Peanut Disease Control, 2011: Experimental & Standard Fungicide & Cultivar Trials

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Peanut Disease Control, 2011
Experimental and Standard 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 the Gulf Coast Research and Extension Center (GCREC) in Fairhope, Alabama; and the E.V. Smith Research Center (Plant Breeding Unit) in Tallassee, Alabama. This report summarizes the results of those trials.

During the 2011 production season at the WREC, temperatures were near to above normal historical averages (figure 1) and monthly rainfall totals were at or below normal historical averages throughout the entire growing season (figure 2). As a result of the less than normal rainfall, leaf spot severity was not as severe as previously observed in all trials and soil-borne disease incidence was higher to that observed in previous years due to higher soil temperatures and adversely affected yield.

At the GCREC, temperatures were at or above historical averages throughout the entire growing season (figure 1) and rainfall totals were near normal throughout the entire growing season (figure 2). Even though more consistent rainfall occurred throughout the growing season, leaf spot severity and rust severity was lower than in previous years. Despite the high temperatures, stem rot incidence was similar to that previously observed and yield decreases were not affected as in previous years.

While exact weather data were not available for the locations at the Plant Breeding Unit (PBU) or Brewton Agricultural Research Unit (BARU), temperatures at both locations were above normal for much of the growing season and rainfall was at or below normal.

Figure 1. Daily minimum and maximum temperature (°F), May to October 2011. WREC, left; GCREC, right

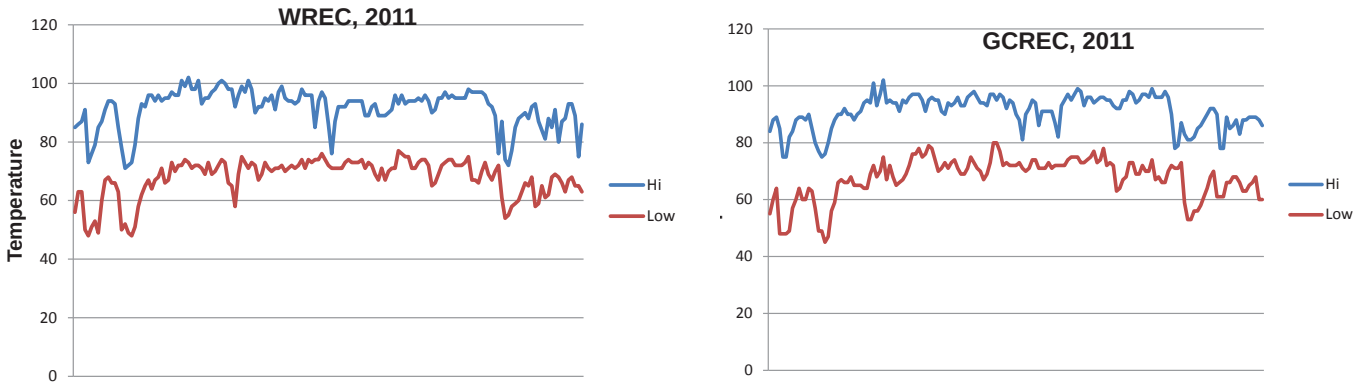
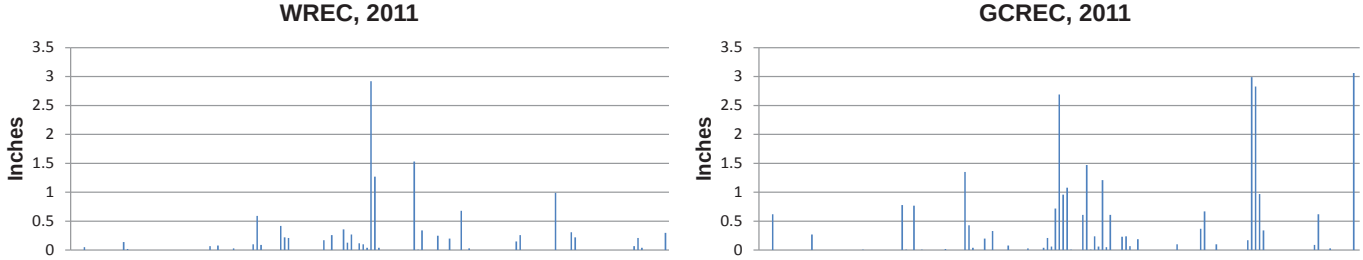


Figure 2. Daily precipitation (inches), May to October 2010. WREC, left; GCREC, right



EVALUATION OF FONTELIS AND APROACH FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate the new fungicide Fontelis 200SC and Aproach 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 Georgia 06G was planted on May 9 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, weed, and nematode control were followed. The soil type was a Dothan sandy loam (OM<1%). On May 9, 1 quart per acre of Sonalan + 0.45 ounce per acre of Strongarm + 1 quart per acre of Dual Magnum were applied and incorporated for preemergent weed control. Thrips were controlled with an in furrow application of 5.0 pounds per acre of Thimet 20G at planting.

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 0.5 inch on June 1 and June 8, 0.75 inch on June 30, 0.5 inch on July 8 and July 15, 1 inch on August 18 and August 26, 0.75 inch on September 2, and 0.5 inch on September 13 and September 16. Fungicides were applied on a 14- to 21-day schedule on June 27, July 5, July 11, July 26, August 9, August 25, September 8, and September 19 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 26 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 September 27 immediately after plot inversion. Plots were harvested on October 1, and yields were reported at 7.65 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 2011 peanut production season, temperatures were near normal and monthly rainfall totals were below normal throughout the season. Leaf spot severity progressed during the season, but due to lack of rainfall and high temperatures severity was less than what had been observed in previous years. Fungicide programs Headline/Provost/Echo and Headline/Convoy + Echo/Echo gave significantly better leaf spot control than did the Echo-only season-long standard. All other fungicide programs were equally effective in controlling leaf spot and more effective than Echo 720 alone. Stem rot incidence was higher than in previous years. The best stem rot control was observed with the Headline/Convoy + Echo/Echo programs. Programs that included Aproach or Fontelis had a lower stem rot incidence than did all other programs except Headline/Convoy + Echo/Echo. With the exception of the Echo/Provost (8.0 fl oz), Echo/Echo + Convoy, Echo/Abound, Echo/Muscle, and Echo/Abound programs, all remaining programs had significantly lower stem rot incidence than the season-long Echo 720 standard. When compared with the Echo 720 standard, significant yield gains were obtained with only the Aproach/Fontelis/Echo, Headline/Provost/Echo, and Headline/Convoy + Echo/Echo programs.

EVALUATION OF FONTELIS AND APROACH FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

Treatment and rate/A	Application timing	–Disease ratings– LS[1]	SR[2]	Yield *lb/A*
Headline 2.09EC 9.0 fl oz	1.5	2.6	2.1	4816
Fontelis 16.0 fl oz	3,4,5			
Echo 720 24.0 fl oz	6,7			
Aproach 12.0 fl oz	1.5	2.8	1.7	5243
Fontelis 16.0 fl oz	3,4,5			
Echo 720 24.0 fl oz	6,7			
Echo 720 24.0 fl oz	1,2,7	2.6	1.8	4679
Fontelis 16.0 fl oz	3,4,5,6			
Headline 2.09EC 9.0 fl oz	1.5	2.6	1.8	5203
Provost 433SC 8.0 fl oz	3,4,5			
Echo 720 24.0 fl oz	6,7			
Echo 720 24.0 fl oz	1,2,7	2.4	3.5	4630
Provost 433SC 8.0 fl oz	3,4,5,6			
Headline 2.09EC 9.0 fl oz	1.5	2.3	1.5	5332
Convoy 16.0 fl oz + Echo 720 24.0 fl oz	3,4,5			
Echo 720 24.0 fl oz	6,7			
Echo 720 24.0 fl oz	1,2,7	2.6	3.5	4735
Echo 720 16.0 fl oz + Convoy 16.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,4,6,7	2.6	3.0	4961
Abound 2.08SC 18.5 fl oz	3,5			
Echo 720 24.0 fl oz	1,2,7	2.9	5.2	4679
Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.4	3.3	4961
Provost 433SC 10.7 fl oz	3,4,5,6			
Headline 2.09EC 9.0 fl oz	1.5	2.4	2.3	4751
Muscle 3.6F 7.2 fl oz	3,5			
Headline 2.09EC 12.0 fl oz	4			
Echo 720 24.0 fl oz	6,7			
Echo 720 24.0 fl oz	1-7	2.8	5.2	4534
LSD (P = 0.05)		***0.5***	***2.4***	***515***

[1] 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 AND CHA-026 FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate the Topguard and the experimental fungicide CHA-026 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 Georgia 06G was planted at the Wiregrass Research and Extension Center in Headland, Alabama, on May 9 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, weed, and nematode control were followed. The soil type was a Dothan sandy loam (OM<1%). On May 9, 1 quart per acre of Sonalan + 0.45 ounce per acre of Strongarm + 1 quart per acre of Dual Magnum were applied and incorporated for preemergent weed control. Thrips were controlled with an in furrow application of 5.0 pounds per acre of Thimet 20G at planting.

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 0.5 inch on June 1 and June 8, 0.75 inch on June 30, 0.5 inch on July 8 and July 15, 1 inch on August 18 and August 26, 0.75 inch on September 2, and 0.5 inch on September 13 and September 16. Fungicides were applied on a 14-day schedule on June 28, July 12, July 28, August 10, August 25, September 8, and September 19 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 26 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 September 27 immediately after plot inversion. Plots were harvested on October 1, and yields were reported at 7.65 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 2011 peanut production season, temperatures were near normal and monthly rainfall totals were below normal throughout the season. Leaf spot severity progressed during the season, but due to lack of rainfall and high temperatures severity was less than what had been observed in previous years. With the exception of CHA-026/Topguard + CHA-026 and Echo/Muscle all other fungicide programs gave leaf spot control that was similar to the Echo-only season-long standard. Stem rot incidence was higher than in previous years. The best stem rot control was observed with the Echo/Echo + Convoy program. With the exception of the CHA-026, CHA-026/Topguard + CHA-026, and Echo/Muscle treatment programs, all remaining programs had significantly lower stem rot incidence than the season-long Echo 720 standard. Among all fungicide programs, only the Echo/Echo + Convoy and Echo/Provost programs yielded significantly higher than Echo 720 alone.

EVALUATION OF TOPGUARD AND CHA-026 FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

Treatment and rate/A	Application timing	–Disease ratings– LS[1]	SR[2]	Yield *lb/A*
CHA-026 24.0 fl oz	1-7	2.3	2.3	5122
CHA-026 24.0 fl oz	1,2,7	2.6	1.7	5276
Topguard 14.0 fl oz + CHA-026 16.0 fl oz	3,4,5,6			
CHA-026 24.0 fl oz	1,2,7	2.3	1.5	5227
Muscle 3.6F 7.2 fl oz + CHA-026 16.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.2	1.0	5372
Muscle 3.6F 7.2 fl oz + Echo 720 16.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.6	1.8	5155
Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,4,6,7	2.4	1.0	5195
Abound 2.08SC 18.5 fl oz	3,5			
Echo 720 24.0 fl oz	1,2,7	2.5	0.0	5477
Echo 720 16.0 fl oz + Convoy 16.0 fl oz	3,4,5,6			
Headline 2.09EC 6.0 fl oz	1,2	2.4	1.0	5106
Muscle 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	1,2,7	2.4	1.3	5558
Provost 433SC 8.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1-7	2.2	2.8	5018
LSD (P = 0.05)		***0.3***	***1.3***	***393***

[1] 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 SERENADE SOIL, FONTELIS, AND APROACH APPLIED IN FURROW AT PLANTING FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate the biological fungicide Serenade Soil, Fontelis 200SC, and Aproach applied in furrow at planting and compare them with currently registered fungicides for their effect on stand, vigor, stem rot, and yield response in an irrigated peanut production system in southeast Alabama.

