields than all other fungicide programs except for the Headline/Muscle/Headline/Echo 720 program. With the exception of the Echo 720/Muscle, Echo 720 + Eminent (13.0 fluid ounces)/Echo 720 + Muscle, Echo 720/Folicur, and Echo 720/Echo 720 + Convoy programs, yields for the other fungicide programs were higher for than the season-long Echo 720 standard.

EVALUATION OF ECHO 720, MUSCLE 3.6F, AND EMINENT 125SL FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHEAST ALABAMA, WREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	SR[3]	Yield *lb/A*
Echo 720 24.0 fl oz	1,2,7	3.5	3.3	4429
Echo 720 16.0 fl oz + Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 16.0 fl oz + Eminent 125SL 7.2 fl oz	1,2,7	3.7	2.2	4138
Echo 720 16.0 fl oz + Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	4.8	5.5	3388
Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 16.0 fl oz + Eminent 125SL 7.2 fl oz	1.5,7	4.2	2.7	4388
Echo 720 16.0 fl oz + Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 16.0 fl oz + Eminent 125SL 10.2 fl oz	1.5,7	4.2	2.8	4074
Echo 720 16.0 fl oz + Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 16.0 fl oz + Eminent 125SL 13.0 fl oz	1.5,7	4.5	3.3	3985
Echo 720 16.0 fl oz + Muscle 3.6F 7.2 fl oz	3,4,5,6			
Headline 2.09EC 9.0 fl oz	1.5	3.7	3.2	4566
Muscle 3.6F 7.2 fl oz	3,5			
Headline 2.09 EC 6.0 fl oz	4,6			
Echo 720 24.0 fl oz	7			
Echo 720 24.0 fl oz	1,2,7	5.2	4.2	3582
Folicur 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	3.2	1.8	4921
Provost 433SC 8.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,4,6,7	3.5	3.7	4283
Abound 2.08SC 18.5 fl oz	3,5			
Echo 720 24.0 fl oz	1,2,7	4.5	4.7	3759
Echo 720 16.0 fl oz + Convoy 13.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1-7	5.0	4.7	3557
LSD (P ≤ 0.05)		***0.5***	***2.0***	***489***

[1] Dates for fungicide applications 1-7 are listed in the text.

[2] Early and late leaf spot (LS) were assessed using the Florida leaf spot scoring system (1 = no disease;… 10 = completely dead plants).

[3] Stem rot (SR) incidence is expressed as the number of disease hits per 60 feet of row.

Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

EVALUATION OF NEW FUNGICIDES FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHEAST ALABAMA, WREC

H. L. Campbell, A. K. Hagan, K. L. Bowen, and L. W. Wells

Objective: To evaluate Equus 720, Orius 3.6FL, and Bumper 41.8EC and compare them with other currently registered fungicides for control of early and late leaf spot and stem rot and yield response in an irrigated peanut production system in southeast Alabama.

Methods: Peanut cultivar AT3085RO was planted on May 20 in a field with a history of peanut production at the Wiregrass Research and Extension Center in Headland, Alabama. The soil type was a Dothan sandy loam (organic matter < 1 percent). Seed were sown at a rate of approximately five seed per foot of row and recommendations of the Alabama Cooperative Extension System for tillage, fertility, and weed and nematode control were followed. On May 12, 1 quart per acre of Sonalan + 0.45 ounce per acre of Strongarm were applied and incorporated for preemergent weed control. Thrips were controlled with an in-furrow application of 6.7 pounds per acre of Temik 15G at planting. On June 23, 10 pounds per acre of Temik 15G was applied to the test area. On June 30, 1.5 pints per acre of 2,4 DB was applied for postemergent weed control.

Plots, which consisted of four 30-foot rows spaced 3 feet apart, were arranged in a randomized complete block with six replicates. Plots were located under a central pivot irrigation system and irrigated as needed. Fungicides were applied on a 14-day interval on June 26, July 9, July 28, August 6, August 19, September 6, and September 22 (test 1) and on June 26, July 10, July 24, August 10, August 20, September 10, and September 22 using a four-row, tractor-mounted boom sprayer with three TX8 nozzles per row spaced 12 inches apart calibrated to deliver 15 gallons per acre at 50 psi.

Disease Assessment: Early and late leaf spot were visually rated on September 28 using the Florida leaf spot scoring system (1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation; 5 = lesions noticeable in upper canopy with some defoliation; 6 = lesions numerous with significant defoliation; 7 = lesions numerous with heavy defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation; 9 = very few remaining leaves covered with lesions; 10 = completely dead plants).

Counts of stem rot loci (one locus was defined as ≤ 1 foot of consecutive stem of damaged plants per row) were made on October 15 (test 2) immediately after plot inversion. Plots were harvested on October 22, and yields were reported at 9.87 percent (test 1) and 10.2 percent (test 2) moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test $P \leq 0.05$).

Results: During the 2009 peanut production season, temperatures were near normal and monthly rainfall totals were above normal throughout the season. Leaf spot severity progressed during the season, and at the time of inversion the untreated controls were almost completely defoliated (data not shown). In test 1, all of the treatments, with the exception of Topsin M, gave similar control of leaf spot diseases. Stem rot was worse in the plots that contained both TPM and Topsin M. All other treatments gave similar levels of control. Highest yield was obtained from the Equus + TPM combination treatments. In test 2, the best leaf spot control was with the Orius 20AQ (7.76 fluid ounces) + Bumper (2.5 fluid ounces) and the Orius 20AQ (7.76 fluid ounces) + Bumper (4.0 fluid ounces) treatments. With the exception of the Orius 3.6F (3.6 fluid ounces) + Bumper (4.0 fluid ounces) treatment, all other treatments gave significantly worse leaf spot control than the two Orius 20AQ + Bumper treatments. Stem rot control was best with the Orius 20AQ (7.76) + Bumper (2.5), Orius 3.6F (3.6) + Bumper (4.0), and the Orius 20AQ (7.76) + Bumper (4.0) treatments. All gave significantly better control than did all other treatments except the Orius 3.6F (3.6) + Bumper (2.5) and Orius 20AQ/Bumper programs. Best yield was with the Orius 20AQ (7.76) + Bumper (2.5) treatment. With the exception of the Orius 3.6F (3.6) + Bumper (4.0) and the Orius 20AQ (7.76) + Bumper (4.0) treatments, all other treatments had significantly lower yields.

TEST 1. EVALUATION OF NEW FUNGICIDES FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHEAST ALABAMA, WREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	SR[3]	Yield *lb/A*
Thiophanate Methyl (TPM) 0.4 lb	1-7	5.34	16.3	1912
Equus 720 SST 24.0 fl oz	1-7	4.0	7.3	2678
Equus 720 SST 16.0 fl oz + TPM 0.2 lb	1-7	3.8	6.2	3065
Equus 720 SST 12.0 fl oz + TPM 0.2 lb	1-7	3.8	6.8	3301
Equus 720 SST 12.0 fl oz + TPM 0.3 lb	1-7	3.8	5.0	3233
Equus 720 SST 16.0 fl oz + TPM 0.3 lb	1-7	3.8	6.5	3315
Topsin M 10.0 fl oz	1-7	6.0	18.7	1524
Equus 720 SST 24.0 fl oz	1,2,7	4.8	9.2	2420
Orius 3.6F 7.2 fl oz	3,4,5,6			
LSD (P ≤ 0.05)		**0.6**	**5.0**	**510**

[1] Dates for fungicide applications 1-7 are listed in the text.
[2] Early and late leaf spot (LS) were assessed using the Florida leaf spot scoring system (1 = no disease;… 10 = completely dead plants).
[3] Stem rot (SR) incidence is expressed as the number of disease hits per 60 feet of row.
Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

TEST 2. EVALUATION OF ORIUS 3.6F, ORIUS 20AQ, AND BUMPER 41.8EC FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHEAST ALABAMA, WREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	SR[3]	Yield *lb/A*
Folicur 3.6F 7.2 fl oz	1-7	5.54	15.0	1759
Orius 3.6F 7.2 fl oz	1-7	5.0	13.3	1928
Orius 20AQ 15.5 fl oz	1-7	5.0	10.7	2089
Bumper 41.8 EC 2.5 fl oz	1-7	5.2	10.8	1888
Bumper 41.8 EC 4.0 fl oz	1-7	5.0	8.7	2170
Orius 3.6F 3.6 fl oz + Bumper 41.8EC 2.5 fl oz	1-7	4.2	5.3	3203
Orius 20AQ 7.76 fl oz + Bumper 41.8EC 2.5 fl oz	1-7	3.3	2.0	3735
Orius 3.6F 3.6 fl oz + Bumper 41.8EC 4.0 fl oz	1-7	3.8	3.2	3420
Orius 20AQ 7.76 fl oz + Bumper 41.8EC 4.0 fl oz	1-7	3.5	3.7	3493
Orius 3.6F 7.2 fl oz	1,3,5,7	5.2	13.2	1823
Bumper 41.8EC 4.0 fl oz	2,4,6			
Orius 20AQ 15.5 fl oz	1,3,5,7	4.5	5.7	2194
Bumper 41.8EC 4.0 fl oz	2,4,6			
Equus 720SST 24.0 fl oz	1,2,7	5.3	15.2	1920
Orius 3.6F 7.2 fl oz	3,4,5,6			
LSD (P ≤ 0.05)		***0.6***	***4.6***	***519***

[1] Dates for fungicide applications 1-7 are listed in the text.
[2] Early and late leaf spot (LS) were assessed using the Florida leaf spot scoring system (1 = no disease;… 10 = completely dead plants).
[3] Stem rot (SR) incidence is expressed as the number of disease hits per 60 feet of row.
Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

EVALUATION OF BRAVO WS, ABOUND 2.08SC, AND TILT-BRAVO FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES AND THE EFFECT OF DELAYED INVERSION ON YIELD OF PEANUT IN SOUTHEAST ALABAMA, WREC

H. L. Campbell, A. K. Hagan, K. L. Bowen, and L. W. Wells

Objective: To evaluate Bravo WS, Abound 2.08SC, and Tilt-Bravo for control of early and late leaf spot and stem rot and for their effect on yield response when inversion is delayed in an irrigated peanut production system in southeast Alabama.