Methods: Peanut cultivar Georgia 06G was planted on May 11 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, weed, and nematode control were followed. The soil type was a Dothan sandy loam (OM<1%). On April 21, 1 quart per acre of Sonalan + 0.45 ounce per acre of Strongarm + 1 quart per acre of Dual Magnum were applied and incorporated for preemergent weed control. In furrow fungicides were applied at planting with a tractor-mounted drop sprayer at 10 gallons per acre at 31 psi. Early postemergent applications were applied using a tractor-mounted drop sprayer directly over row calibrated to deliver 20 gallons per acre. Thrips were controlled with an in furrow application of 5.0 pounds per acre of Thimet 20G at planting.

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 0.5 inch on June 6 and June 14, 1 inch on August 15 and August 20, and 0.75 inch on September 14. Chlorothalonil (Bravo, Echo, Equus) fungicide was applied on a 14-day schedule on June 27, July 11, July 25, August 10, August 24, September 7, and September 20 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 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; 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 August 19 and September 14 from above ground symptoms of the disease and on September 27 immediately after plot inversion. Plots were harvested on October 6, and yields were reported at 7.53 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 2011 peanut production season, temperatures were near normal and monthly rainfall totals were below normal throughout the season. Leaf spot severity progressed during the season, but due to lack of rainfall and high temperatures severity was less than what had been observed in previous years. Aproach applied in furrow at planting gave lower stand counts than all other applications. Stand counts for all the other applications were similar. Vigor ratings among all the treatment applications were not significantly different. The in furrow and early postemergent applications had no effect on the control of leaf spot. With the exception of the untreated control, all other treatment programs that had chlorothalonil applied full-season had similar levels of leaf spot (data not shown). At the first above ground stem rot rating, the lowest incidence of stem rot was observed with the Proline treatment. None of the other treatments had significantly lower incidence than did the untreated control. SR incidence at the second rating had increased; however, there were no statistical differences among any of the treatments. At inversion, all of the treated plots had lower SR incidence than did the untreated control. All of the treatments gave significantly better yields than did the untreated control plots.

EVALUATION OF SERENADE SOIL, FONTELIS, AND APROACH APPLIED IN FURROW AT PLANTING FOR PEANUT DISEASE CONTROL IN SOUTHWEST ALABAMA, WREC

Treatment and rate/A	Application timing	Stand [1]	Vigor [2]	——Disease ratings—— SR1[3]	SR2[3]	WM [4]	Pod yield *lb/A*
Untreated Control		90.3	3.0	3.5	6.3	15.3	3929
Serenade Soil 16.5 fl oz	In furrow @ planting	92.7	3.0	3.2	4.2	7.3	4485
Serenade Soil 33.0 fl oz	In furrow @ planting	93.7	3.3	2.0	4.3	10.0	4283
Fontelis 24.0 fl oz	In furrow @ planting	93.2	3.2	2.7	5.2	9.5	4364
Fontelis 24.0 fl oz	Early post @ ground cracking	94.0	3.7	2.7	5.3	9.0	4404
Aproach 12.0 fl oz	In furrow @ planting	84.3	3.0	2.2	3.7	8.8	4178
Aproach 12.0 fl oz	Early post @ ground cracking	85.8	3.2	2.7	5.5	9.8	4001
Proline 480SC 5.7 fl oz	In furrow @ planting	91.7	3.5	1.3	4.8	9.2	4001
LSD (P = 0.05)		***8.6***	***0.7***	***1.7***	***2.9***	***5.2***	***621***

[1] Stand counts made from the second row of each plot on June 14 which was the total number of plants per row.
[2] Vigor was rated where 1 = least vigorous,…5 = most vigorous.
[3] Above ground hit counts made on August 19 (SR1) and September 14 (SR2).
[4] White mold hits assessed as inversion on October 4 as the number of disease loci per total row (1 ft = 1 ft of consecutive symptoms and signs of the disease).
Mean separation within columns was according to Fisher's protected least significant difference (LSD) test (P = 0.05).

EVALUATION OF PROLINE 480SC AND PROVOST 433SC FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate Proline 480SC—applied in furrow and at 100 percent emergence—and Provost 433SC and compare them with currently registered fungicides for their effect on early and late leaf spot, stem rot, and yield response in an irrigated peanut production system in southeast Alabama.

Methods: Peanut cultivar Georgia 06G was planted on May 11 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, weed, and nematode control were followed. The soil type was a Dothan sandy loam (OM<1%). On April 21, 1 quart per acre of Sonalan + 0.45 ounce per acre of Strongarm + 1 quart per acre of Dual Magnum were applied and incorporated for preemergent weed control. In furrow fungicides were applied at planting with a tractor-mounted drop sprayer at 10 gallons per acre at 31 psi. Early postemergent applications were applied using a tractor-mounted drop sprayer directly over row calibrated to deliver 20 gallons per acre on May 20. Thrips were controlled with an in furrow application of 5.0 pounds per acre of Thimet 20G at planting.

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 0.5 inch on June 6 and June 14, 1 inch on August 15 and August 20, and 0.75 inch on September 14. Foliar fungicides were applied on a 14- to 21-day schedule on June 27, July 5, July 11, July 25, August 8, August 24, September 8, and September 20 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 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; 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 September 1 from above ground symptoms of the disease and on October 3 immediately after plot inversion. Plots were harvested on October 6, and yields were reported at 8.45 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 2011 peanut production season, temperatures were above normal and monthly rainfall totals were below normal throughout the season. Due to lack of rainfall, leaf spot progressed slowly during the season and at the time of inversion disease severity was below usual levels. All of the treatment programs except for the Proline (IF)/Echo/Provost (10.7), Proline (100 percent emergence)/Echo/Provost (10.7), and Echo/Muscle gave leaf spot control that was similar to the season-long Echo 720 standard. Among all fungicide programs, Proline (IF)/Echo/Provost (10.7), Echo/Abound, Echo/Muscle, and Echo/Echo + Convoy gave significantly better stem rot control compared to the season-long Echo 720 treatment. Highest yield response was with the Echo/Muscle treatment. Among the other fungicide programs, only Proline (IF)/Echo/Provost (10.70) and Echo/Echo + Convoy yielded significantly higher than the season-long Echo standard program.

EVALUATION OF PROLINE 480SC AND PROVOST 433SC FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

Treatment and rate/A	Application timing	Disease ratings LS [1]	SR [2]	SR [2]	Yield *lb/A*
Echo 720 24.0 fl oz	1,2,7	2.6	2.2	7.0	5106
Provost 433SC 8.0 fl oz	3,4,5,6				
Proline 480SC 5.7 fl oz	100% emergence	2.8	2.3	3.2	5227
Echo 720 24.0 fl oz	1,2,7				
Provost 433SC 10.7 fl oz	3,4,5,6				
Proline 480SC 5.7 fl oz	In furrow	2.8	1.5	4.0	5832
Echo 720 24.0 fl oz	1,2,7				
Provost 433SC 10.7 fl oz	3,4,5,6				
Proline 480SC 5.7 fl oz	100% emergence	2.8	2.5	7.8	5066
Provost 433SC 10.7 fl oz	1.5				
Echo 720 24.0 fl oz	3-7				
Proline 480SC 5.7 fl oz	100% emergence	2.7	3.5	8.0	4767
Echo 720 24.0 fl oz	1-7				
Echo 720 24.0 fl oz	1,2,7	2.5	1.5	6.0	5235
Provost 433SC 10.7 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,4,6,7	2.7	2.0	5.8	5106
Abound 2.08SC 18.5 fl oz	3,5				
Echo 720 24.0 fl oz	1,2,7	2.9	1.7	3.2	5913
Muscle 3.6F 7.2 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,4,6,7	2.6	2.2	3.8	5477
Echo 720 24.0 fl oz + Convoy 21.0 fl oz	3,5				
Headline 2.09EC 9.0 fl oz	1.5	2.6	2.5	6.8	5203
Provost 433SC 8.0 fl oz	3,5				
Headline 2.09EC 12.0 fl oz	4				
Echo 720 24.0 fl oz	6,7				
Echo 720 24.0 fl oz	1,2,7	2.5	1.5	6.0	5171
Absolute 3.5 fl oz + Muscle 7.2 fl oz	3,4,5,6				
Absolute 3.5 fl oz	1,2	2.6	3.5	7.3	5122
Provost 433SC 8.0 fl oz	3,4,5				
Absolute 3.5 fl oz	6				
Echo 720 24.0 fl oz	7				
Echo 720 24.0 fl oz	1-7	2.5	4.7	9.3	4574
LSD (P = 0.05)		***0.4***	***1.8***	***3.6***	***740***

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

[2] 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 APROACH AND FONTELIS IN A FUNGICIDE Rx PROGRAM FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate Aproach and Fontelis in a fungicide Rx program and compare them with chlorothlaonil at 14-, 21-, and 28-day intervals for their effect on early and late leaf spot, stem rot, and yield response in an irrigated peanut production system in southeast Alabama.

Methods: Peanut cultivar Georgia 06G was planted on May 9 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, weed, and nematode control were followed. The soil type was a Dothan sandy loam (OM<1%). On May 9, 1 quart per acre of Sonalan + 0.45 ounce per acre of Strongarm + 1 quart per acre of Dual Magnum were applied and incorporated for preemergent weed control. Thrips were controlled with an in furrow application of 5.0 pounds per acre of Thimet 20G at planting.

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 0.5 inch on June 6 and June 14, 1 inch on August 15 and August 20, and 0.75 inch on September 14. Foliar fungicides were applied on a 14- to 21-day schedule on June 27, July 5, July 11, July 25, August 8, August 24, September 8, and September 20 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 every two weeks beginning on June 19 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). After the final rating area under the disease progress curve (AUDPC) was calculated.

Counts of stem rot loci (one locus was defined as ≤ 1 foot of consecutive symptoms and signs of the disease) were made on September 1 from above ground symptoms of the disease and on September 29 immediately after plot inversion. Plots were harvested on October 4, and yields were reported at 7.37 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 2011 peanut production season, temperatures were above normal and monthly rainfall totals were below normal throughout the season. Due to lack of rainfall, leaf spot progressed slowly during the season and at the time of inversion disease severity was below usual levels. When the risk indices were compared for leaf spot control, only the high risk index showed better season-long leaf spot control. AUDPC results showed that the best control was with the high risk index Aproach/Fontelis/Echo treatment program and the worst was with the Aproach/Fontelis/Echo program. When compared with the Echo 720-only treatments, none gave statistically better control. The Aproach/Fontelis/Echo high risk treatment provided the best results for control of stem rot and was lower than the medium risk program. However, when compared to the Echo 720-only treatments, there were no significant differences among the treatments. All three risk indices that included Aproach/Fontelis/Echo yielded higher than the Echo-only treatments; however, only the low risk and high risk indices were statistically better.