Methods: Peanut cultivar AT3085RO was planted on May 20 in a field with a history of peanut production at the Wiregrass Research and Extension Center in Headland, Alabama. Seed were sown at a rate of approximately five seed per foot of row. The soil type was a Dothan sandy loam (organic matter < 1 percent). Recommendations of the Alabama Cooperative Extension System for tillage, fertility, and weed and nematode control were followed. On May 12, 1 quart per acre of Sonalan + 0.45 ounce per acre of Strongarm were applied and incorporated for preemergent weed control. Thrips were controlled with an in-furrow application of 6.7 pounds per acre of Temik 15G at planting. On June 23, 10 pounds per acre of Temik 15G was applied to the test area. On June 30, 1.5 pints per acre of 2,4 DB was applied for postemergent weed control.

Plots, which consisted of six 30-foot rows spaced 3 feet apart, were arranged in a randomized complete block with six replicates. Plots were located under a central pivot irrigation system and irrigated as needed. Fungicides were applied on a 14-day interval on June 26, July 10, July 24, August 10, August 20, September 10, and September 23 using a six-row, tractor-mounted boom sprayer with three TX8 nozzles per row spaced 12 inches apart calibrated to deliver 15 gallons per acre at 50 psi.

Disease Assessment: Early and late leaf spot were visually rated on September 29 using the Florida leaf spot scoring system (1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation; 5 = lesions noticeable in upper canopy with some defoliation; 6 = lesions numerous with significant defoliation; 7 = lesions numerous with heavy defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation; 9 = very few remaining leaves covered with lesions; 10 = completely dead plants).

Counts of stem rot loci (one locus was defined as ≤ 1 foot of consecutive stem of damaged plants per row) were made on October 19 and November 3 immediately after plot inversion. Plots were harvested on October 29 and November 12, and yields were reported at 8.1 percent and 9.1 percent moisture, respectively. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test $P \leq 0.05$).

Results: During the 2009 peanut production season, temperatures were near normal and monthly rainfall totals were above normal throughout the season. Leaf spot severity progressed during the season, and at the time of inversion the untreated controls were almost completely defoliated (data not shown). Early and late leaf spot was severe during 2009, and leaf spot control was similar for all treatments with the exception of the Tilt-Bravo (24 fluid ounces)/Abound (18 fluid ounces)/Bravo regime which was significantly better than the Bravo WS season-long treatment and the Bravo/Abound (12.3 fluid ounces) treatments. Soil-borne severity increased due to the heavy rainfall. At the first inversion, both treatment regimes that included Abound (18 fluid ounces) significantly reduced stem rot compared with the Bravo WS full-season treatment. At the second inversion, the best control was with the Tilt-Bravo (24 fluid ounces)/Abound (18 fluid ounces)/Bravo program, and it was significantly better than both Bravo/Abound programs. Despite the abundant rainfall, all treatment programs with the exception of Bravo/Abound (12 fluid ounces) yielded significantly better than the Bravo WS season-long standard. The second inversion was delayed due to wet conditions and this had an impact on yield resulting in no significant differences among the treatment programs.

EVALUATION OF BRAVO WS, ABOUND 2.08SC, AND TILT-BRAVO FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES AND THE EFFECT OF DELAYED INVERSION ON YIELD OF PEANUT IN SOUTHEAST ALABAMA, WREC

Treatment and rate/A	Application timing[1]	–Disease ratings[2]– LS[4]	SR[5]	SR	Yield[3] *lb/A*	Yield *lb/A*
Bravo WS 24.0 fl oz	1-7	4.7	10.5	17.0	1783	823
Bravo WS 24.0 fl oz	1,2,4,6,7	4.0	5.5	17.8	2533	1371
Abound 2.08SC 18.2 fl oz	3,5					
Bravo WS 24.0 fl oz	1,2,4,6,7	4.5	8.7	22.1	2634	1152
Abound 2.08SC 12.3 fl oz	3,5					
Tilt-Bravo 24.0 fl oz	1,2	3.5	4.3	10.8	3219	1331
Abound 2.08SC	3,5					
Bravo WS 24.0 fl oz	4,6,7					
Tilt-Bravo 36.0 fl oz	1,2	4.0	6.3	14.0	2686	1218
Abound 2.08SC 12.3 fl oz	3,5					
Bravo WS 24.0 fl oz	4,6,7					
LSD (P ≤ 0.05)		***0.7***	***4.9***	***6.7***	***730***	***571***

[1] Fungicide applications were made at 14-day intervals unless otherwise indicated.
[2] Disease ratings for stem rot (SR) were made twice: at the first inversion on October 19 and at the second inversion on November 3.
[3] Yields were measured twice: at the first inversion on October 19 and at the second inversion on November 3.
[4] Early and late leaf spot (LS) were assessed using the Florida leaf spot scoring system (1 = no disease;… 10 = completely dead plants).
[5] Stem rot (SR) incidence is expressed as the number of disease hits per 60 feet of row.
Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

IMPACT OF SOIL INSECTICIDE TREATMENTS ON DISEASES AND YIELD OF PEANUT CULTIVARS, WREC

A. K. Hagan, H. L. Campbell, K. L. Bowen, and L. W. Wells

Objective: To assess the impact of soil insecticides on (1) the incidence of tomato spotted wilt as well as other diseases and (2) the yield of commercial runner peanut cultivars in southeast Alabama

Methods: The study area was turned with a moldboard plow and worked to seed bed condition with a disk harrow on May 7 at the Wiregrass Research and Extension Center in Headland, Alabama. A tank mixture of Strongarm at 0.45 ounce per acre + Sonalan at 1 quart per acre was broadcast on May 12 and lightly incorporated. Nine commercial runner-market type peanut cultivars were planted on June 2 at a rate of six seed per foot of row using conventional tillage practices in a Dothan sandy loam (organic matter < 1 percent) in a field cropped to peanut every other year. Soil fertility recommendations of the Alabama Cooperative Extension System were followed. The test area was irrigated as needed. A split plot design with cultivars as whole plots and an at-plant soil insecticide treatment as subplots was used. Whole plots were randomized in six complete blocks. Individual subplots consisted of four 40-foot rows spaced 3.2 feet apart. Subplot insecticide treatments were Thimet 20G at 4 pounds per acre, Temik 15G at 6.5 pounds per acre, and an untreated control. Full canopy sprays of Bravo Weather Stik 6F at 1.5 pints per acre on June 30 and July 14 were followed by applications of Abound 2SC at 18.5 fluid ounces per acre on July 28, Bravo Weather Stik 6F on August 11, Abound 2SC at 18.5 fluid ounces per acre on August 25, and Bravo Weather Stik 6F at 1.5 pints per acre on September 8 and September 24. Fungicides were applied with a tractor-mounted boom sprayer with three TX-8 nozzles per row at 15 gallons of spray volume per acre at 45 psi.

Disease Assessment: Final TSWV hit counts (one hit equals ≤ 1 foot of consecutive TSWV-damaged plants per row) were made on October 19. Early and late leaf spot were rated on October 19 using the 1 to 10 Florida peanut leaf spot scoring system (1 = no disease, 2 = very few lesions in canopy, 3 = few lesions noticed in lower and upper canopy, 4 = some leaf spotting and ≤ 10 percent defoliation, 5 = lesions noticeable and ≤ 25 percent defoliation, 6 = lesions numerous and ≤ 50 percent defoliation, 7 = lesions very numerous and ≤ 75 percent defoliation, 8 = numerous lesions on few remaining leaves and ≤ 90 percent defoliation, 9 = very few remaining leaves covered with lesions and ≤ 95 percent defoliation, and 10 = plants defoliated or dead). White mold hit counts (one hit equals ≤ 1 foot of consecutive diseased plants per row) were made immediately after plot inversion on October 22 on the mid-season and November 3 on the late-maturing peanut cultivars. Yields are reported at 9 percent moisture. Significance of treatment effects was tested by analysis of variance and the least significant difference (LSD) test ($P \leq 0.05$).

Results: In 2009, monthly rainfall totals except for June equaled or exceeded the 30-year average. While peanut cultivar had a significant impact on TSWV and white mold incidence as well as leaf spot and yield, the soil insecticides had a significant effect on TSWV incidence, but not leaf spot severity, white mold incidence, and yield (Table 1). According to the significant soil insecticide x cultivar interaction for TSWV, treatment impact on TSWV incidence differed among peanut cultivars (Table 1). Since the soil insecticide x cultivar interaction for leaf spot, white mold incidence, and yield was not significant, data were pooled by peanut cultivar in Table 2 and soil insecticide treatment in Table 3.

While overall TSWV pressure was low due to the early June planting date, one or both of the soil insecticides significantly reduced disease incidence when compared with the untreated control on all cultivars except for Florida 07 and Georgia 06G (Table 2). On Georgia 02C, Georgia 07W, Georgia Green, McCloud, and Tifguard, similar reductions in TSWV incidence were obtained with Temik 15G and Thimet 20G. When compared with the untreated control, TSWV incidence was lower in Georgia Greener and York treated with Temik 15G but not with Thimet 20G. On the latter cultivars, the Thimet 20G- and Temik 15G-treated peanuts had similar TSWV ratings.

Leaf spot ratings and yield for the soil insecticide-treated peanuts and the untreated control were similar (Table 3). While white mold incidence was lower with Thimet 20G than Temik 15G, hit counts for peanuts treated with both soil insecticides and the untreated controls were similar.

Highest leaf spot ratings were recorded for Georgia 07W (Table 3). While lower than Georgia 07W, McCloud, Florida 07, Georgia Green, and Georgia 06G had equally high leaf spot ratings. The least leaf spotting and premature defoliation was noted on Tifguard and York. While overall white mold incidence was low, differences in damage levels were found between peanut cultivars. Disease incidence was higher on McCloud than on all other cultivars except Georgia Green and Georgia 06G. Georgia 07W, Georgia 02C, and York suffered the least white mold damage. With the exception of Florida 07, highest yield was recorded for Georgia 07W. Lowest yielding cultivars included the late-maturing Georgia 02C and York as well as Tifguard and the current industry standard Georgia Green.

Summary: When compared with the untreated control, significant reductions in TSWV incidence were obtained on five and seven of nine peanut cultivars with the soil insecticides Temik 15G and Thimet 20G, respectively. Of the nine cultivars, neither soil insecticide reduced disease incidence in Florida 07 or Georgia 06G. While Thimet 20G did reduce white mold incidence compared with Temik 15G, leaf spot ratings and yield for the soil insecticide-treated peanuts and the untreated control were similar.