EVALUATION OF APROACH AND FONTELIS IN A FUNGICIDE Rx PROGRAM FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

Treatment and rate/A	Application timing [1]	Risk index	——Disease ratings—— LS [2]	AUPDC [3]	SR [4]	Pod yield *lb/A*
Aproach 9.0 fl oz	1	Low	3.1	139.4	3.7	4348
Fontelis 12.0 fl oz	3,5					
Echo 720 24.0 fl oz	7					
Aproach 9.0 fl oz	1	Medium	2.8	131.2	5.7	3880
Fontelis 12.0 fl oz	2.5,4					
Echo 720 24.0 fl oz	5.5,7					
Aproach 9.0 fl oz	1.5	High	2.5	118.6	1.8	4364
Fontelis 12.0 fl oz	3,4,5					
Echo 720 24.0 fl oz	6,7					
Echo 720 24.0 fl oz	1,3,5,7	Low	3.1	133.6	3.2	3751
Echo 720 24.0 fl oz	1,2.5,4,5.5,7	Medium	3.1	132.3	4.0	3775
Echo 720 24.0 fl oz	1-7	High	2.5	124.5	4.0	3767
LSD P = (0.05)			***0.4***	***15.4***	***3.3***	***411***

[1] Application timing: 1 = 30 days after planting (DAP), 1.5 = 37 DAP, 2 = 44 DAP, 2.5 = 51 DAP, 3 = 58 DAP, 3.5 = 65 DAP, 4 = 72 DAP, 4.5 = 79 DAP, 5 = 86 DAP, 5.5 = 93 DAP, 6 = 100 DAP, 6.5 = 107 DAP, 7 = 114 DAP.

[2] Leaf spot ratings made on September 27 using the Florida 1 to 10 leaf spot scoring system (1 = no disease, …10 = completely dead or dying plants).

[3] AUDPC calculate by making leaf spot ratings every two weeks beginning June 19.

[4] Stem rot hits assessed at inversion on October 4 as the number of disease loci per total row ft (1 ft = 1 ft of consecutive symptoms and signs of the disease).

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

EVALUATION OF TILT BRAVO 4.3SE AND ALTO 0.83SL FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate Tilt Bravo 4.3SE, Bravo WS, and Alto 0.83SL 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 Georgia 06G was planted on May 9 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, weed, and nematode control were followed. The soil type was a Dothan sandy loam (OM<1%). On April 21, 1 quart per acre of Sonalan + 1 quart per acre of Dual Magnum were applied and incorporated for preemergent weed control. Thrips were controlled with an in furrow application of 5.0 pounds per acre of Thimet 20G at planting.

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 0.5 inch on June 1 and June 8, 0.75 inch on June 30, 0.5 inch on July 8 and July 15, 1 inch on August 18 and August 26, 0.75 inch on September 2, and 0.5 inch on September 13 and September 16. Fungicides were applied on a 14-day schedule on June 27, July 11, July 25, August 12, August 25, September 8 , and September 19 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 26 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 September 27 immediately after plot inversion. Plots were harvested on September 30, and yields were reported at 7.99 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 2011 peanut production season, temperatures were above normal and monthly rainfall totals were below normal throughout the season. Leaf spot progressed during the season, but due to lack of rainfall and high temperatures severity was less than that observed in previous years. The best leaf spot control was with the Tilt Bravo/Abound (15 fl oz) + Alto/Bravo and Tilt Bravo/Abound + Muscle/Bravo programs. All other fungicide programs gave the same level of leaf spot control as the season-long Bravo WS standard. Stem rot incidence was higher than in previous years. With the exception of Tilt Bravo/Bravo, all programs had lower stem rot loci counts than the season-long Bravo WS standard with Tilt Bravo/Abound + Muscle/Bravo having the lowest stem rot loci counts. There was no significant difference among treatments for yield; however, the Tilt Bravo/Bravo, Tilt Bravo/Provost/Bravo, and Tilt Bravo/Abound/Bravo had lower yields than the season-long Bravo WS standard.

EVALUATION OF TILT BRAVO 4.3SE AND ALTO 0.83SL FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

Treatment and rate/A	Application timing	–Disease ratings– LS[1]	SR[2]	Yield *lb/A*
Tilt Bravo 4.3SE 24.0 fl oz	1,2	2.6	6.5	4662
Bravo WS 24.0 fl oz	3,4,5,6,7			
Tilt Bravo 4.3SE 24.0 fl oz	1,2	2.2	3.5	4896
Provost 433SC 8.0 fl oz	3,4,5,6			
Bravo WS 24.0 fl oz	7			
Tilt Bravo 4.3SE 24.0 fl oz	1,2	2.5	1.8	4945
Abound 2.08SC 18.0 fl oz	3,5			
Bravo WS 24.0 fl oz	4,6,7			
Tilt Bravo 4.3SE 24.0 fl oz	1,2	2.2	2.8	5332
Abound 2.08SC 15.0 fl oz + Alto 0.83SL 5.5 fl oz	3,5			
Bravo WS 24.0 fl oz	4,6,7			
Tilt Bravo 4.3SE 24.0 fl oz	1,2	2.3	2.8	5155
Abound 2.08SC 18.0 fl oz + Alto 0.83SL 5.5 fl oz	3,5			
Bravo WS 24.0 fl oz	4,6,7			
Tilt Bravo 4.3SE 24.0 fl oz	1,2	2.2	1.2	5235
Abound 2.08SC 18.0 fl oz + Muscle 7.2 fl oz	3,5			
Bravo WS 24.0 fl oz	4,6,7			
Tilt Bravo 4.3SE 24.0 fl oz	1,2	2.8	2.7	5401
Muscle 7.2 fl oz	3,4,5,6			
Bravo WS 24.0 fl oz	7			
Bravo WS 24.0 fl oz	1,2,7	2.8	1.5	5171
Muscle 3.6F 7.2 fl oz	3,4,5,6			
Bravo WS 24.0 fl oz	1,2,7	2.4	2.3	5276
Provost 433SC 8.0 fl oz	3,4,5,6			
Bravo WS 24.0 fl oz	1,2,4,6,7	2.4	1.5	5393
Abound 2.08SC 18.2 fl oz	3,5			
Bravo WS 24.0 fl oz	1,2,7	2.2	2.0	5082
Bravo WS 24.0 fl oz + Convoy 13.0 fl oz	3,4,5,6			
Headline 2.09EC 6.0 fl oz	1,2	2.3	1.7	5285
Muscle 3.6F 7.2 fl oz	3,5			
Headline 2.09EC 12.0 fl oz	4			
Bravo WS 24.0 fl oz	6,7			
Bravo WS 24.0 fl oz	1-7	2.6	4.0	5082
LSD (P = 0.05)		***0.4***	***2.0***	***688***

[1] 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 ECHO 720, EMINENT 125SL AND ACTINOGROW AG FOR PEANUT DISEASE CONTROL IN ALABAMA, WREC

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

Objective: To evaluate Echo 720, Eminent 125SL and Actinogrow 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 Georgia 06G was planted at the Wiregrass Research and Extension Center in Headland, Alabama, on May 11 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, weed, and nematode control were followed. The soil type was a Dothan sandy loam (OM<1%). On April 21, 1 quart per acre of Sonalan + 0.45 ounce per acre of Strongarm + 1 quart per acre of Dual Magnum were applied and incorporated for preemergent weed control. In furrow fungicides were applied at planting with a tractor-mounted drop sprayer at 10 gallons per acre at 31 psi. Early postemergent applications were applied using a tractor-mounted drop sprayer directly over row calibrated to deliver 20 gallons per acre on May 20. Thrips were controlled with an in furrow application of 5.0 pounds per acre of Thimet 20G at planting.

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 0.5 inch on June 1 and June 8, 0.75 inch on June 30, 0.5 inch on July 8 and July 15, 1 inch on August 18 and August 26, 0.75 inch on September 2, and 0.5 inch on September 13 and September 16. Fungicides were applied on a 14-day schedule on June 29, July 7, July 13, July 29, August 12, August 27, September 7, and September 21 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 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; 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 3 immediately after plot inversion. Plots were harvested on October 6, and yields were reported at 7.53 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 2011 peanut production season, temperatures were above normal and monthly rainfall totals were below normal throughout the season. Due to lack of rainfall, leaf spot severity progressed slowly during the season and at the time of inversion severity was lower than usually observed. The best leaf spot control was obtained with Headline/Echo + Muscle/Echo and was significantly better than all programs except Echo + Eminent (1.5)/Echo + Muscle/Echo, Echo + Eminent (1,2)/Echo + Muscle/Echo. Echo (12 fl oz) + Eminent /Echo + Muscle/Echo, Echo/Abound, and Echo 720 only. The lowest incidence of stem rot was with the Headline/Echo + Muscle/Echo and Echo/Echo + Convoy treatments. None of the other programs gave significantly better stem rot control than the season-long Echo 720 standard. Similar yields were reported for all fungicide programs. Although not significantly higher, the addition of ActinoGrow in furrow at planting did increase yield above that observed with the same treatment that excluded ActinoGrow.

EVALUATION OF ECHO 720, EMINENT 125SL AND ACTINOGROW AG FOR PEANUT DISEASE CONTROL IN ALABAMA, WREC

Treatment and rate/A	Application timing	–Disease ratings– LS[1]	SR[2]	Yield *lb/A*
Echo 720 16.0 fl oz + Eminent 125SL 7.2 fl oz	1,2	2.5	3.0	5445
Echo 720 16.0 fl oz + Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	7			
Echo 720 16.0 fl oz + Eminent 125SL 7.2 fl oz	1.5	2.4	4.2	4832
Echo 720 16.0 fl oz + Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	7			
Echo 720 12.0 fl oz + Eminent 125SL 5.4 fl oz	1,2	2.5	4.7	5284
Echo 720 16.0 fl oz + Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	7			
Headline 2.09EC 9.0 fl oz	1.5	2.2	1.5	4921
Echo 720 16.0 fl oz + Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	7			
Echo 720 16.0 fl oz + Eminent 125SL 7.2 fl oz	1.5	2.6	4.1	5324
SA-0120305 32.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	7			
Echo 720 16.0 fl oz + Eminent 125SL 10.2 fl oz	1.5	2.6	2.2	4929
SA-0120306 24.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	7			
ActinoGrow AG 3.0 oz	IF	2.7	4.5	5332
Echo 720 16.0 fl oz + Eminent 125SL 7.2 fl oz	1.5			
Echo 720 16.0 fl oz + Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	7			
Headline 2.09EC 9.0 fl oz	1.5	2.6	3.0	5485
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	2.6	3.2	5171
Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.6	3.3	4953
Provost 433SC 8.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,4,6,7	2.5	4.0	5267
Abound 2.08SC 18.2 fl oz	3,5			
Echo 720 24.0 fl oz	1,2,7	2.7	1.5	5073
Echo 720 24.0 fl oz + Convoy 13.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1-7	2.5	4.5	5159
LSD (P = 0.05)		***0.4***	***2.5***	***585***

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

[2] 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 ECHO 720, EMINENT 125SL AND MUSCLE 3.6F FOR PEANUT DISEASE CONTROL IN A FUNGICIDE Rx PROGRAM IN ALABAMA, WREC

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

Objective: To evaluate Echo 720, Eminent 125SL, and Muscle 3.6F in a fungicide Rx program and compare them with chlorothlaonil at 14-, 21-, and 28-day intervals for their effect on early and late leaf spot, stem rot, and yield response in an irrigated peanut production system in southeast Alabama.

Methods: Peanut cultivar Georgia 06G was planted on May 9 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, weed, and nematode control were followed. The soil type was a Dothan sandy loam (OM<1%). On April 21, 1 quart per acre of Sonalan + 0.45 ounce per acre of Strongarm + 1 quart per acre of Dual Magnum were applied and incorporated for preemergent weed control. Thrips were controlled with an in furrow application of 5.0 pounds per acre of Thimet 20G at planting.

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 0.5 inch on June 6 and June 14, 1 inch on August 15 and August 20, and 0.75 inch on September 14. Foliar fungicides were applied on a 14- to 21-day schedule on June 27, July 5, July 11, July 25, August 8, August 24, September 8, and September 20 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 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; 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 September 1 from above ground symptoms of the disease and on October 3 immediately after plot inversion. Plots were harvested on October 6, and yields were reported at 8.45 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 2011 peanut production season, temperatures were above normal and monthly rainfall totals were below normal throughout the season. Due to lack of rainfall, leaf spot severity progressed slowly during the season and at the time of inversion severity was lower than usually observed. Because of the slow progression of leaf spot, all risk indices gave similar level of leaf spot control. However, the low risk index, which included four applications of Echo 720, showed higher levels of leaf spot severity. When the AUDPC was calculated, the highest leaf spot severity was with both the low risk index of Echo + Eminent/Echo + Muscle and Echo 720 only. With the exception of the high risk index of Echo + Eminent/Echo + Muscle, all others gave results similar to those obtained with AUDPC. The best stem rot control was with the Echo + Eminent/Echo + Muscle medium risk program. With the exception of the Echo + Eminent/Echo + Muscle low risk program, all Echo + Eminent/Echo + Muscle programs showed significantly lower stem rot than did all the Echo 720 treatments. Yield response among all the index programs was similar.

EVALUATION OF ECHO 720, EMINENT 125SL AND MUSCLE 3.6F FOR PEANUT DISEASE CONTROL IN A FUNGICIDE Rx PROGRAM IN ALABAMA, WREC

Treatment and rate/A	Application timing[1]	Risk index	——Disease ratings—— LS[2]	AUPDC[3]	SR[4]	Pod yield *lb/A*
Echo 720 24.0 fl oz + Eminent 125SL 7.2 fl oz	1.5	Low	2.4	121.7	2.5	4622
Echo 720 24.0 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	1.5,6.5	Medium	2.4	108.8	1.8	4638
Echo 720 16.0 fl oz + Muscle 3.6F 7.2 fl oz	3,4,5					
Echo 720 16.0 fl oz + Eminent 125SL 7.2 fl oz	1.2	High	2.8	115.1	2.3	4727
Echo 720 16.0 fl oz+ Muscle 3.6F 7.2 fl oz	3,4,5,6					
Echo 720 24.0 fl oz	7					
Echo 720 24.0 fl oz	1,3,5,7	Low	2.8	125.2	3.5	4380
Echo 720 24.0 fl oz	1.5,3,4,5,6.5	Medium	2.3	112.9	3.7	4501
Echo 720 24.0 fl oz	1-7	High	2.2	106.2	4.0	4178
LSD (P = 0.05)			***0.5***	***13.2***	***1.7***	***550***

[1] Application timing: 1 = 30 days after planting (DAP), 1.5 = 37 DAP, 2 = 44 DAP, 2.5 = 51 DAP, 3 = 58 DAP, 3.5 = 65 DAP, 4 = 72 DAP, 4.5 = 79 DAP, 5 = 86 DAP, 5.5 = 93 DAP, 6 = 100 DAP, 6.5 = 107 DAP, 7 = 114 DAP.

[2] Leaf spot ratings made on September 27 using the Florida 1 to 10 leaf spot scoring system (1 = no disease, …10 = completely dead or dying plants).

[3] AUDPC calculated by making leaf spot ratings every two weeks beginning June 19.

[4] Stem rot hits assessed at inversion on October 4 as the number of disease loci per total row ft (1 ft = 1 ft of consecutive symptoms and signs of the disease).

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

EVALUATION OF PROLINE 480SC, PROPULSE, AND LUNA PRIVILEGE FOR THEIR EFFECT ON THE SUPPRESSION OF STEM ROT IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate Proline 480SC, Propulse, and Luna Privilege applied in furrow, at 100 percent emergence, and at pegging for their effect on the suppression of southern stem rot and yield response in an irrigated peanut production system in southeast Alabama.

Methods: Peanut cultivar Georgia 06G was planted on May 11 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, weed, and nematode control were followed. The soil type was a Dothan sandy loam (OM<1%). On April 21, 1 quart per acre of Sonalan + 0.45 ounce per acre of Strongarm + 1 quart per acre of Dual Magnum were applied and incorporated for preemergent weed control. In furrow fungicides were applied at planting with a tractor-mounted drop sprayer at 10 gallons per acre at 31 psi. Early postemergent applications were applied using a tractor-mounted drop sprayer directly over row calibrated to deliver 20 gallons per acre on May 20. Thrips were controlled with an in furrow application of 5.0 pounds per acre of Thimet 20G at planting.

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 0.5 inch on June 6 and June 14, 1 inch on August 15 and August 20, and 0.75 inch on September 14. Foliar fungicides were applied on a 14- to 21-day schedule on June 27, July 5, July 11, July 25, August 8, August 24, September 8, and September 20 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 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; 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 August 19 and September 14 from above ground symptoms of the disease and on September 27 immediately after plot inversion. Plots were harvested on October 3, and yields were reported at 7.54 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 2011 peanut production season, temperatures were above normal and monthly rainfall totals were below normal throughout the season. Due to lack of rainfall, leaf spot progressed slowly during the season and at the time of inversion disease severity was below usual levels. All plots were sprayed with Echo 720 for leaf spot control; therefore, leaf spot severity was minimal in all plots. Stem rot incidence and severity increased throughout the summer. At the first stem rot observation, stem rot was just beginning to have an effect on the plants. The lowest incidence of stem rot was observed in the plots that consisted of Proline (IF) followed by Proline applied at pegging. The highest incidence was with Proline applied at 100 percent emergence at 40 gallons per acre. The second SR observation had results very similar to those at the first observation. Stem rot incidence at inversion showed that the lowest incidence was also with the treatment of Proline (IF) followed by Proline applied at pegging. The highest incidence was with Proline applied at 100 percent emergence. There was no significant differences in yield among any of the treatments.

EVALUATION OF PROLINE 480SC, PROPULSE, AND LUNA PRIVILEGE FOR THEIR EFFECT ON THE SUPPRESSION OF STEM ROT IN SOUTHEAST ALABAMA, WREC

Treatment and rate/A	Application timing	Disease ratings LS [1]	SR [2]	SR [2]	SR[3]	Yield *lb/A*
Proline 480SC 5.7 fl oz	In furrow	2.9	1.7	3.1	5.1	6445
Echo 720 24.0 fl oz	1-7					
Propulse 13.7 fl oz	In furrow	2.9	1.7	2.7	4.7	6558
Echo 720 24.0 fl oz	1-7					
Proline 480SC 5.7 fl oz	100% emergence	2.6	2.8	3.8	7.1	6308
Echo 720 24.0 fl oz	1-7					
Propulse 13.7 fl oz	100% emergence	2.8	2.2	3.8	6.3	6284
Echo 720 24.0 fl oz	1-7					
Proline 480SC 5.7 fl oz	Band @ pegging	2.7	2.3	2.7	5.0	6284
Echo 720 24.0 fl oz	1-7					
Luna Privilege 6.84 fl oz	100% emergence	2.9	1.7	2.5	5.1	6679
Echo 720 24.0 fl oz	1-7					
Proline 480SC 5.7 fl oz	In furrow	2.7	1.2	2.0	3.8	6494
Proline 480SC 5.7 fl oz	Band @ pegging					
Echo 720 24.0 fl oz	1-7					
Proline 480SC	100% emergence@10 gpa	3.0	1.7	2.8	5.7	6526
Echo 720 24.0 fl oz	1-7					
Proline 480SC	100% emergence@40 gpa	3.0	3.2	4.0	5.8	5929
Echo 720 24.0 fl oz	1-7					
LSD (P = 0.05)		***0.2***	***1.8***	***2.1***	***3.0***	***918***

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

[2] Stem rot (SR) incidence is expressed from above ground symptoms as the number of dead or dying plants per 60 ft of row.

[3] Stem rot incidence at inversion is expressed as the number of hits per 60 ft of row.

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

EVALUATION OF A FOUR-FUNGICIDE Rx PROGRAM FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate Headline 2.09EC, Artisan, Provost 433SC, and Tilt Bravo/Abound/Bravo fungicide Rx programs and compare the low, medium, and high risk indicies for their effect on early and late leaf spot, stem rot, and yield response in an irrigated peanut production system in southeast Alabama.

Methods: Peanut cultivar Georgia 06G was planted on May 18 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, weed, and nematode control were followed. The soil type was a Dothan sandy loam (OM<1%). On May 17, 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 5.0 pounds per acre of Thimet 20G at planting.

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 0.75 inch on June 7 and June 30, 0.5 inch on June 16 and July 7, and 1 inch on August 17, August 26, and September 1. Foliar fungicides were applied on a 14- to 28-day schedule on June 28, July 5, July 12, July 27, August 1, August 10, August 16, August 26, August 29, September 9, September 13, and September 20 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 every two weeks beginning on July 21 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). After the final rating area under the disease progress curve (AUDPC) was calculated.

Counts of stem rot loci (one locus was defined as ≤ 1 foot of consecutive symptoms and signs of the disease) were made on September 1 from above ground symptoms of the disease and on October 7 immediately after plot inversion. Plots were harvested on October 4, and yields were reported at 7.37 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 2011 peanut production season, temperatures were above normal and monthly rainfall totals were below normal throughout the season. Due to lack of rainfall, leaf spot progressed slowly during the season and at the time of inversion disease severity was below usual levels. Among all the risk indices, leaf spot control was similar. None of the treatment indices showed any greater level of control than did any other. When AUDPC was calculated, the numbers reflected the low severity of leaf spot such that all indices gave similar level of control whether fungicide applications occurred at 14-, 21-, or 28-day intervals. Stem rot severity was very low in this test and there were no differences among any of the treatment programs at any level of fungicide application. Although there were some differences in yield among the index programs all of the programs had similar yields.

EVALUATION OF A FOUR-FUNGICIDE Rx PROGRAM FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

Treatment and rate/A	Application timing [1]	Risk index	——Disease ratings—— LS [2]	AUPDC [3]	SR [4]	Pod yield *lb/A*
Headline 2.09EC 9.0 fl oz	2	Low	2.4	140.9	0.3	4171
Headline 2.09EC 12.0 fl oz + Bravo WS 16.0 fl oz	3.5					
Muscle 3.6F 7.2 fl oz + Bravo WS 16.0 fl oz	5, 6.5					
Headline 2.09EC 9.0 fl oz	1.5	Medium	2.5	150.8	0.7	4050
Muscle 3.6F 7.2 fl oz + Bravo WS 24.0 fl oz	3					
Headline 2.09EC 12.0 fl oz	4					
Muscle 3.6F 7.2 fl oz + Bravo WS 16.0 fl oz	5.5					
Bravo WS 24.0 fl oz	7					
Headline 2.09EC 9.0 fl oz	1.5	High	2.4	142.8	0.5	3882
Muscle 3.6F 7.2 fl oz + Bravo WS 16.0 fl oz	3.5					
Headline 2.09EC 12.0 fl oz	4					
Bravo WS 24.0 fl oz	6,7					
Headline 2.09EC 9.0 fl oz	1.5	Low	2.7	139.3	0.0	3856
Artisan 3.6E 26.0 fl oz + Bravo WS 16.0 fl oz	3,4.5					
Topsin M 5.0 fl oz + Bravo WS 16.0 fl oz	6					
Headline 9.0 fl oz	1.5	Medium	2.9	153.1	0.0	3799
Artisan 3.6E 18.0 fl oz + Bravo WS 16.0 fl oz	3,4.5,6					
Topsin M 5.0 fl oz + Bravo WS 16.0 fl oz	7					
Headline 9.0 fl oz	1.5	High	2.6	141.4	0.5	3993
Artisan 3.6E 16.0 fl oz + Bravo WS 16.0 fl oz	3,4,5,6					
Topsin M 5.0 fl oz + Bravo WS 16.0 fl oz	7					
Bravo WS 24.0 fl oz	1,7	Low	2.5	143.3	0.2	3791
Provost 433SC 10.7 fl oz	3,5					
Bravo WS 24.0 fl oz	1.5,7	Medium	2.5	144.4	0.7	4025
Provost 433SC 10.7 fl oz	3,4.5,6					
Bravo WS 24.0 fl oz	1.5,7	High	2.6	148.6	0.2	4332
Provost 433SC 10.7 fl oz	3,4,5,6					
Tilt Bravo 36.0 fl oz	2	Low	2.6	146.3	0.3	3791
Abound 2.08SC 18.2 fl oz	3.5,5					
Bravo WS 24.0 fl oz	6.5					
Tilt Bravo 36.0 fl oz	1.5	Medium	2.6	146.8	0.3	4283
Abound 2.08SC 18.2 fl oz	3, 5.5					
Bravo WS 24.0 fl oz	4,7					
Tilt Bravo 36.0 fl oz	1,2,4	High	2.4	133.9	0.2	4332
Abound 2.08SC 18.2 fl oz	3,5					
Bravo WS 24.0 fl oz	6,7					
LSD P = (0.05)			***0.3***	***14.1***	***0.7***	***642***

[1] Application timing: 1 = 30 days after planting (DAP), 1.5 = 37 DAP, 2 = 44 DAP, 2.5 = 51 DAP, 3 = 58 DAP, 3.5 = 65 DAP, 4 = 72 DAP, 4.5 = 79 DAP, 5 = 86 DAP, 5.5 = 93 DAP, 6 = 100 DAP, 6.5 = 107 DAP, 7 = 114 DAP.