Low disease ratings often were not associated with the highest yields. With the exception of Georgia Green, TSWV incidence probably had no impact on yield. Georgia 07W, which had the highest leaf spot rating, also outyielded all peanut cultivars except for Florida 07. McCloud, which was one of the higher yielding cultivars, also had high leaf spot and white mold ratings. Low yields for the late-maturing Georgia 02C and York, both of which displayed good disease resistance, could be attributed to the late June planting date as well as the unseasonably wet and cold October weather.

TABLE 1. ANOVA FOR IMPACT OF SOIL INSECTICIDES ON DISEASE AND YIELDS OF SELECTED PEANUT CULTIVARS

Split plot analysis *P*(F value)	TSWV[1]	LS [2]	WM[1]	Yield
Peanut cultivar	<0.0001***[3]	<0.0001***	<0.0001***	<0.0001***
Soil insecticide	<0.0001***	0.8236	0.1329	0.3154
Soil insecticide x cultivar	0.0090**	0.0688	0.8159	0.6920

[1] Tomato spotted wilt virus (TSWV) and white mold (WM)

[2] Leaf spot (LS)

[3] Significance at the 0.05, 0.01, and 0.001 levels is indicated by *, **, or ***, respectively.

TABLE 2. IMPACT OF SOIL INSECTICIDES ON TSWV INCIDENCE ON SELECTED PEANUT CULTIVARS

	TSWV incidence[1]		
Peanut cultivar	Temik 15G	Thimet 20G	Untreated control
Mid-season (130-145 DAP)			
Florida 07	2.5 a	2.8 a	3.7 a
Georgia 06G	3.0 a	4.2 a	4.3 a
Georgia 07W	2.2 b	2.3 b	3.7 a
Georgia Green	3.3 b	5.2 b	9.8 a
Georgia Greener	2.2 b	2.8 ab	4.3 a
McCloud	2.5 b	2.5 b	4.5 a
Tifguard	2.0 b	2.8 b	4.3 a
Late (140-165 DAP)			
Georgia 02C	.3 b	3.0 b	5.7 a
York	2.5 b	3.2 ab	4.3 a

[1] Tomato spotted wilt virus (TSWV) incidence is expressed as the number of hits per 80 feet of row.

Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

TABLE 3. DISEASE RATINGS AND YIELD RESPONSE FOR SOIL INSECTICIDE TREATMENTS AND PEANUT CULTIVARS

Peanut cultivar	LS[1]	WM[2]	Yield *lb/A*
Soil insecticide and rate/A			
Temik 15G 6.5 pounds per acre	3.9 a	2.5 a	4551 a
Thimet 20G 4 pounds per acre	3.9 a	1.8 b	4443 a
Untreated control	3.9 a	2.1 ab	4576 a
Cultivar means			
Mid-season (130-145 DAP)			
Florida 07	4.1 bc	1.9 cd	4953 ab
Georgia 06G	3.9 bcd	2.8 abc	4668 bc
Georgia 07W	4.6 a	1.1 de	5173 a
Georgia Green	4.0 bcd	3.6 ab	4114 e
Georgia Greener	3.7 de	2.4 bc	4453 cd
McCloud	4.2 b	3.7 a	4730 bc
Tifguard	3.4 ef	2.3 c	4332 de
Late (140-165 DAP)			
Georgia 02C	3.8 cd	0.9 de	4111 e
York	3.2 f	0.6 e	4157 de

[1] Leaf spot (LS) was rated using the Florida 1 to 10 rating scale.

[2] White mold (WM) incidence is expressed as the number of hits per 80 feet of row.

Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P=0.05$).

EVALUATION OF THE EXPERIMENTAL FUNGICIDES DPX LEM 17 200SC, DPX YT 669, AND QFA61 LEM/BRAVO FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHWEST ALABAMA, GCREC

H. L. Campbell, A. K. Hagan, K. L. Bowen, and M. D. Pegues

Objective: To evaluate the experimental fungicides DPX LEM17 200SC, DPX YT 669, and QFA61 LEM/Bravo and compare them with currently registered fungicides for control of early and late leaf spot and stem rot and yield response in an irrigated peanut production system in southwest Alabama.

Methods: Peanut cultivar AT3085RO was planted on May 21 at the Gulf Coast Research and Extension Center near Fairhope, Alabama, at a rate of five seed per foot of row in a field that had previously been cropped to peanut production. The soil type was a Malbis fine sandy loam (organic matter < 1 percent). Recommendations of the Alabama Cooperative Extension System for fertility and weed control were followed. On March 4, Roundup was applied at 1 quart per acre to burn down winter weeds. On April 15, 190 pounds per acre of 8-21-21 fertilizer + 10 pounds per acre Sulfur + 0.5 pound per acre Boron (15-40-40-10S-0.5B) was applied to the test area. On April 16, 2 pints per acre of Prowl EC was applied and incorporated.

On June 8, 8 ounces per acre Gramoxone + 1 pint per acre of Storm + 1 pint per acre of 2,4 DB + 1 pint per 25 gallons H_2O of Induce was applied for postemergent weed control. On June 22, 2 ounces per acre of Cadre + 0.225 ounce per acre of Strongarm + 1 pint per 25 gallons H_2O of Induce was applied for weed control. Thrips were controlled with an in-furrow application of 5.0 pounds per acre of Thimet 20G at planting. Ten pounds per acre of *Rhizobium* innoculant was also applied at planting.

Plots, which consisted of four 30-foot rows on 38-inch centers, were arranged in a randomized complete block with six replications. Plots were not irrigated. Foliar fungicides were applied as a full canopy spray at 14- to 21-day intervals on June 30, July 6, July 13, July 27, August 10, August 24, September 10, and September 21 using a four-row, ATV-mounted CO_2 sprayer with three TX8 nozzles per row spaced 19 inches apart calibrated to deliver 15 gallons per acre at 30 pounds psi.

Disease Assessment: Leaf spot diseases were visually rated on September 30 using the Florida leaf spot scoring system [1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation (≤10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤25 percent); 6 = lesions numerous with significant defoliation (≤50 percent); 7 = lesions numerous with heavy defoliation (≤75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (≤90 percent); 9 = very few remaining leaves covered with lesions(≤95 percent); and 10 = plants completely defoliated or dead]. Rust was rated using the ICRISAT rust rating scale (1 = no disease, ...9 = plants severely affected, 80 to 100 percent leaves withering.)

Counts of stem rot loci (one locus is defined as ≤ 1 foot of consecutive stem rot damaged plants per row) were made on October 1 immediately after plot inversion. Plots were harvested on October 15, and yields were reported at 10.0 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

Results: In 2009, temperatures were at or near normal and monthly rainfall totals were above normal throughout the growing season. Late leaf spot and rust were the primary foliar diseases observed. Late leaf spot appeared early and intensified throughout the season. Rust appeared in late August and intensified through harvest. DPX YT 669/ DPX LEM 17/Bravo WS, Headline/DPX LEM 17/Bravo WS, DPX YT 669/DPX LEM 17/Bravo WS, and Bravo WS/Provost programs were similar to the season-long Bravo WS standard in controlling leaf spot. The remaining programs gave significantly less control of leaf spot. Rust control with DPX YT 669/DPX LEM 17/Bravo WS, Headline/DPX LEM 17/Bravo WS, DPX YT 669/DPX LEM 17/Bravo WS, and Bravo WS/Provost programs was similar to the season-long Bravo WS standard. The other treatment programs did not significantly reduce rust levels compared to the standard program. With the exception of the Headline/Abound (3,4,5)/Bravo WS program, stem rot incidence on the season-long Bravo WS standard and other programs was similar. Yields for the QFA 61/

Abound/Bravo, Headline/Abound (3,5)/Bravo, Tilt + Bravo/Abound/Bravo, Headline/Abound (3,4,5)/Bravo, and Bravo/Folicur programs were significantly lower compared with the season-long Bravo WS standard. Yields for the treatments that included DPX LEM 17 200SC were not significantly different than the Bravo WS/Provost or Bravo WS standard.

EVALUATION OF THE EXPERIMENTAL FUNGICIDES DPX LEM 17 200SC, DPX YT 669, AND QFA61 LEM/BRAVO FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHWEST ALABAMA, GCREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	Rust[3]	SR[4]	Yield *lb/A*
DPX YT 669 9.0 fl oz	1,5	3.0	2.0	0.3	5146
DPX LEM 17 200SC 16.0 fl oz	3,4,5				
Bravo WS 24.0 fl oz	6,7				
Headline 2.09EC 9.0 fl oz	1,5	3.0	2.3	0.3	5376
DPX LEM 17 200SC 16.0 fl oz	3,4,5				
Bravo WS 24.0 fl oz	6,7				
DPX YT 669 6.0 fl oz	1,2	3.0	2.0	0.5	5478
DPX LEM 17 200SC 16.0 fl oz	3,4,5				
Bravo WS 24.0 fl oz	6,7				
QFA61 LEM/Bravo 14.5 fl oz	1,2	5.0	3.3	1.8	4771
Abound 2.08SC 18.2 fl oz	3,5				
Bravo WS 24.0 fl oz	4,6,7				
Headline 2.09EC 9.0 fl oz	1,5	5.0	3.3	1.3	4733
Abound 2.08SC 18.2 fl oz	3,5				
Bravo WS 24.0 fl oz	4,6,7				
Tilt 3.6EC + Bravo WS 16.0 fl oz	1,2	5.3	3.7	1.5	4703
Abound 2.08SC 18.2 fl oz	3,5				
Bravo WS 24.0 fl oz	4,6,7				
Headline 2.09EC 9.0 fl oz	1,5	5.8	4.0	2.3	4626
Abound 2.08SC 18.2 fl oz	3,4,5				
Bravo WS 24.0 fl oz	6,7				
Bravo WS 24.0 fl oz	1,2,7	5.2	4.0	1.7	4588
Folicur 3.6F 7.2 fl oz	3,4,5,6				
Bravo WS 24.0 fl oz	1,2,4,6,7	4.5	3.3	1.7	4932
Abound 2.08SC 18.2 fl oz	3,5				
Bravo WS 24.0 fl oz	1,2,7	4.2	3.8	1.3	4833
Bravo WS 16.0 fl oz + Convoy 13.0 fl oz	3,4,5,6				
Headline 2.09EC 9.0 fl oz	1,5	4.8	3.7	2.2	4947
Folicur 3.6F 7.2 fl oz	3,5				
Headline 2.09EC 9.0 fl oz	4,6				
Bravo WS 24.0 fl oz	7				
Bravo WS 24.0 fl oz	1,2,7	3.1	2.7	0.7	5483
Provost 433SC 8.0 fl oz	3,4,5,6				
Bravo WS 24.0 fl oz	1-7	2.8	2.1	1.0	5395
LSD (P ≤ 0.05)		***0.6***	***2.1***	***1.0***	***611***

[1] Dates for fungicide applications 1-7 are listed in the text.