[2] Leaf spot ratings made on October 6 using the Florida 1 to 10 leaf spot scoring system (1 = no disease, …10 = completely dead or dying plants).

[3] AUDPC calculate by making leaf spot ratings every two weeks beginning July 21.

[4] Stem rot hits assessed at inversion on October 4 as the number of disease loci per total row ft (1 ft = 1 ft of consecutive symptoms and signs of the disease).

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

EVALUATION OF ARTISAN 3.6E AND CONVOY FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate the Artisan 3.6E and Convoy 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 Georgia 06G was planted at the Wiregrass Research and Extension Center in Headland, Alabama, on May 9 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, weed, and nematode control were followed. The soil type was a Dothan sandy loam (OM<1%). On May 9, 1 quart per acre of Sonalan + 0.45 ounce per acre of Strongarm + 1 quart per acre of Dual Magnum were applied and incorporated for preemergent weed control. Thrips were controlled with an in furrow application of 5.0 pounds per acre of Thimet 20G at planting.

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 0.5 inch on June 1 and June 8, 0.75 inch on June 30, 0.5 inch on July 8 and July 15, 1 inch on August 18 and August 26, 0.75 inch on September 2, and 0.5 inch on September 13 and September 16. Fungicides were applied on a 14-day schedule on June 28, July 12, July 28, August 10, August 25, September 8, and September 19 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 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 September 29 immediately after plot inversion. Plots were harvested on October 4, and yields were reported at 7.84 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 2011 peanut production season, temperatures were above normal and monthly rainfall totals were below normal throughout the season. Leaf spot severity progressed during the season, but due to lack of rainfall and high temperatures severity was less than what was observed in previous years. All programs that included either Artisan or Convoy were equally effective in controlling leaf spot compared with the Echo 720 standard and the remaining programs. Stem rot incidence was higher than in previous years. The best stem rot control was obtained with the Headline/Artisan + Echo/Artisan + Topsin M/Echo program. Stem rot incidence ratings for the remaining programs were similar and all gave significantly better stem rot control than did the season-long Echo 720 standard. Application of Convoy at early emergence did not reduce stem rot incidence more than comparable fungicide programs did. Highest yields were recorded with the Headline/Convoy + Echo + Topsin M/Convoy + Echo/Convoy + Headline/Echo, Headline/Artian + Echo/Artisan + Topsin M/Echo, and Echo/Muscle treatment programs. All remaining programs had similar yields.

EVALUATION OF ARTISAN 3.6E AND CONVOY FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

Treatment and rate/A	Application timing	–Disease ratings– LS [1]	SR [2]	Yield *lb/A*
Headline 2.09EC 9.0 fl oz	1,5	2.7	1.0	5106
Convoy 13.0 fl oz + Echo 720 24.0 fl oz + Topsin M 5.0 fl oz	3,5			
Convoy 13.0 fl oz + Echo 24.0 fl oz	4			
Convoy 13.0 fl oz + Headline 6.0 fl oz	6			
Echo 720 24.0 fl oz	7			
Headline 2.09EC 9.0 fl oz	1,5	2.3	0.8	5163
Artisan 3.6E 16.0 fl oz + Echo 720 16.0 fl oz	3,5			
Artisan 3.6E 16.0 fl oz + Topsin M 5.0 fl oz	4,6			
Echo 720 24.0 fl oz	7			
Convoy 32.0 fl oz	Early emergence	2.7	2.5	4687
Headline 2.09EC 9.0 fl oz	1,5			
Echo 720 16.0 fl oz + Topsin M 5.0 fl oz	3,5			
Echo 720 24.0 fl oz	4,7			
Headline 2.09EC 6.0 fl oz	6			
Echo 720 24.0 fl oz	1,2,7	2.5	1.7	4888
Provost 433SC 8.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.7	1.8	5033
Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,4,6,7	2.7	2.5	4565
Abound 2.08SC 18.2 fl oz	3,5			
Echo 720 24.0 fl oz	1,2,4,6,7	2.6	1.7	4921
Echo 720 24.0 fl oz + Convoy 21.0 fl oz	3,5			
Headline 2.09EC 9.0 fl oz	1,5	2.4	2.0	4799
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			
Headline 2.09EC	1,5	2.5	1.3	4775
Echo 720 24.0 fl oz + Convoy 21.0 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	1-7	2.7	4.1	4429
LSD (P = 0.05)		***0.4***	***1.6***	***504***

[1] 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 FONTELIS AND APROACH FOR CONTROL OF EARLY AND LATE LEAF SPOT AND RUST OF PEANUT IN SOUTHWEST ALABAMA, GCREC

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

Objective: To evaluate the Fontelis and Aproach and compare them with currently registered fungicides for control of early and late leaf spot and rust and yield response in a dryland peanut production system in southwest Alabama.

Methods: Peanut cultivar Georgia 06G was planted on June 1 at the Gulf Coast Research and Extension Center near Fairhope, Alabama, at a rate of five to six seed per foot of row in a field that had previously cropped to peanut production. The soil type was a Malbis fine sandy loam (OM<1%). Recommendations of the Alabama Cooperative Extension System for fertility and weed control were followed. On June 1, after planting, 2 pints per acre Prowl + 22 ounces per acre Roundup were applied to the test area for weed control. On June 21, 8 ounces per acre Gramoxone + 1.5 pints per acre of Storm + 1 pint of Induce per 25 gallons of water was applied for postemergent weed control. On June 29, 8 ounces per acre Gramoxone + 1.5 pints per acre of Storm + 1 pint of Induce per 25 gallons of water was reapplied. On July 12, 2 ounces per acre of Cadre + 0.225 ounce per acre of Strongarm + 1 pint of Induce per 25 gallons of water was applied for weed control. Thrips were controlled with an in furrow application of 6 to 7 pounds per acre of Thimet 20G at planting. Six to 7 pounds per acre of Rhizobium innoculant was also applied at planting. On September 13, 6 ounces per acre of Brigade was applied for late season insect control.

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 July 5, July 11, July 20, August 2, August 15, August 29, September 12, and September 26 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 October 11 using the Florida leaf spot scoring system where 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 visually rated on October 10 using the ICRISAT rust rating scale where 1 = no disease, ...9 = plants severely affected, 80 to 100 percent leaves withering.

Counts of stem rot loci were made on October 18 immediately after plot inversion (one locus is defined as ≤ 1 foot of consecutive stem rot damaged plants per row). Plots were harvested on October 24, and yields were reported at 8.25 percent moisture. Significance of treatment effects were tested by analysis of variance and Fisher's protected least significant difference (LSD) test (P = 0.05).

Results: In 2011, temperatures were at or above normal and monthly rainfall totals were near normal throughout the growing season. Late leaf spot and rust were the primary foliar diseases observed. Foliar diseases developed late in the growing season and severity was less than what was normally seen; therefore, very little impact on yield was observed. With the exception of the untreated control, all other treatment programs that included Fontelis or Aproach gave leaf spot control that was similar to that observed with the other currently registered fungides. Rust never developed in the field and, therefore, was not a limiting factor in yield. Stem rot incidence was less than in previous years and none of the treatment programs showed any significant reductions in the in the incidence of the disease. The Echo/Provost (10.7 fl oz) treatment program had the best yield and was significantly better than both the Echo/Fontelis and Echo/Echo + Convoy treatments. No significant differences in yield response were observed among any of the treatment programs.

EVALUATION OF FONTELIS AND APROACH FOR CONTROL OF EARLY AND LATE LEAF SPOT AND RUST OF PEANUT IN SOUTHWEST ALABAMA, GCREC

Treatment and rate/A	Application timing [1]	–Disease ratings– LS [2]	Rust [3]	Yield *lb/A*
Untreated Control		3.7	1.7	5850
Headline 2.09EC 9.0 fl oz	1.5	2.4	0.5	5942
Fontelis 16.0 fl oz	3,4,5			
Echo 720 24.0 fl oz	6,7			
Aproach 12.0 fl oz	1.5	2.5	0.7	5949
Fontelis 16.0 fl oz	3,4,5			
Echo 720 24.0 fl oz	6,7			
Echo 24.0 fl oz	1,2,7	2.1	1.0	5704
Fontelis 16.0 fl oz	3,4,5,6			
Headline 2.09EC 9.0 fl oz	1.5	2.2	0.5	5812
Provost 433SC 8.0 fl oz	3,4,5			
Echo 720 24.0 fl oz	6,7			
Echo 720 24.0 fl oz	1,2,7	2.3	0.7	6071
Provost 433SC 8.0 fl oz	3,4,5,6			
Headline 2.09EC 9.0 fl oz	1.5	2.4	0.8	6148
Convoy 16.0 fl oz + Echo 720 16.0 fl oz	3,4,5			
Echo 720 24.0 fl oz	6,7			
Echo 720 24.0 fl oz	1,2,7	2.2	0.7	5750
Echo 720 16.0 fl oz + Convoy 16.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,4,6,7	2.3	1.0	5796
Abound 2.08SC 18.5 fl oz	3,5			
Echo 720 24.0 fl oz	1,2,7	2.4	1.0	6056
Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.3	1.0	6263
Provost 433SC 10.7 fl oz	3,4,5,6			
Headline 2.09EC 6.0 fl oz	1.5	2.3	0.3	5972
Muscle 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	2.5	0.5	6056
LSD (P = 0.05)		***0.3***	***0.7***	***487***

[1] Dates for fungicide applications 1 to 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 was assessed using the ICRISAT rust rating scale where 1 = no disease, ...9 = plants severely affected.

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

EVALUATION OF TOPGUARD AND CHA-026 FOR CONTROL OF EARLY AND LATE LEAF SPOT AND RUST OF PEANUT IN SOUTHWEST ALABAMA, GCREC

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

Objective: To evaluate Topguard and CHA-026 and compare them with currently registered fungicides for control of early and late leaf spot, rust, and yield response in a dryland peanut production system in southwest Alabama.

Methods: Peanut cultivar Georgia 06G was planted on May 31 at the Gulf Coast Research and Extension Center near Fairhope, Alabama, at a rate of five to six seed per foot of row in a field that had previously cropped to peanut production. The soil type was a Malbis fine sandy loam (OM<1%). Recommendations of the Alabama Cooperative Extension System for fertility and weed control were followed. On June 1, after planting, 2 pints per acre Prowl + 22 ounces per acre Roundup were applied to the test area for weed control. On June 21, 8 ounces per acre Gramoxone + 1.5 pints per acre of Storm + 1 pint of Induce per 25 gallons of water was applied for postemergent weed control. On June 29, 8 ounces per acre Gramoxone + 1.5 pints per acre of Storm + 1 pint of Induce per 25 gallons of water was reapplied. On July 12, 2 ounces per acre of Cadre + 0.225 ounce per acre of Strongarm + 1 pint of Induce per 25 gallons of water was applied for weed control. Thrips were controlled with an in furrow application of 6 to 7 pounds per acre of Thimet 20G at planting. Six to 7 pounds per acre of Rhizobium innoculant was also applied at planting. On September 15, 6 ounces per acre of Brigade was applied for late season insect control.