[2] Early and late leaf spot (LS) were assessed using the Florida leaf spot scoring system (1 = no disease;… 10 = completely dead plants).

[3] Rust rated using the ICRISAT 1-9 rating scale (1 = no disease, ... 9 = plants severely affected, 80-100 percent leaves withering).

[4] Stem rot (SR) incidence is expressed as the number of disease hits per 60 feet of row.

Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

EVALUATION OF TOPGUARD FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHWEST ALABAMA, GCREC

H. L. Campbell, A. K. Hagan, K. L. Bowen, and M. D. Pegues

Objective: To evaluate Topguard and compare it with currently registered fungicides for control of early and late leaf spot, rust, and stem rot and yield response in a dryland peanut production system in southwest Alabama.

Methods: Peanut cultivar AT3085RO was planted at the Gulf Coast Research and Extension Center near Fairhope, Alabama, on May 21 at a rate of five seed per foot of row in a field cropped to peanut every third year. The soil type was a Malbis fine sandy loam (organic matter < 1 percent). Recommendations of the Alabama Cooperative Extension System for fertility and weed control were followed. On March 4, Roundup was applied at 1 quart per acre to burn down winter weeds. On April 15, 190 pounds per acre of 8-21-21 fertilizer + 10 pounds per acre Sulfur + 0.5 pound per acre Boron (15-40-40-10S-0.5B) was applied to the test area. On April 16, 2 pints per acre of Prowl EC was applied and incorporated. On June 8, 8 ounces per acre Gramoxone + 1 pint per acre of Storm + 1 pint per acre of 2,4 DB + 1 pint per 25 gallons H_2O of Induce was applied for postemergent weed control. On June 22, 2 ounces per acre of Cadre + 0.225 ounce per acre of Strongarm + 1 pint per 25 gallons H_2O of Induce was applied for weed control. Thrips were controlled with an in-furrow application of 5.0 pounds per acre of Thimet 20G at planting. Ten pounds per acre of *Rhizobium* innoculant was also applied at planting.

Plots, which consisted of four 30-foot rows on 38-inch centers, were arranged in a randomized complete block with six replications. Plots were not irrigated. Foliar fungicides were applied at 14-day intervals on June 30, July 13, July 27, August 10, August 24, September 10, and September 21 as a full canopy spray using a four-row, ATV-mounted CO_2 sprayer with three TX8 nozzles per row calibrated to deliver 15 gallons per acre at 30 psi.

Disease Assessment: Early and late leaf spot were visually rated on September 30 using the Florida leaf spot scoring system [1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation (≤10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤25 percent); 6 = lesions numerous with significant defoliation (≤50 percent); 7 = lesions numerous with heavy defoliation (≤75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (<90 percent); 9 = very few remaining leaves covered with lesions(≤95 percent); and 10 = plants defoliated or dead]. Rust was rated using the ICRISAT rust rating scale (1 = no disease, ...9 = plants severely affected, 80-100 percent leaves withering).

Counts of stem rot loci (one locus is defined as ≤ 1 foot of consecutive symptoms and signs of the disease) were made on October 1 immediately after plot inversion. Plots were harvested on October 15, and yields were reported at 10.0 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

Results: In 2009, temperatures were at or near normal and monthly rainfall totals were above normal throughout the growing season. Due to frequent rain showers, foliar disease severity increased throughout the growing season. Late leaf spot and rust were the dominant diseases observed. The Bravo WS/Topguard (28 fluid ounces), Bravo WS/Topguard + Bravo WS, Bravo WS/Bravo WS + Convoy, and Bravo WS/Provost treatments gave similar late leaf spot control compared with the Bravo WS standard. All other programs gave poorer leaf spot control than Bravo alone. Rust appeared in late August and intensified through September. Bravo/Topguard (7 fluid ounces), Bravo/Topguard (10 fluid ounces), and Bravo/Topguard (14 fluid ounces) programs were less effective in controlling rust than the Bravo WS standard. Rust ratings for all other fungicide programs were similar to the Bravo WS standard. Despite heavy late season rainfall, stem rot incidence was low. Only the Bravo/Topguard (7 fluid ounces), Bravo/Topguard (10 fluid ounces), and Bravo/Folicur programs had significantly higher stem rot loci counts than the Bravo WS standard. Yields for Bravo WS/Abound were higher than all programs except for Bravo WS/Topguard (14 fluid ounces), Bravo WS/Bravo WS + Convoy, Bravo WS/Folicur/Headline/Bravo WS, and Bravo WS/Provost. With the exception of Bravo WS/Abound, all programs had yields that were similar to the Bravo WS standard.

EVALUATION OF TOPGUARD FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHWEST ALABAMA, GCREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	Rust[3]	SR[4]	Yield *lb/A*
Bravo WS 24.0 fl oz	1,2,7	4.3	5.0	2.2	4672
Topguard 7.0 fl oz	3,4,5,6				
Bravo WS 24.0 fl oz	1,2,7	4.5	4.7	3.0	4641
Topguard 10.0 fl oz	3,4,5,6				
Bravo WS 24.0 fl oz	1,2,7	3.8	4.5	1.1	5062
Topguard 14.0 fl oz	3,4,5,6				
Bravo WS 24.0 fl oz	1,2,7	3.5	3.3	1.3	4733
Topguard 28.0 fl oz	3,4,5,6				
Bravo WS 24.0 fl oz	1,2,7	3.2	2.5	1.2	4672
Topguard 7.0 fl oz + Bravo WS 16.0 fl oz	3,4,5,6				
Bravo WS 24.0 fl oz	1,2,7	4.8	3.7	2.1	4764
Folicur 7.2 fl oz	3,4,5,6				
Bravo WS 24.0 fl oz	1,2,4,6,7	4.0	3.5	0.8	5437
Abound 2.08SC 18.5 fl oz	3,5				
Bravo WS 24.0 fl oz	1,2,7	3.5	2.8	1.0	5154
Bravo WS 16.0 fl oz + Convoy 13.0 fl oz	3,4,5,6				
Headline 2.09EC 6.0 fl oz	1,2	4.0	2.7	0.8	4932
Folicur 3.6F 7.2 fl oz	3,5				
Headline 2.09EC 9.0 fl oz	4				
Bravo WS 24.0 fl oz	6,7				
Bravo WS 24.0 fl oz	1,2,7	2.7	2.2	0.7	5223
Provost 8.0 fl oz	3,4,5,6				
Bravo WS 24.0 fl oz	1-7	3.1	2.7	1.0	4726
LSD (P ≤ 0.05)		***0.6***	***1.3***	***1.2***	***551***

[1] Fungicide applications dates are listed in the text.
[2] Early and late leaf spot (LS) were assessed using the Florida leaf spot scoring system (1 = no disease;… 10 = completely dead plants).
[3] Rust rated using the ICRISAT 1-9 rating scale (1 = no disease, ... 9 = plants severely affected, 80-100 percent leaves withering).
[4] Stem rot (SR) incidence is expressed as the number of disease hits per 60 feet of row.
Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

EVALUATION OF PROLINE 480SC APPLIED IN-FURROW AND PROVOST 433SC FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHWEST ALABAMA, GCREC

H. L. Campbell, A. K. Hagan, K. L. Bowen, and M. D. Pegues

Objective: To evaluate Proline 480SC in-furrow, Provost 433SC, and Absolute 500SC and compare them with other currently registered fungicides for control of early and late leaf spot and stem rot and yield response in an irrigated peanut production system in southwest Alabama.

Methods: Peanut cultivar AT3085RO was planted on May 20 at the Gulf Coast Research and Extension Center near Fairhope, Alabama, at a rate of five seed per foot of row in a field that had previously been cropped to peanut every third year. The soil type was a Malbis fine sandy loam (organic matter < 1 percent). Recommendations of the Alabama Cooperative Extension System for fertility and weed control were followed. Temik 15G was applied at 7 pounds per acre at planting for thrips control. On June 8, 8 ounces per acre Gramoxone + 1 pint per acre of Storm + 1 pint per acre of 2,4 DB + 1 pint per 25 gallons H_2O of Induce was applied for postemergent weed control. On June 22, 2 ounces per acre of Cadre + 0.225 ounce per acre of Strongarm + 1 pint per 25 gallons H_2O of Induce was applied for weed control. Thrips were controlled with an in-furrow application of 5.0 pounds per acre of Thimet 20G at planting. Ten pounds per acre of *Rhizobium* innoculant was also applied at planting.

Plots, which consisted of four 30-foot rows on 38-inch centers, were arranged in a randomized complete block with six replications. Plots were not irrigated. In-furrow fungicides were applied at planting with a tractor-mounted drop sprayer calibrated to deliver 15 gallons per acre at 20 psi. Foliar fungicides were applied at 14-day intervals on June 30, July 13, July 27, August 10, August 24, September 10, and September 21 as a full canopy spray using a four-row, ATV-mounted CO_2 sprayer with three TX8 nozzles per row calibrated to deliver 15 gallons per acre at 30 psi.

Disease Assessment: Early and late leaf spot were visually rated on September 30 using the Florida leaf spot scoring system [1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation (≤10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤25 percent); 6 = lesions numerous with significant defoliation (≤50 percent); 7 = lesions numerous with heavy defoliation (<75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (≤90 percent); 9 = very few remaining leaves covered with lesions (≤95 percent); and 10 = completely defoliated or dead]. Rust was rated using the ICRISAT rust rating scale (1 = no disease, ...9 = plants severely affected, 80-100 percent leaves withering).

Counts of stem rot loci (one locus is defined as ≤ 1 foot of consecutive symptoms and signs of the disease) were made on October 1 immediately after plot inversion. Plots were harvested on October 14, and yields were reported at 10.0 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

Results: In 2009, temperatures were at or near normal and monthly rainfall totals were above normal throughout the growing season. Late leaf spot and rust were the primary foliar diseases noted. Both rates of Provost gave significantly better leaf spot control than all other fungicide programs. The Absolute and Abound programs also gave better leaf spot control than Echo 720 alone. Echo/Echo + Folicur, Echo/Folicur, and Echo/Echo + Convoy had leaf spot ratings similar to Echo alone. Rust appeared in late August and intensified until harvest. Superior rust control was provided by all Provost programs. When compared with Echo alone, significant reductions in rust severity were also seen with Echo/Absolute, Echo/Abound, and Headline/Folcur/Headline/Echo programs. Echo/Folicur, Echo/Echo + Folicur, Echo/Echo + Convoy, Echo/Absolute + Echo alone proved least effective in controlling rust. Stem rot severity was low despite the frequent rain showers. Stem rot incidence was higher for Echo/Echo + Convoy and Echo alone than other fungicide programs, which had similar stem rot loci counts. When compared with similar Provost programs, the addition of Proline in-furrow to Provost programs failed to enhance the control of any disease or increase yield. All Provost programs, along with Echo/Abound and Headline/Folicur/

Headline/Echo had equally high yields. Yield response with the season-long Echo alone program was significantly below that obtained with all programs except Echo/Absolute + Folicur, Echo/Echo + Folicur, Echo/Folicur, and Echo/Echo + Convoy.

EVALUATION OF PROLINE 480SC APPLIED IN-FURROW AND PROVOST 433SC FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHWEST ALABAMA, GCREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	Rust[3]	SR[4]	Yield *lb/A*
Proline 480SC 5.7 fl oz	In-furrow	2.3	2.2	0.5	5850
Echo 720 24.0 fl oz	1,2,7				
Provost 433SC 8.0 fl oz	3,4,5,6				
Proline 480SC 5.7 fl oz	In-furrow	2.5	2.3	0.2	6240
Echo 720 24.0 fl oz	1,2,7				
Provost 433SC 10.7 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,7	2.5	2.1	0.5	6217
Provost 433SC 8.0 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,7	2.7	2.0	0.7	6309
Provost 433SC 10.7 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,7	4.7	3.2	1.3	5704
Absolute 500SC 3.5 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,7	4.2	3.5	1.3	5360
Absolute 500SC 3.5 fl oz + Folicur 3.6F 5.2 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,7	4.8	4.0	0.8	5085
Echo 720 16.0 fl oz + Folicur 3.6F 7.2 fl oz.	3,4,5,6				
Echo 720 24.0 fl oz	1,2,7	5.3	4.2	1.2	5177
Folicur 3.6F 7.2 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,4,6,7	3.7	3.0	0.5	6270
Abound 2.08SC 18.2 fl oz	3,5				
Echo 720 24.0 fl oz	1,2,7	5.3	3.5	2.8	5269
Echo 720 16.0 fl oz + Convoy 13.0 fl oz	3,4,5,6				
Headline 2.09EC 6.0 fl oz	1,2	4.7	2.8	0.7	5812
Folicur 3.6F 7.2 fl oz	3,5				
Headline 2.09EC 9.0 fl oz	4				
Echo 720 24.0 fl oz	6,7				
Echo 720 24.0 fl oz	1-7	5.3	4.2	2.8	4863
LSD (P ≤ 0.05)		***0.6***	***0.8***	***1.2***	***568***

[1] Fungicide applications dates are listed in the text.
[2] Early and late leaf spot (LS) were assessed using the Florida leaf spot scoring system (1 = no disease;… 10 = completely dead plants).
[3] Rust rated using the ICRISAT 1-9 rating scale (1 = no disease, ... 9 = plants severely affected, 80-100 percent leaves withering).
[4] Stem rot (SR) incidence is expressed as the number of disease hits per 60 feet of row.
Mean separation within columns was according to Fisher's protected least significant difference (LSD) test (*P*=0.05).

EVALUATION OF ARTISAN AND CONVOY FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHWEST ALABAMA, GCREC

H. L. Campbell, A. K. Hagan, K. L. Bowen, and M. D. Pegues

Objective: To evaluate Convoy and Artisan and compare them with other currently registered fungicides for control of early and late leaf spot and stem rot and yield response in an irrigated peanut production system in southwest Alabama.

Methods: Peanut cultivar AT3085RO was planted in a field that had previously been cropped to peanut every third year at a rate of five seed per foot of row on May 21 at the Gulf Coast Research and Extension Center near Fairhope, Alabama. The soil type was a Malbis fine sandy loam (organic matter < 1 percent). Recommendations of the Alabama Cooperative Extension System for fertility and weed control were followed. On March 4, Roundup was applied at 1 quart per acre to burn down winter weeds. On April 15, 190 pounds per acre of 8-21-21 fertilizer + 10 pounds per acre Sulfur + 0.5 pound per acre Boron (15-40-40-10S-0.5B) was applied to the test area. On April 16, 2 pints per acre of Prowl EC was applied and incorporated. On June 8, 8 ounces per acre Gramoxone + 1 pint per acre of Storm + 1 pint per acre of 2,4 DB + 1 pint per 25 gallons H_2O of Induce was applied for postemergent weed control. On June 22, 2 ounces per acre of Cadre + 0.225 ounce per acre of Strongarm + 1 pint per 25 gallons H_2O of Induce was applied for weed control. Thrips were controlled with an in-furrow application of 5.0 pounds per acre of Thimet 20G at planting. Ten pounds per acre of *Rhizobium* innoculant was also applied at planting.

Plots, which consisted of four 30-foot rows on 38-inch centers, were arranged in a randomized complete block with six replications. Plots were not irrigated. Foliar fungicides were applied as a full canopy spray at 14-, 21-, or 28-day intervals on June 30, July 6, July 13, July 27, August 10, August 21, September 10, and September 21 using a four-row, ATV-mounted CO_2 sprayer with three TX8 nozzles per row spaced 19 inches apart calibrated to deliver 15 gallons per acre at 30 psi.

Disease Assessment: Leaf spot diseases were visually rated on September 30 using the Florida leaf spot scoring system [1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation (≤ 10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤ 25 percent); 6 = lesions numerous with significant defoliation (≤ 50 percent); 7 = lesions numerous with heavy defoliation (≤ 75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (≤ 90 percent); 9 = very few remaining leaves covered with lesions (≤ 95 percent); and 10 = plants completely defoliated or dead]. Rust was rated using the ICRISAT rust rating scale (1 = no disease, ...9 = plants severely affected, 80-100 percent leaves withering).

Counts of stem rot loci (one locus is defined as ≤ 1 foot of consecutive stem rot damaged plants per row) were made on October 1 immediately after plot inversion. Plots were harvested on October 15, and yields were reported at 10.0 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

Results: During the 2009 peanut production season, temperatures were at or near normal and monthly rainfall totals were above normal throughout the growing season. Late leaf spot and rust were the primary foliar diseases noted. The best leaf spot control was provided by Echo 720/Provost, while the poorest leaf spot control was obtained with the Headline (1.5)/Convoy +Echo (3,4,5,6)/Echo (7) program. Of the remaining programs, Headline (1.5)/Echo +Artisan (3,4.5,6)/Topsin + Echo (7), Echo/Folicur, and Echo/Echo (16 fluid ounces) + Convoy (13 fluid ounces) were equally less effective in controlling late leaf spot than the Echo 720 standard. Rust appeared in late August and intensified through September. The season-long Echo 720 standard controlled rust better than programs except for the Headline (1.5)/Echo + Artisan (3,4,5,6)/Echo (7), Headline (1.5)/Convoy + Echo (3,4.5,6)/Topsin + Echo (7), Echo/Folicur, Echo/Abound, Echo/Echo + Convoy, and Headline/Folicur/Headline/Echo programs. Poorest rust control was provided by Headline (1.5)/Convoy + Echo (3,4,5,6)/Echo (7). Stem rot severity was low despite the heavy late season rains and no differences were observed among treatments (data not shown). Yields were higher for the Echo/Provost program and were significantly higher than all other programs except the

Headline (1.5)/Artisan + Echo (3,4.5)/Topsin + Echo (6) and Echo/Echo (24 fluid ounces) + Convoy (21 fluid ounces) programs. Only the Headline (1.5)/Convoy + Echo (3,4,5,6)/Echo (7) program yielded lower than the Echo 720 standard.

EVALUATION OF ARTISAN AND CONVOY FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHWEST ALABAMA, GCREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	Rust[3]	Yield *lb/A*
Headline 2.09EC 9.0 fl oz	1.5	5.2	5.2	4894
Artisan 26.0 fl oz + Echo 720 16.0 fl oz	3,4.5			
Topsin M 5.0 fl oz + Echo 720 16.0 fl oz	6			
Headline 2.09EC 9.0 fl oz	1.5	6.5	5.3	3899
Echo 720 16.0 fl oz + Artisan 18.0 fl oz	3, 4.5,6			
Topsin M 5.0 fl oz + Echo 720 16.0 fl oz	7			
Headline 2.09EC 9.0 fl oz	1.5	5.5	4.2	4856
Echo 720 16.0 fl oz + Artisan 16.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	7			
Headline 2.09EC 9.0 fl oz	1.5	5.5	5.0	4244
Convoy 21.0 fl oz + Echo 720 24.0 fl oz	3, 4.5			
Topsin M 5.0 fl oz + Echo 720 16.0 fl oz	6			
Headline 2.09Ec 9.0 fl oz	1.5	5.8	4.0	4557
Convoy 15.0 fl oz + Echo 720 24.0 fl oz	3, 4.5,6			
Topsin M 5.0 fl oz + Echo 720 16.0 fl oz	7			
Headline 2.09EC 9.0 fl oz	1.5	7.7	7.7	3433
Convoy 13.0 fl oz + Echo 720 16.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	7			
Echo 720 24.0 fl oz	1,2,7	6.2	3.8	4611
Folicur 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	4.0	3.7	5483
Provost 433SC 8.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,4,6,7	5.5	3.8	4695
Abound 2.08SC 18.5 fl oz	3,5			
Echo 720 24.0 fl oz	1,2,7	6.5	6.0	3969
Echo 720 16.0 fl oz + Convoy 13.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,4,6,7	5.2	4.8	4932
Echo 720 24.0 fl oz + Convoy 21.0 fl oz	3,5			
Headline 2.09EC 9.0 fl oz	1.5	5.7	4.5	4817
Folicur 3.6F 7.2 fl oz	3,5			
Headline 2.09 EC 6.0 fl oz	4,6			
Echo 720 24.0 fl oz	7			
Echo 720 24.0 fl oz	1-7	5.2	3.5	4275
LSD(P ≤ 0.05)		***0.7***	***1.4***	***621***

[1] Dates for fungicide applications 1-7 are listed in the text.