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 July 5, July 20, August 3, August 15, August 29, September 13, and September 26 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 October 10 using the Florida leaf spot scoring system where 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 visually rated on October 10 using the ICRISAT rust rating scale where 1 = no disease, ...9 = plants severely affected, 80 to 100 percent leaves withering.

Counts of stem rot loci were made on October 17 immediately after plot inversion (one locus is defined as ≤ 1 foot of consecutive stem rot damaged plants per row). Plots were harvested on October 24, and yields were reported at 8.25 percent moisture. Significance of treatment effects were tested by analysis of variance and Fisher's protected least significant difference (LSD) test (P = 0.05).

Results: In 2011, temperatures were at or above normal and monthly rainfall totals were near normal throughout the growing season. Late leaf spot and rust were the primary foliar diseases observed. Foliar diseases developed late in the growing season and severity was less than what was normally seen; therefore, very little impact on yield was observed. With the exception of the untreated control, all other treatment programs that included Topguard or CHA-026 gave leaf spot control that was similar to that observed with the other currently registered fungicides. Rust incidence and severity was very low with only the untreated control plots showing any signs of rust (data not shown). Therefore, it was not a limiting factor in yield. Stem rot incidence was less than in previous years, and with the exception of the Echo/Echo+ Muscle, Echo/Muscle and Echo/Abound treatment programs, all of the remaining treatment programs reduced disease incidence compared to the untreated control. The Echo/Provost (8.0 fl oz) treatment program had the best yield and was significantly better than both the Echo/Fontelis and Echo/Echo + Convoy treatments. Of the programs tested, the highest yield was obtained with the CHA-026/Muscle + CHA-026 program. All others were similar.

EVALUATION OF TOPGUARD AND CHA-026 FOR CONTROL OF EARLY AND LATE LEAF SPOT AND RUST OF PEANUT IN SOUTHWEST ALABAMA, GCREC

Treatment and rate/A	Application timing [1]	–Disease ratings– LS [2]	Rust[3]	Yield *lb/A*
Untreated Control		3.3	1.5	6316
CHA-026 24.0 fl oz	1-7	2.5	0.3	6507
CHA-026 24.0 fl oz	1,2,7	2.3	0.5	6714
Topguard 14.0 fl oz + CHA-026 24.0 fl oz	3,4,5,6			
CHA-026 24.0 fl oz	1,2,7	2.3	0.5	7035
Muscle 3.6F 7.2 fl oz + CHA-026 24.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.3	1.0	6905
Muscle 3.6F 7.2 fl oz + Echo 720 24.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.5	0.8	6523
Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,4,6,7	2.5	1.0	6622
Abound 2.08SC 18.2 fl oz	3,5			
Echo 720 24.0 fl oz	1,2,7	2.1	0.5	6721
Echo 720 16.0 fl oz + Convoy 16.0 fl oz	3,4,5,6			
Headline 2.09EC 6.0 fl oz	1,2	2.4	0.3	6523
Muscle 3.6F 7.2 fl oz	3,4			
Headline 2.09EC 9.0 fl oz	4			
Echo 720 24.0 fl oz	6,7			
Echo 720 24.0 fl oz	1,2,7	2.4	0.3	6889
Provost 433SC 8.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1-7	2.2	0.5	6859
LSD (P = 0.05)		***0.3***	***0.8***	***438***

[1] Dates for fungicide applications 1 to 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 was assessed using the ICRISAT rust rating scale where 1 = no disease, ...9 = plants severely affected.

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

EVALUATION OF PROLINE 480SC AND PROVOST 433SC FOR CONTROL OF EARLY AND LATE LEAF SPOT AND RUST OF PEANUT IN SOUTHWEST ALABAMA, GCREC

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

Objective: To evaluate Proline and Provost and compare them with currently registered fungicides for control of early and late leaf spot and rust and yield response in a dryland peanut production system in southwest Alabama.

Methods: Peanut cultivar Georgia 06G was planted on June 2 at the Gulf Coast Research and Extension Center near Fairhope, Alabama, at a rate of five to six seed per foot of row in a field that had previously cropped to peanut production. The soil type was a Malbis fine sandy loam (OM<1%). Recommendations of the Alabama Cooperative Extension System for fertility and weed control were followed. On April 12, 190 pounds per acre of 8-21-21 + 10 pounds per acre Sulfur + 0.5 pound per acre Boron was applied to the test area and incorporated. On April 15, 2 pints per acre of Prowl was applied for preemergent weed control. On June 1, after planting, 2 pints per acre Prowl + 22 ounces per acre Roundup were applied to the test area for weed control. On June 21, 8 ounces per acre Gramoxone + 1.5 pints per acre of Storm + 1 pint of Induce per 25 gallons of water was applied for postemergent weed control. On June 29, 8 ounces per acre Gramoxone + 1.5 pints per acre of Storm + 1 pint of Induce per 25 gallons of water was reapplied. On July 12, 2 ounces per acre of Cadre + 0.225 ounce per acre of Strongarm + 1 pint of Induce per 25 gallons of water was applied for weed control. Thrips were controlled with an in furrow application of 6 to 7 pounds per acre of Thimet 20G at planting. Six to 7 pounds per acre of Rhizobium innoculant was also applied at planting. On September 13, 6 ounces per acre of Brigade was applied for late season insect control.

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 April 16, July 5, July 20, August 3, August 15, August 29, September 13, and September 26 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 October 10 using the Florida leaf spot scoring system where 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 visually rated on October 10 using the ICRISAT rust rating scale where 1 = no disease, ...9 = plants severely affected, 80 to 100 percent leaves withering.

Counts of stem rot loci were made on October 17 immediately after plot inversion (one locus is defined as ≤ 1 foot of consecutive stem rot damaged plants per row). Plots were harvested on October 24, and yields were reported at 8.25 percent moisture. Significance of treatment effects were tested by analysis of variance and Fisher's protected least significant difference (LSD) test (P = 0.05).

Results: In 2011, temperatures were at or above normal and monthly rainfall totals were near normal throughout the growing season. Late leaf spot and rust were the primary foliar diseases observed. Foliar diseases developed late in the growing season and severity was less than what was normally seen; therefore very little impact on yield was observed. With the exception of the untreated control, all other treatment programs that included either Proline or Provost gave leaf spot control that was similar to that observed with the other currently registered fungicides. Rust incidence and severity was very low with only the untreated control plots showing any signs of rust (data not shown). Therefore, rust was not a limiting factor in yield. Stem rot incidence was less than in previous years and with the exception of the Proline (100 percent emergence)/Echo/Provost and Proline/Echo treatments, all of the remaining treatment programs that contained either Proline or Provost reduced disease incidence compared to the untreated control. The Echo/Abound program had higher incidence of SR than did the untreated control. Of the fungicide programs tested, only the Echo/Provost (10.7 fluid ounces) and Echo/Abound treatments had significantly better yield than did the untreated control. Among the other treatments, only the Absolute/Provost/Absolute/Echo treatment yielded less than the untreated control. All others had similar yields.

EVALUATION OF PROLINE AND PROVOST FOR CONTROL OF EARLY AND LATE LEAF SPOT AND RUST OF PEANUT IN SOUTHWEST ALABAMA, GCREC

Treatment and rate/A	Application timing [1]	–Disease ratings– LS [2]	Rust [3]	Yield *lb/A*
Untreated Control		3.3	2.3	6209
Echo 720 24.0 fl oz	1,2,7	2.2	0.7	6354
Provost 433SC 8.0 fl oz	3,4,5,6			
Proline 480SC 5.7 fl oz	100% emergence	2.4	0.8	6683
Echo 720 24.0 fl oz	1,2,7			
Provost 433SC 10.7 fl oz	3,4,5,6			
Proline 480SC 5.7 fl oz	100% emergence	2.3	1.0	6416
Provost 433SC 10.7 fl oz	1.5,3,4,5			
Echo 720 24.0 fl oz	6,7			
Proline 480SC	100% emergence	2.3	1.2	6454
Echo 720 24.0 fl oz	1-7			
Echo 720 24.0 fl oz	1,2,7	2.3	0.7	6775
Provost 433SC 10.7 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,4,6,7	2.4	2.7	6744
Abound 2.08SC 18.2 fl oz	3,5			
Echo 720 24.0 fl oz	1,2,7	2.3	0.8	6331
Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,4,6,7	2.3	1.5	6362
Echo 720 24.0 fl oz + Convoy 21.0 fl oz	3,5			
Headline 2.09EC 6.0 fl oz	1.5	2.3	0.7	6232
Provost 433SC 8.0 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	1,2,7	2.3	1.7	6255
Absolute 3.5 fl oz + Muscle 3.6F 5.2 fl oz	3,4,5,6			
Absolute 3.5 fl oz	1,2	2.3	1.3	6176
Provost 433SC 8.0 fl oz	3,4,5			
Absolute 3.5 fl oz	6			
Echo 720 24.0 fl oz	7			
Echo 720 24.0 fl oz	1-7	2.3	0.7	6553
LSD (P = 0.05)		***0.3***	***1.3***	***487***

[1] Dates for fungicide applications 1 to 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 to 9 rating scale.
Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P = 0.05$).

EVALUATION OF TILT BRAVO, ABOUND 2.08SC, AND ALTO 0.83SL FOR CONTROL OF EARLY AND LATE LEAF SPOT AND RUST OF PEANUT IN SOUTHWEST ALABAMA, GCREC

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

Objective: To evaluate the Tilt Bravo, Abound 2.08SC, and Alto 0.83SL and compare them with currently registered fungicides for control of early and late leaf spot and rust and yield response in a dryland peanut production system in southwest Alabama.

Methods: Peanut cultivar Georgia 06G was planted on May 31 at the Gulf Coast Research and Extension Center near Fairhope, Alabama, at a rate of five to six seed per foot of row in a field that had previously cropped to peanut production. The soil type was a Malbis fine sandy loam (OM<1%). Recommendations of the Alabama Cooperative Extension System for fertility and weed control were followed. On June 1, after planting, 2 pints per acre Prowl + 22 ounces per acre Roundup were applied to the test area for weed control. On June 21, 8 ounces per acre Gramoxone + 1.5 pints per acre of Storm + 1 pint of Induce per 25 gallons of water was applied for postemergent weed control. On June 29, 8 ounces per acre Gramoxone + 1.5 pints per acre of Storm + 1 pint of Induce per 25 gallons of water was reapplied. On July 12, 2 ounces per acre of Cadre + 0.225 ounce per acre of Strongarm + 1 pint of Induce per 25 gallons of water was applied for weed control. Thrips were controlled with an in furrow application of 6 to 7 pounds per acre of Thimet 20G at planting. Six to 7 pounds per acre of Rhizobium innoculant was also applied at planting. On September 15, 6 ounces per acre of Brigade was applied for late season insect control.

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 July 5, July 20, August 3, August 15, August 29, September 13, and September 26 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 October 10 using the Florida leaf spot scoring system where 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 visually rated on October 10 using the ICRISAT rust rating scale where 1 = no disease, ...9 = plants severely affected, 80 to 100 percent leaves withering.

Counts of stem rot loci were made on October 17 immediately after plot inversion (one locus is defined as ≤ 1 foot of consecutive stem rot damaged plants per row). Plots were harvested on October 24, and yields were reported at 8.25 percent moisture. Significance of treatment effects were tested by analysis of variance and Fisher's protected least significant difference (LSD) test (P = 0.05).