[2] Early and late leaf spot (LS) were assessed using the Florida leaf spot scoring system (1 = no disease;… 10 = completely dead plants).

[3] Rust severity was rated using the ICRISAT 1-9 rating scale.

Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

EVALUATION OF TEBUZOL 3.6F, TOPSIN M, ELAST, AND UNICORN FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES OF IN SOUTHWEST ALABAMA, GCREC

H. L. Campbell, A. K. Hagan, K. L. Bowen, and M. D. Pegues

Objective: To evaluate Tebuzol 3.6F, Topsin M, Elast, and Unicorn, and compare them with other currently registered fungicides for control of early and late leaf spot and stem rot and yield response in an irrigated peanut production system in southwest Alabama.

Methods: Peanut cultivar AT3085RO was planted at the Gulf Coast Research and Extension Center near Fairhope, Alabama, on May 21 at a rate of five seed per foot of row in a field that had previously been cropped to peanut every third year. The soil type was a Malbis fine sandy loam (organic matter < 1 percent). Recommendations of the Alabama Cooperative Extension System for fertility and weed control were followed. On March 4, Roundup was applied at 1 quart per acre to burn down winter weeds. On April 15, 190 pounds per acre of 8-21-21 fertilizer + 10 pounds per acre Sulfur + 0.5 pound per acre Boron (15-40-40-10S-0.5B) was applied to the test area. On April 16, 2 pints per acre of Prowl EC was applied and incorporated. On June 8, 8 ounces per acre Gramoxone + 1 pint per acre of Storm + 1 pint per acre of 2,4 DB + 1 pint per 25 gallons H_2O of Induce was applied for postemergent weed control. On June 22, 2 ounces per acre of Cadre + 0.225 ounce per acre of Strongarm + 1 pint per 25 gallons H_2O of Induce was applied for weed control. Thrips were controlled with an in-furrow application of 5.0 pounds per acre of Thimet 20G at planting. Ten pounds per acre of *Rhizobium* innoculant was also applied at planting.

Plots, which consisted of four 30-foot rows on 38-inch centers, were arranged in a randomized complete block with six replications. Plots were not irrigated. Foliar fungicides were applied as a full canopy spray at 14-day intervals on June 30, July 13, July 27, August 10, August 24, September 10, and September 21 using a four-row, ATV-mounted CO_2 sprayer with three TX8 nozzles per row spaced 19 inches apart calibrated to deliver 15 gallons per acre at 30 psi.

Disease Assessment: Leaf spot diseases were visually rated on September 30 using the Florida leaf spot scoring system [1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation (≤10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤25 percent); 6 = lesions numerous with significant defoliation (≤50 percent); 7 = lesions numerous with heavy defoliation (≤75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (≤90 percent); 9 = very few remaining leaves covered with lesions(≤95 percent); and 10 = plants completely defoliated or dead]. Rust was rated using the ICRISAT rust rating scale (1 = no disease, ...9 = plants severely affected, 80-100 percent leaves withering).

Counts of stem rot loci (one locus is defined as ≤ 1 foot of consecutive stem rot damaged plants per row) were made on October 1 immediately after plot inversion. Plots were harvested on October 15, and yields were reported at 10.0 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

Results: In 2009, temperatures were at or near normal and monthly rainfall totals were above normal throughout the growing season. Late leaf spot and rust were the dominant diseases. Poorest leaf spot control was obtained with the Elast/Folicur, Elast/Elast + Convoy, and Echo/Folicur programs, while Echo/Provost gave the best leaf spot control. The Unicorn treatments gave results that were not significantly different than the Echo-only standard. Rust appeared in late August and intensified through September. Echo/Elast + Folicur, Elast/Elast + Convoy, Echo/Unicorn (4.5 pounds), Echo/Provost, Echo/Abound, and Headlline/Folicur/Headline/Echo programs, which had similar rust ratings, gave significantly better control of this disease than the Echo 720 standard. Stem rot severity was low despite the abundant rainfall, and stem rot incidence was similar for all fungicide programs. With the exception of the low yields obtained with Elast/Folicur and Elast/Elast + Convoy, the remaining fungicide programs had similar yields.

EVALUATION OF TEBUZOL 3.6F, TOPSIN M, ELAST, AND UNICORN FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES OF IN SOUTHWEST ALABAMA, GCREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	Rust[3]	SR[4]	Yield *lb/A*
Echo 720 24.0 fl oz	1,2,7	5.2	4.8	1.7	4970
Tebuzol 3.6F 7.2 fl oz + TopsinM 5.0 fl oz	3,5				
Tebuzol 3.6F 7.2 fl oz	4,6				
Echo 720 24.0 fl oz	1,2,7	5.7	3.2	1.8	4886
Elast 12.8 fl oz + Folicur 3.6F 7.2 fl oz	3,4,5,6				
Elast 15.0 fl oz	1,2,7	6.6	5.8	3.0	4120
Folicur 3.6F 7.2 fl oz	3,4,5,6				
Elast 15.0 fl oz	1,2,7	6.2	4.3	3.0	4022
Elast 12.8 fl oz + Convoy 13.0 fl oz	3,4,5,6				
Echo 24.0 fl oz	1,2,7	5.3	5.6	1.2	4749
Unicorn 3.5 lb	3,4,5,6				
Echo 24.0 fl oz	1,2,7	4.3	3.8	2.0	4963
Unicorn 4.5 lb	3,4,5,6				
Echo 720 24.0 fl oz	1,2,7	6.3	5.2	1.8	4504
Folicur 7.2 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,7	3.3	3.2	0.5	5077
Porvost 433SC 8.0 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,4,6,7	5.7	3.7	0.8	4642
Abound 2.08SC 18.5 fl oz	3,5				
Echo 720 24.0 fl oz	1,2,7	5.8	5.2	3.2	4466
Echo 720 16.0 fl oz + Convoy 13.0 fl oz	3,4,5,6				
Headline 2.09EC 6.0 fl oz	1,2	5.2	3.3	1.7	4970
Folicur 3.6F 7.2 fl oz	3,5				
Headline 2.09EC 9.0 fl oz	4				
Bravo WS 24.0 fl oz	6,7				
Echo 720 24.0 fl oz	1-7	4.7	5.7	1.3	5032
LSD (P ≤ 0.05)		***0.7***	***1.2***	***1.7***	***655***

[1] The dates for fungicide applications 1-7 are listed in the text.

[2] Early and late leaf spot (LS) were assessed using the Florida leaf spot scoring system (1 = no disease;… 10 = completely dead plants).

[3] Rust rated using the ICRISAT 1-9 rating scale (1 = no disease, ... 9 = plants severely affected, 80-100 percent leaves withering).

[4] Stem rot (SR) incidence is expressed as the number of disease hits per 60 feet of row.

Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

EVALUATION OF ECHO 720, MUSCLE 3.6F, AND EMINENT 125SL FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHWEST ALABAMA, GCREC

H. L. Campbell, A. K. Hagan, K. L. Bowen, and M. D. Pegues

Objective: To evaluate Echo 720, Muscle 3.6F, and Eminent 125SL, and compare them with other currently registered fungicides for control of early and late leaf spot and stem rot and yield response in an irrigated peanut production system in southeast Alabama.

Methods: Peanut cultivar AT3085RO was planted at the Gulf Coast Research and Extension Center near Fairhope, Alabama, on May 21 at a rate of five seed per foot of row in a field that had previously been cropped to peanut every third year. The soil type was a Malbis fine sandy loam (organic matter < 1 percent). Recommendations of the Alabama Cooperative Extension System for fertility and weed control were followed. On March 4, Roundup was applied at 1 quart per acre to burn down winter weeds. On April 20, 250 pounds per acre of 9.5-24-24 fertilizer + 10 pounds per acre Sulfur + 0.5 pound per acre Boron (24-60-60-10S-0.5B) and 2 pints per acre of Prowl was applied to the test area and incorporated. On April 16, 2 pints per acre of Prowl EC was applied and incorporated. On June 8, 8 ounces per acre Gramoxone + 1 pint per acre of Storm + 1 pint per acre of 2,4 DB + 1 pint per 25 gallons H_2O of Induce was applied for postemergent weed control. On June 22, 2 ounces per acre of Cadre + 0.225 ounce per acre of Strongarm + 1 pint per 25 gallons H_2O of Induce was applied for weed control. Thrips were controlled with an in-furrow application of 5.0 pounds per acre of Thimet 20G at planting. Ten pounds per acre of *Rhizobium* innoculant was also applied at planting.

Plots, which consisted of four 30-foot rows on 38-inch centers, were arranged in a randomized complete block with six replications. Plots were not irrigated. Foliar fungicides were applied as a full canopy spray at 14 to 21-day intervals on June 30, July 6, July 13, July 27, August 11, August 25, September 10, and September 23 using a four-row, ATV-mounted CO_2 sprayer with three TX8 nozzles per row spaced 19 inches apart calibrated to deliver 15 gallons per acre at 30 psi.

Disease Assessment: Leaf spot diseases were visually rated on September 30 using the Florida leaf spot scoring system [1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation (≤ 10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤ 25 percent); 6 = lesions numerous with significant defoliation (≤ 50 percent); 7 = lesions numerous with heavy defoliation (≤ 75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (≤ 90 percent); 9 = very few remaining leaves covered with lesions (≤ 95 percent); and 10 = plants completely defoliated or dead]. Rust was rated using the ICRISAT rust rating scale (1= no disease, ...9 = plants severely affected, 80-100 percent leaves withering).

Counts of stem rot loci (one locus is defined as ≤ 1 foot of consecutive stem rot damaged plants per row) were made immediately after plot inversion on October 5 or October 14. Due to heavy and frequent rainfall, the plots were dug approximately 10 to 14 days past maturity date. Plots were harvested on October 22, and yields were reported at 10.0 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

Results: In 2009, temperatures were at or near normal and monthly rainfall totals were above normal throughout the growing season. Late leaf spot and rust were the dominant diseases. Poorest leaf spot control was obtained with the Echo 720/Folicur program, while Echo/Provost gave the best leaf spot control. All treatments, with the exception of the Echo 720/Provost treatment, gave leaf spot control that was not significantly different than the Echo 720 season-long standard. Rust appeared in late August and intensified through September. With the exception of the Echo/Folicur and Echo/Echo + Convoy treatment programs, all other treatment programs gave significantly better control of this disease than the Echo 720 standard. The effect of stem rot severity was low and because of the abundant rainfall, Stem rot incidence was not measured. Yields for all the treatment programs were impacted by the overabundance of rainfall resulting in substantial yield losses. Despite the losses, yields of the Echo + Eminent (10.2 fluid ounces)/Echo + Muscle and the Echo/Provost treatment programs were significantly higher than the Echo-only standard. All of the remaining fungicide programs had similar yields.