Results: In 2011, temperatures were at or above normal and monthly rainfall totals were near normal throughout the growing season. Late leaf spot and rust were the primary foliar diseases observed. Foliar diseases developed late in the growing season and severity was less than what was normally seen; therefore, very little impact on yield was observed. With the exception of the untreated control, all other treatment programs that included Tilt Bravo, Abound, or Alto gave leaf spot control that was similar to that observed with the other currently registered fungicides. Rust incidence and severity was very low with only the untreated control plots showing any signs of rust (data not shown). Therefore, rust was not a limiting factor in yield. Stem rot incidence was less than in previous years, and with the exception of the Headline/Muscle/Hedline/Bravo treatment program, all of the remaining treatment programs reduced disease incidence compared to the untreated control. Highest yield was recorded with the Tilt Bravo/Abound + Muscle/Bravo and Bravo/Muscle treatment programs and was significantly better than the Tilt Bravo/Bravo program. Of the other programs tested, all were similar.

EVALUATION OF TILT-BRAVO, ABOUND 2.08SC, AND ALTO 0.83SL FOR CONTROL OF EARLY AND LATE LEAF SPOT AND RUST OF PEANUT IN SOUTHWEST ALABAMA, GCREC

Treatment and rate/A	Application timing [1]	–Disease ratings– LS [2]	Rust [3]	Yield *lb/A*
Untreated Control		3.3	1.3	6622
Tilt Bravo 4.3SE 24.0 fl oz	1,2	2.5	0.5	6637
Bravo Weather Stik 24.0 fl oz	3,4,5,6,7			
Tilt Bravo 4.3SE 24.0 fl oz	1,2	2.2	0.7	6935
Provost 433SC 8.0 fl oz	3,4,5,6			
Bravo Weather Stik 24.0 fl oz	7			
Tilt Bravo 4.3SE 24.0 fl oz	1,2	2.3	0.3	7035
Abound 2.08SC 18.0 fl oz	3,5			
Bravo Weather Stik 24.0 fl oz	4,6,7			
Tilt Bravo 4.3SE 24.0 fl oz	1,2	2.4	0.3	6928
Abound 15.0 fl oz + Alto 0.83SL 5.5 fl oz	3,5			
Bravo Weather Stik 24.0 fl oz	4,6,7			
Tilt Bravo 4.3SE 24.0 fl oz	1,2	2.3	0.3	6775
Abound 18.0 fl oz + Alto 0.83SL 5.5 fl oz	3,5			
Bravo Weather Stik 24.0 fl oz	4,6,7			
Tilt Bravo 4.3SE 24.0 fl oz	1,2	2.5	0.3	7211
Abound 12.0 fl oz + Muscle 7.2 fl oz	3,5			
Bravo Weather Stik 24.0 fl oz	4,6,7			
Tilt Bravo 4.3SE 24.0 fl oz	1,2	2.4	0.5	6687
Muscle 3.6F 7.2 fl oz	3,4,5,6			
Bravo Weather Stik 24.0 fl oz	7			
Bravo Weather Stik 24.0 fl oz	1,2,7	2.4	0.2	7104
Muscle 3.6F 7.2 fl oz	3,4,5,6			
Bravo Weather Stik 24.0 fl oz	1,2,7	2.1	0.8	6966
Provost 433SC 8.0 fl oz	3,4,5,6			
Bravo Weather Stik 24.0 fl oz	1,2,4,6,7	2.5	0.7	7027
Abound 2.08SC 18.2 fl oz	3,5			
Bravo Weather Stik 24.0 fl oz	1,2,7	2.2	0.3	6959
Bravo Weather Stik 24.0 fl oz + Convoy 13.0 fl oz	3,4,5,6			
Headline 2.09EC 6.0 fl oz	1,2	2.6	1.5	7027
Muscle 3.6F 7.2 fl oz	3,5			
Headline 2.09EC 9.0 fl oz	4			
Bravo Weather Stik 24.0 fl oz	6,7			
Bravo Weather Stik 24.0 fl oz	1-7	2.2	2.1	6935
LSD (P = 0.05)		***0.3***	***0.7***	***455***

[1] Dates for fungicide applications 1 to 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 to 9 rating scale.
Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P = 0.05$).

EVALUATION OF ECHO 720, EMINENT 125SL, AND MUSCLE 3.6F FOR CONTROL OF EARLY AND LATE LEAF SPOT AND RUST OF PEANUT IN SOUTHWEST ALABAMA, GCREC

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

Objective: To evaluate Echo 720, Eminent 125SL, and Muscle 3.6F and compare them with currently registered fungicides for control of early and late leaf spot and rust and yield response in a dryland peanut production system in southwest Alabama

Methods: Peanut cultivar Georgia 06G was planted on June 2 at the Gulf Coast Research and Extension Center near Fairhope, Alabama, at a rate of five to six seed per foot of row in a field that had previously cropped to peanut production. The soil type was a Malbis fine sandy loam (OM<1%). Recommendations of the Alabama Cooperative Extension System for fertility and weed control were followed. On April 12, 190 pounds per acre of 8-21-21 + 10 pounds per acre Sulfur + 0.5 pound per acre Boron was applied to the test area and incorporated. On April 15, 2 pints per acre of Prowl was applied for preemergent weed control. On June 1, after planting, 2 pints per acre Prowl + 22 ounces per acre Roundup were applied to the test area for weed control. On June 21, 8 ounces per acre Gramoxone + 1.5 pints per acre of Storm + 1 pint of Induce per 25 gallons of water was applied for postemergent weed control. On June 29, 8 ounces per acre Gramoxone + 1.5 pints per acre of Storm + 1 pint of Induce per 25 gallons of water was reapplied. On July 12, 2 ounces per acre of Cadre + 0.225 ounce per acre of Strongarm + 1 pint of Induce per 25 gallons of water was applied for weed control. Thrips were controlled with an in furrow application of 6 to 7 pounds per acre of Thimet 20G at planting. Six to 7 pounds per acre of Rhizobium innoculant was also applied at planting. On September 13, 6 ounces per acre of Brigade was applied for late season insect control.

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 April 16, July 5, July 20, August 3, August 15, August 29, September 13, and September 26 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 October 10 using the Florida leaf spot scoring system where 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 visually rated on October 10 using the ICRISAT rust rating scale where 1 = no disease, ...9 = plants severely affected, 80 to 100 percent leaves withering.

Counts of stem rot loci were made on October 17 immediately after plot inversion (one locus is defined as ≤ 1 foot of consecutive stem rot damaged plants per row). Plots were harvested on October 24, and yields were reported at 8.25 percent moisture. Significance of treatment effects were tested by analysis of variance and Fisher's protected least significant difference (LSD) test (P = 0.05).

Results: In 2011, temperatures were at or above normal and monthly rainfall totals were near normal throughout the growing season. Late leaf spot and rust were the primary foliar diseases observed. Foliar diseases developed late in the growing season and severity was less than what was normally seen; therefore, very little impact on yield was observed. Compared to the untreated control, all treatment programs that contained Echo 720, Eminent 125SL, and Muscle 3.6F gave leaf spot control that was similar to that observed with the other currently registered fungicides and all gave similar results to that observed with the season-long Echo-only treatment. Rust incidence and severity was very low with only the untreated control plots showing any signs of rust (data not shown). Therefore, rust was not a limiting factor in yield. Stem rot incidence was less than in previous years; however, differences in treatments were observed. The lowest stem rot incidence occurred with the Echo/Abound treatment. Of the other fungicide treatments, all except the Echo + Eminent/SA-0120305/Echo, Headline/Muscle/Headline/Echo, Echo/Muscle, and Echo-

only treatment had lower incidence of stem rot than did the untreated control. All of the fungicide regimes tested had higher yields than the untreated control. However, none of the treatments had significantly different yields than did the season-long Echo-only treatment.

EVALUATION OF ECHO 720, EMINENT 125SL, AND MUSCLE 3.6F FOR CONTROL OF EARLY AND LATE LEAF SPOT AND RUST OF PEANUT IN SOUTHWEST ALABAMA, GCREC

Treatment and rate/A	Application timing [1]	–Disease ratings– LS [2]	Rust [3]	Yield *lb/A*
Untreated Control		3.7	1.7	5857
Echo 720 16.0 fl oz + Eminent 125SL 7.2 fl oz	1,2	2.3	0.2	6438
Echo 720 16.0 fl oz + Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 16.0 fl oz	7			
Echo 720 16.0 fl oz + Eminent 125SL 7.2 fl oz	1.5	2.2	0.3	6171
Echo 720 16.0 fl oz + Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 16.0 fl oz	7			
Echo 720 12.0 fl oz + Eminent 125SL 5.4 fl oz	1.5	2.2	0.7	6515
Echo 720 16.0 fl oz + Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 16.0 fl oz	7			
Headline 2.09EC 9.0 fl oz	1.5	2.4	0.7	6629
Echo 720 16.0 fl oz + Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 16.0 fl oz	7			
Echo 720 16.0 fl oz + Eminent 125SL 7.2 fl oz	1.5	2.3	0.5	6331
SA-0120305 32.0 fl oz	3,4,5,6			
Echo 720 16.0 fl oz	7			
Echo 720 16.0 fl oz + Eminent 125SL 7.2 fl oz	1.5	2.1	0.8	6286
SA-0120306 24.0 fl oz	3,4,5,6			
Echo 720 16.0 fl oz	7			
ActinoGrow AG 3.0 oz	IF	2.3	0.3	6538
Echo 720 16.0 fl oz + Eminent 125SL 7.2 fl oz	1,2			
Echo 720 16.0 fl oz + Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 16.0 fl oz	7			
Headline 2.09EC 6.0 fl oz	1.5	2.3	1.1	6377
Muscle 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	1,2,7	2.3	1.5	6576
Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.3	0.2	6660
Provost 433SC 8.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,4,6,7	2.3	0.0	6102
Abound 2.08SC 18.2 fl oz	3,5			
Echo 720 24.0 fl oz	1,2,7	2.2	0.7	6667
Echo 720 24.0 fl oz + Convoy 13.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1-7	2.2	1.0	6186
LSD (P = 0.05)		***0.3***	***0.8***	***594***

[1] The dates for fungicide applications 1-7 are listed in the text.
[2] Early and late leaf spot were assessed using the Florida leaf spot scoring 1 to 10 system.
[3] Rust severity was rated using the ICRISAT 1 to 9 rating scale.
Mean separation within columns was according to Fisher's protected least significant difference (LSD) test (P=0.05).

EVALUATION OF EVITO 480SC AND ELAST FOR CONTROL OF EARLY AND LATE LEAF SPOT AND RUST OF PEANUT IN SOUTHWEST ALABAMA, GCREC

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

Objective: To evaluate Evito 480SC and Elast and compare them with currently registered fungicides for control of early and late leaf spot, rust, and yield response in a dryland peanut production system in southwest Alabama.

Methods: Peanut cultivar Georgia 06G was planted on June 1 at the Gulf Coast Research and Extension Center near Fairhope, Alabama, at a rate of five to six seed per foot of row in a field that had previously cropped to peanut production. The soil type was a Malbis fine sandy loam (OM<1%). Recommendations of the Alabama Cooperative Extension System for fertility and weed control were followed. On June 1, after planting, 2 pints per acre Prowl + 22 ounces per acre Roundup were applied to the test area for weed control. On June 21, 8 ounces per acre Gramoxone + 1.5 pints per acre of Storm + 1 pint of Induce per 25 gallons of water was applied for postemergent weed control. On June 29, 8 ounces per acre Gramoxone + 1.5 pints per acre of Storm + 1 pint of Induce per 25 gallons of water was reapplied. On July 12, 2 ounces per acre of Cadre + 0.225 ounce per acre of Strongarm + 1 pint of Induce per 25 gallons of water was applied for weed control. Thrips were controlled with an in furrow application of 6 to 7 pounds per acre of Thimet 20G at planting. Six to 7 pounds per acre of Rhizobium innoculant was also applied at planting. On September 13, 6 ounces per acre of Brigade was applied for late season insect control.