EVALUATION OF ECHO 720, MUSCLE 3.6F, AND EMINENT 125SL FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHWEST ALABAMA, GCREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	Rust[3]	Yield *lb/A*
Echo 720 24.0 fl oz	1,2,7	5.0	3.8	1644
Echo 720 16.0 fl oz + Eminent 125SL 7.2 fl oz	3,4,5,6			
Echo 720 16.0 fl oz + Eminent 125SL 7.2 fl oz	1,2,7	4.8	3.2	1705
Echo 720 16.0 fl oz + Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	6.0	3.8	1266
Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 16.0 fl oz + Eminent 1125SL 7.2 fl oz	1.5,7	5.3	3.3	1674
Echo 720 16.0 fl oz + Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 16.0 fl oz + Eminent 125SL 10.2 fl oz	1.5,7	4.8	3.5	2768
Echo 720 16.0 fl oz + Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 16.0 fl oz + Eminent 125SL 13.0 fl oz	1.5,7	5.3	3.8	1231
Echo 720 16.0 fl oz + Muscle 3.6F 7.2 fl oz	3,4,5,6			
Headline 2.09EC 9.0 fl oz	1.5	5.0	3.3	1369
Muscle 3.6F 7.2 fl oz	3,5			
Headline 2.09EC 6.0 fl oz	4,6			
Echo 720 24.0 fl oz	7			
Echo 720 24.0 fl oz	1,2,7	6.8	5.3	1139
Folicur 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	3.7	3.2	2294
Provost 433SC 8.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,6,7	5.5	4.2	1690
Abound 2.08SC	3,5			
Echo 720 24.0 fl oz	1,2,7	6.2	4.7	1147
Echo 720 16.0 fl oz + Convoy 13.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1-7	6.0	5.3	879
LSD (P ≤ 0.05)		***1.0***	***1.1***	***1056***

[1] Dates for fungicide applications 1-7 are listed in the text.

[2] Early and late leaf spot (LS) were assessed using the Florida leaf spot scoring system (1 = no disease;… 10 = completely dead plants).

[3] Rust severity was rated using the ICRISAT 1-9 rating scale.

Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

EVALUATION OF NEW FUNGICIDES FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHWEST ALABAMA, GCREC

H. L. Campbell, A. K. Hagan, K. L. Bowen, and M. D. Pegues

Objective: To evaluate Equus 720, Orius 3.6FL, and Bumper 41.8EC and compare them with other currently registered fungicides for control of early and late leaf spot and stem rot and yield response in an irrigated peanut production system in southwest Alabama.

Methods: Peanut cultivar AT3085RO was planted at the Gulf Coast Research and Extension Center near Fairhope, Alabama, on May 21 at a rate of five seed per foot of row in a field that had previously been cropped to peanut every third year. The soil type was a Malbis fine sandy loam (organic matter < 1 percent). Recommendations of the Alabama Cooperative Extension System for fertility and weed control were followed. On March 4, Roundup was applied at 1 quart per acre to burn down winter weeds. On April 20, 250 pounds per acre of 9.5-24-24 fertilizer + 10 pounds per acre Sulfur + 0.5 pound per acre Boron (24-60-60-10S-0.5B), and 2 pints per acre of Prowl was applied to the test area and incorporated. On April 16, 2 pints per acre of Prowl EC was applied and incorporated. On June 8, 8 ounces per acre Gramoxone + 1 pint per acre of Storm + 1 pint per acre of 2,4 DB + 1 pint per 25 gallons H_2O of Induce was applied for postemergent weed control. On June 22, 2 ounces per acre of Cadre + 0.225 ounce per acre of Strongarm + 1 pint per 25 gallons H_2O of Induce was applied for weed control. Thrips were controlled with an in-furrow application of 5.0 pounds per acre of Thimet 20G at planting. Ten pounds per acre of *Rhizobium* innoculant was also applied at planting.

Plots, which consisted of four 30-foot rows on 38-inch centers, were arranged in a randomized complete block with six replications. Plots were not irrigated. Foliar fungicides were applied as a full canopy spray at 14- to 21-day intervals on June 30, July 6, July 13, July 27, August 11, August 25, September 10, and September 23 using a four-row, ATV-mounted CO_2 sprayer with three TX8 nozzles per row spaced 19 inches apart calibrated to deliver 15 gallons per acre at 30 psi.

Disease Assessment: Leaf spot diseases were visually rated on September 30 using the Florida leaf spot scoring system (1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation (≤10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤25 percent); 6 = lesions numerous with significant defoliation (≤50 percent); 7 = lesions numerous with heavy defoliation (≤75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (≤90 percent); 9 = very few remaining leaves covered with lesions (≤95 percent); and 10 = plants completely defoliated or dead]. Rust was rated using the ICRISAT rust rating scale (1 = no disease, ...9 = plants severely affected, 80-100 percent leaves withering).

Counts of stem rot loci (one locus is defined as ≤ 1 foot of consecutive stem rot damaged plants per row) were not made immediately after plot inversion on October 5 or October 14. Due to heavy and frequent rainfall, the plots were dug approximately 10 to 14 days past maturity date. Plots were harvested on October 22, and yields were reported at 10.0 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

Results: In 2009, temperatures were at or near normal and monthly rainfall totals were above normal throughout the growing season. Late leaf spot and rust were the dominant diseases. Leaf spot severity progressed during the season, and at the time of inversion the untreated controls were completely defoliated (data not shown) and dead. In test 1, when compared with the Equus 720 SST full-season treatment, only the Equus (16 fluid ounces) + TPM (0.2 pound) and Equus (16 fluid ounces) + TPM (0.3 pound) treatments gave disease control that was similar. All other treatments gave results that were worse than the Equus-only treatment. For rust control, all treatments, with the exception of the TPM full-season treatment and the Topsin M full-season treatment, gave similar results to those observed with Equus 720. No stem rot hit counts were made at inversion due to late inversion of the plants. Inversion was 10 to 14 days later than the maturity date. Yield was also affected by the overabundance of rainfall. However, the Equus (16 fluid ounces) + TPM (0.2 pound) and Equus (16 fluid ounces) + TPM (0.3 pound)

treatments yielded similar to the Equus-only treatment. All other treatments yielded significantly lower than the Equus-only treatment.

In test 2, all treatments gave significantly better results than did Folicur 3.6F applied seven times. For rust control, with the exception of the Bumper (2.5 fluid ounces), Orius 3.6F/Bumper, Orius 20AQ/Bumper, and Equus/Orius 3.6F treatments, all other treatments gave significantly better control than did the Folicur-only treatment. Of the treatments, only the Orius 20AQ/Bumper and the Equus/Orius 3.6F treatments yielded higher than the Folicur-only treatment.

TEST 1. EVALUATION OF NEW FUNGICIDES FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHWEST ALABAMA, GCREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	Rust[3]	Yield *lb/A*
Thiophanate Methyl (TPM) 0.4 lb	1-7	6.7	7.2	1181
Equus 720 SST 24.0 fl oz	1-7	4.2	4.5	3258
Equus 720 SST 16.0 fl oz + TPM 0.2 lb	1-7	4.2	5.7	2776
Equus 720 SST 12.0 fl oz + TPM 0.2 lb	1-7	5.3	6.2	2340
Equus 720 SST 12.0 fl oz + TPM 0.3 lb	1-7	5.2	6.0	2340
Equus 720 SST 16.0 fl oz + TPM 0.3 lb	1-7	4.3	5.5	3028
Topsin M 10.0 fl oz	1-7	6.8	7.2	1193
Equus 720 SST 24.0 fl oz	1,2,7	5.8	3.3	2271
Orius 3.6F 7.2 fl oz	3,4,5,6			
LSD (P ≤ 0.05)		***0.8***	***1.1***	***890***

[1] Dates for fungicide applications 1-7 are listed in the text.
[2] Early and late leaf spot (LS) were assessed using the Florida leaf spot scoring system (1 = no disease;… 10 = completely dead plants).
[3] Rust severity was rated using the ICRISAT 1-9 rating scale.
Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

TEST 2. EVALUATION OF ORIUS 3.6F, ORIUS 20AQ, AND BUMPER 41.8EC FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHWEST ALABAMA, GCREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	Rust[3]	Yield *lb/A*
Folicur 3.6F 7.2 fl oz	1-7	7.8	7.3	1055
Orius 3.6F 7.2 fl oz	1-7	7.0	5.5	1308
Orius 20AQ 15.5 fl oz	1-7	6.8	3.7	1835
Bumper 41.8 EC 2.5 fl oz	1-7	7.0	6.3	1101
Bumper 41.8 EC 4.0 fl oz	1-7	6.8	5.5	1346
Orius 3.6F 3.6 fl oz + Bumper 41.8EC 2.5 fl oz	1-7	6.5	4.5	2133
Orius 20AQ 7.76 fl oz + Bumper 41.8EC 2.5 fl oz	1-7	5.8	3.3	2088
Orius 3.6F 3.6 fl oz + Bumper 41.8EC 4.0 fl oz	1-7	5.3	4.0	2768
Orius 20AQ 7.76 fl oz + Bumper 41.8EC 4.0 fl oz	1-7	5.2	3.8	3326
Orius 3.6F 7.2 fl oz	1,3,5,7	6.5	5.7	1009
Bumper 41.8EC 4.0 fl oz	2,4,6			
Orius 20AQ 15.5 fl oz	1,3,5,7	6.3	6.0	918
Bumper 41.8EC 4.0 fl oz	2,4,6			
Equus 720SST 24.0 fl oz	1,2,7	5.3	5.7	3074
Orius 3.6F 7.2 fl oz	3,4,5,6			
LSD (P ≤ 0.05)		***0.6***	***1.7***	***1695***

[1] Dates for fungicide applications 1-7 are listed in the text.
[2] Early and late leaf spot (LS) were assessed using the Florida leaf spot scoring system (1 = no disease;… 10 = completely dead plants).
[3] Rust severity was rated using the ICRISAT 1-9 rating scale.
Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

IMPACT OF SOIL INSECTICIDE TREATMENTS ON DISEASES AND YIELD OF PEANUT CULTIVARS, GCREC

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Objective: To assess the impact of soil insecticides on the incidence of tomato spotted wilt as well as other diseases and on the yield of commercial runner peanut cultivars in southwest Alabama.

Methods: On May 27, ten commercial runner-market type peanut cultivars were planted at the Gulf Coast Research and Extension Center in Fairhope, Alabama, at a rate of six seed per foot of row using conventional tillage practices in a Malbis fine sandy loam (organic matter < 1 percent) in a field cropped to peanut every third year. Weed control and soil fertility recommendations of the Alabama Cooperative Extension System were followed. The test area was not irrigated. A split plot design with cultivars as whole plots and an at-plant soil insecticide treatment as subplots was used. Whole plots were randomized in six complete blocks. Individual subplots consisted of four 30-foot rows spaced 3.2 feet apart. Subplot insecticide treatments were Thimet 20G at 4 pounds per acre, Temik 15G at 6.5 pounds per acre, and an untreated control. Full canopy sprays of Tilt 3.6E at 4 fluid ounces per acre + Bravo Weather Stik 6F at 1.5 pints per acre on July 2 and July 16 were followed by applications of Abound 2SC at 18.5 fluid ounces per acre on July 29, Bravo Weather Stik 6F at 1.5 pints per acre on August 6, Abound 2SC at 18.5 fluid ounces per acre on August 28, and Bravo Weather Stik 6F at 1.5 pints per acre on September 8 and September 24. Fungicides were applied with an ATV-mounted boom sprayer with three TX-8 nozzles per row at 10 gallons of spray volume per acre at 45 psi.

Disease Assessment: Final TSWV hit counts (one hit is defined as ≤ 1 foot of consecutive severely TSWV-damaged plants per row) were made on October 3. Early and late leaf spot were rated on September 26 using the 1 to 10 Florida peanut leaf spot scoring system (1 = no disease, 2 = very few lesions in canopy, 3 = few lesions noticed in lower and upper canopy, 4 = some leaf spotting and ≤ 10 percent defoliation, 5 = lesions noticeable and ≤ 25 percent defoliation, 6 = lesions numerous and ≤ 50 percent defoliation, 7 = lesions very numerous and ≤ 75 percent defoliation, 8 = numerous lesions on few remaining leaves and ≤ 90 percent defoliation, 9 = very few remaining leaves covered with lesions and ≤ 95 percent defoliation, and 10 = plants defoliated or dead). Rust severity was assessed using the ICRISAT 1 to 9 rating scale (1 = no disease and 9 = 80 to 100 percent of leaves withered) on September 26. Stem rot hit counts (one hit is defined as ≤ 1 foot of consecutive stem rot damaged plants per row) were made immediately after plot inversion on October 14. Yields are reported at 10 percent moisture. Significance of treatment effects was tested by analysis of variance and the least significant difference (LSD) test ($P \leq 0.05$).

Results: Except during June, monthly rainfall totals in 2009 equaled or exceeded the 30-year average. Since the cultivar x treatment interaction for leaf spot, rust, and yield is significant, data presented in the table were pooled by insecticide treatment and peanut cultivar. Peanut cultivar had a significant impact on TSWV and stem rot incidence, leaf spot and rust severity, and yield; soil insecticide treatment had a significant effect on TSWV incidence, rust severity, and yield.

While overall TSWV pressure was low, disease incidence was significantly higher in the untreated control than for the Temik 15G- and Thimet 20G-treated peanuts (Table 1). When compared with the untreated control, rust severity was lower for the Thimet 20G-treated peanuts. While yields for both the Temik 15G- and Thimet 20G-treated peanuts were higher than the untreated controls, highest yield gains were obtained with Temik 15G.

Incidence of TSWV was equally high for McCloud, Georgia Green, Georgia 06G, Georgia 02C, and AP-4. Tifguard had lower levels of TSWV than McCloud, Georgia Green, and Georgia 02C (Table 1). Late leaf spot was the dominant leaf spot disease. Among all peanut cultivars, Georgia 07W had the highest leaf spot rating. Noticeable leaf spotting with some premature defoliation was also noted on AP-4, Georgia Green, Georgia 06G, Florida 07, and McCloud. Lowest leaf spot severity was recorded for Georgia 02C and York. Due to frequent late summer showers, rust pressure was high. Georgia 07W and Georgia 06G, which had the highest rust ratings, suffered considerable disease-related leaf damage. Noticeable rust damage was also seen on AP-4, McCloud, and Georgia Green. Florida 07, Georgia 02C, Georgia Greener, Tifguard, and York had the lowest rust ratings. Although stem

rot pressure was low, differences in disease incidence were found between cultivars. Equally high stem rot loci counts were noted for Florida 07 and McCloud. Lowest stem rot incidence was seen on Georgia 02C and York. Yield was higher for York compared with all other cultivars except for Georgia 02C. Georgia 06G, Georgia Green, and Georgia Greener had yields that were similar to Georgia 02C. With Georgia 07W and McCloud, high leaf spot and/or rust ratings translated into the lowest pod yields.

Summary: Despite low TSWV pressure, the soil insecticides Thimet 20G and Temik 15G reduced the incidence of this disease and increased peanut yield when compared with the untreated control. The higher yields obtained with Temik 15G when compared with Thimet 20G could not be attributed to control of any disease or the peanut root knot nematode. The significant reduction in rust severity that was also obtained with Thimet 20G was not reflected in higher pod yields.

Low leaf spot, rust, and stem rot ratings for York and Georgia 02C translated into the highest pod yields. With the exception of the leaf spot- and rust-damaged cultivars McCloud and Georgia 07W, yields for AP-4, Florida 07, Georgia 06G, Georgia Greener, and Tifguard were similar to those reported for the current industry standard Georgia Green.

DISEASE RATINGS AND YIELDS FOR SOIL INSECTICIDE TREATMENTS AND PEANUT CULTIVARS

	TSWV [1]	LS [2]	Rust [3]	WM [1]	Yield (*lb/A*)
Split plot analysis *P*(F value)					
Peanut cultivar	0.0481*[4]	<0.0001***	<0.0001***	<0.0001***	<0.0001***
Soil insecticide	<0.0001***	0.2281	0.0354*	0.3277	<0.0001***
Soil insecticide x cultivar	0.2009	0.2073	0.0933	0.7333	0.2796
Soil insecticide means					
Temik 15G 6.5 pounds per acre	2.4 b	4.0 a	4.9 ab	2.0 a	4115 a
Thimet 20G 4 pounds per acre	2.4 b	3.9 a	4.7 b	1.9 a	3758 b
Untreated control	4.0 a	4.1 a	5.2 a	2.2 a	3365 c
Cultivar means					
Mid-season (130 – 145 DAP)					
AP-4	3.2 abc	4.2 bc	5.4 b	2.3 bc	3660 cd
Florida 07	2.7 bc	4.3 b	4.3 d	3.7 a	3688 cd
Georgia 06G	3.3 abc	4.4 b	5.6 ab	1.6 bcd	3928 bc
Georgia 07W	2.6 bc	4.8 a	6.2 a	2.0 bcd	3293 de
Georgia Green	3.6 ab	4.2 bc	5.0 bc	2.4 b	3841 bc
Georgia Greener	2.4 bc	3.9 c	4.4 cd	1.6 bcd	3806 bc
McCloud	4.6 a	4.3 b	5.3 b	3.6 a	3145 e
Tifguard	2.0 c	3.6 d	4.5 cd	1.5 cd	3557 cd
Late (140 – 165 DAP)					
Georgia 02C	3.4 ab	3.1 e	4.3 d	0.4 e	4100 ab
York	2.9 bc	3.1 e	4.1 d	1.2 de	4427 a

[1] Tomato spotted wilt virus (TSWV) and white mold (WM) incidence are expressed as the number of hits per 60 feet of row.
[2] Leaf spot (LS) was rated using the Florida 1 to 10 rating scale.
[3] Rust severity was assessed using the ICRISAT 1 to 9 rating scale.
[4] Significance at the 0.05, 0.01, and 0.001 levels is indicated by *, **, or ***, respectively.
Means in each column that are followed by the same letter are not significantly different according to the least significant difference (LSD) test ($P \leq 0.05$).

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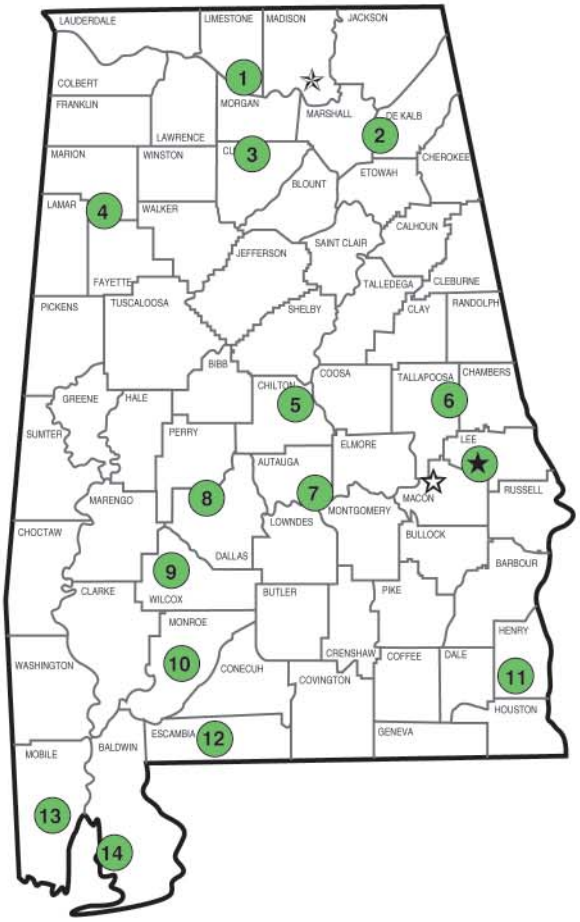

Research Unit Identification

★ Main Agricultural Experiment Station, Auburn.
☆ Alabama A&M University.
☆ E. V. Smith Research Center, Shorter.

1. Tennessee Valley Research and Extension Center, Belle Mina.
2. Sand Mountain Research and Extension Center, Crossville.
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11. Wiregrass Research and Extension Center, Headland.
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