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 July 5, July 11, July 20, August 2, August 15, August 29, September 12, and September 26 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 October 11 using the Florida leaf spot scoring system where 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 visually rated on October 10 using the ICRISAT rust rating scale where 1 = no disease, ...9 = plants severely affected, 80 to 100 percent leaves withering.

Counts of stem rot loci were made on October 18 immediately after plot inversion (one locus is defined as ≤ 1 foot of consecutive stem rot damaged plants per row). Plots were harvested on October 24, and yields were reported at 7.75 percent moisture. Significance of treatment effects were tested by analysis of variance and Fisher's protected least significant difference (LSD) test (P = 0.05).

Results: In 2011, temperatures were at or above normal and monthly rainfall totals were near normal throughout the growing season. Late leaf spot and rust were the primary foliar diseases observed. Foliar diseases developed late in the growing season and severity was less than what was normally seen; therefore very little impact on yield was observed. All of the treatment programs that included either Evito 480SC or Elast gave better control of leaf spot when compared to the non-treated control. When compared with all other registered fungicides, both Evito 480SC and Elast treatment programs gave comparable results to that observed with the season-long Echo 720 treatment. Rust never developed in the field and, therefore, was not a limiting factor in yield. Very little rust was observed in the untreated control plots (data not shown). Stem rot incidence was less than in previous years and none of the treatment programs showed any significant reductions in the in the incidence of the disease. The highest yield was recorded with the Echo/Evito/Muscle treatment program; however, it was not significantly better than untreated control or the Echo-only treatment. No significant differences in yield response were observed among any of the other treatment programs.

EVALUATION OF EVITO 480SC AND ELAST FOR CONTROL OF EARLY AND LATE LEAF SPOT AND RUST OF PEANUT IN SOUTHWEST ALABAMA, GCREC

Treatment and rate/A	Application timing [1]	–Disease ratings– LS [2]	SR [3]	Yield *lb/A*
Untreated Control		3.34	0.3	6125
Echo 720 24.0 fl oz	1,3,6,7	2.3	0.3	6484
Evito 480SC 5.7 fl oz	2,5			
Muscle 3.6F 7.2 fl oz	4			
Echo 720 24.0 fl oz	1,2,4,6,7	2.1	0.0	6132
Evito T 11.2 fl oz	3,5			
Elast 15.0 fl oz	1,2,7	2.4	0.2	5758
Muscle 3.6F 7.2 fl oz	3,4,5,6			
Elast 15.0 fl oz	1,2,7	2.2	0.2	5872
Elast 12.8 fl oz + Muscle 3.6F 7.2 fl oz	3,4,5,6			
Elast 15.0 fl oz	1,2,7	2.2	0.2	5979
Elast 12.8 fl oz + Artisan 16.0 fl oz	3,4,5,6			
Elast 15.0 fl oz	1,2,7	2.2	0.2	5796
Elast 12.8 fl oz + Convoy 16.0 fl oz	3,4,5,6			
Elast 15.0 fl oz	1-7	2.3	0.0	5628
Echo 720 24.0 fl oz	1,2,7	2.2	0.3	6117
Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,4,6,7	2.1	0.5	6308
Abound 2.08SC 18.5 fl oz	3,5			
Echo 720 24.0 fl oz	1,2,7	2.0	0.0	6209
Echo 720 16.0 fl oz + Convoy 16.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.2	0.0	6094
Provost 433SC 10.7 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1-7	2.1	0.3	6446
LSD (P = 0.05)		***0.3***	***0.4***	***618***

[1] The dates for fungicide applications 1-7 are listed in the text.
[2] Early and late leaf spot were assessed using the Florida leaf spot scoring 1 to 10 system.
[3] White mold hits assessed at inversion as the number of disease loci per total row ft.
Mean separation within columns was according to Fisher's protected least significant difference (LSD) test (P=0.05).

BAYER PEANUT Rx DISEASE RISK INDEX FUNGICIDE PROGRAM COMPARED FOR THE CONTROL OF LEAF SPOT AND STEM ROT ON TWO PEANUT CULTIVARS, WREC

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

Objective: To validate the effectiveness of the Bayer Peanut Rx Disease Risk Index program for the control of leaf spot and stem rot as well as on the yield of two peanut cultivars.

Methods: The study area at the Wiregrass Research and Extension Center was turned with a moldboard plow and worked to seedbed condition with a disk harrow. Rows were laid off on April 20 with a KMC strip till rig with rolling baskets. On May 10, the runner peanut cultivars Georgia-06G (GA06G) and Tifguard were planted at a rate of six seed per foot of row using conventional tillage practices in a Dothan fine sandy loam (OM<1%) soil on a site maintained in a one year out peanut-cotton rotation. Temik 15G at 6 pounds per acre was applied in furrow for thrips control. Weed control was obtained with a preemergent, incorporated application 1 quart per acre of Sonalan HFP + 1 pint per acre of Dual Magnum on April 21. Soil fertility recommendations of the Alabama Cooperative Extension System were followed. The test area received 0.5, 0.5, 1.0, 1.0, and 0.75 acre inch of water on June 6, June 14, August 15, August 20, and September 14, respectively. A split plot design with peanut cultivars as whole plots and fungicide treatments as subplots was used. Whole plots were randomized in four complete blocks. Fungicide subplots, which consisted of four 30-foot rows spaced 3 feet apart, were randomized within each whole plot. Full canopy sprays of were made using an ATV-mounted boom sprayer with a tractor-mounted boom sprayer with three TX-8 nozzles per row at 15 gallons of spray volume per acre at 45 psi. Fungicide applications were made on June 30 (1), July 7 (1.5), July 20 (2), August 1 (3), August 16 (4), August 25 (4.5), August 30 (5), September 12 (6), and September 22 (7).

Disease Assessment: Early and late leaf spot were rated together on October 3 using the 1 to 10 Florida peanut leaf spot scoring system where 1 = no disease 2 = very few leaf spots, 3 = few leaf spots in lower and upper canopy, 4 = some leaf spotting and ≤ 10 percent defoliation, 5 = leaf spots noticeable and ≤ 25 percent defoliation, 6 = leaf spots numerous and ≤ 50 percent defoliation, 7 = leaf spots very numerous and ≤ 75 percent defoliation, 8 = numerous leaf spots on few remaining leaves and ≤90 percent defoliation, 9 = very few remaining leaves covered with leaf spots and ≤ 95 percent defoliation, and 10 = plants defoliated or dead. Stem rot hit counts (one hit was defined as ≤ 1 foot of consecutive stem rot plants per row) were made immediately after plot inversion on October 4. Yields were reported at 9.26 percent moisture. Significance of interactions was evaluated using PROC MIXED procedure in SAS. Statistical analyses were done on rank transformations for non-normal data, which were back transformed for presentation. Means were separated using Fisher's least significant difference (LSD) test (P≤0.05).

Results: With the exception of August, monthly rainfall totals during the study period were below to well below the 30 year historical average for the study site, while temperatures were above too well above normal, which greatly reduced leaf spot intensity. Temperatures and peanut cropping frequency favored stem rot but the disease failed to develop. Significant fungicide treatment x peanut cultivar interactions for leaf spot intensity and stem rot incidence but not yield were noted, so pooled data are presented for the former two variables, while yield data is broken down by peanut cultivar (Table 1).

Based on Peanut Disease Risk Index guidelines, this site was rated as a medium and high risk for leaf spot and stem rot, respectively, on Georgia-06G and Tifguard. Leaf spot intensity and stem rot incidence on Tifguard and Georgia-06G were similar. With Bravo WS, Bravo WS/Provost 433SC, and Proline 480SC/Bravo WS/Provost 480SC programs, better leaf spot control was obtained with the high and medium risk levels when compared with the 4-application low risk programs, which had the highest ratings for this disease. At the high and medium risk levels, the Bravo WS/Provost 433SC and Proline 480SC/Bravo WS/Provost 480SC programs often gave better leaf spot control than Bravo WS. With a few exceptions, better stem rot control was obtained with any programs that included Provost 433SC than any of the Bravo WS programs, regardless of the risk level. Addition of the early post Proline 480SC treatment to the Bravo WS/Provost 433SC program did not enhance leaf spot or stem rot control. When compared with many of the programs that included applications of Provost 433SC, lowest yield was recorded for the high risk

Bravo WS program on Georgia-06G. Across all risk levels and application rates, yield for all Provost 433SC programs did not significantly differ. Also, no yield gains were obtained with the addition of an early post application of Proline 480SC to any Provost 433SC program.

Summary: Overall, study results validated the Bayer Peanut Rx Disease Risk Index program. In fact, the program performed better than anticipated as demonstrated by similarly high yields noted at all risk levels on both Georgia-06G and Tifguard. While leaf spot intensity was higher for the low compared with the medium and high risk programs, disease impact on yield of both cultivars was minimal. Also, little difference in stem rot control was noted between the Provost 433SC low, medium, and high risk program.

DISEASE RISK INDEX FUNGICIDE PROGRAMS COMPARED FOR THE CONTROL OF LEAF SPOT DISEASES AND STEM ROT ON GEORGIA-06G AND TIFGUARD

	—Application— timing	number	Risk index	Leaf spot [1]	Stem rot [2]	——Yield—— *lb/A*	
Cultivar means							
Tifguard	—	—	—	3.6 a	7.1 a	—	—
Georgia-06G	—	—	—	3.8 a	8.4 a	—	—
						–Peanut cultivar–	
Fungicide means						GA06G	Tifguard
Bravo WS 1.5 pt	1-7	7	High	3.9 b	12.3 a	4598 b	4924 ab
Bravo WS 1.5 pt	1.5,3,4.5, 6,7	5	Med	3.4 cd	10.0 ab	5542 a	5409 ab
Bravo WS 1.5 pt	1,3,5,7	4	Low	4.9 a	11.4 a	5034 ab	5191 ab
Bravo WS 1.5 pt Provost 433SC 8 fl oz	1,2,7 3-6	7	High	3.3 cd	7.1 abc	5457 ab	5007 ab
Bravo WS 1.5 pt Provost 433SC 8 fl oz	1.5,7 3,4.5,7	5	Med	2.6 e	5.0 bc	5808 a	5647 a
Bravo WS 1.5 pt Provost 433SC 8 fl oz	1,7 3,5	4	Low	4.8 a	7.2 abc	5506 a	5130 ab
Proline 5.7 fl oz Bravo WS 1.5 pt Provost 433SC 8 fl oz	Early Post 1,2,7 3-6	7	High	3.1 de	4.4 c	5711 a	5663 a
Proline 5.7 fl oz Bravo WS Provost 433SC 8 fl oz	Early Post 1.5,7 3,4.5,7	5	Med	2.9 de	6.6 bc	5566 a	5699 a
Proline 5.7 fl oz Bravo WS Provost 433SC 8 fl oz	Early Post 1,7 3,5	4	Low	4.8 a	6.8 bc	5518 ab	5433 ab
Bravo WS 1.5 pt Provost 433SC 10.7 fl oz	1,2,7 3-6	7	High	3.6 bc	5.8 bc	5431ab	5433 ab

[1] Leaf spot diseases were rated using the Florida 1 to 10 leaf spot rating scale.
[2] Stem rot (SR) severity is expressed as the number of hits per 60 foot of row.
Means in each column that are followed by the same letter are not significantly different according to analysis of variance and Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

IMPACT OF ENCLOSURE 4L AND TEMIK 15G PROGRAMS ON PEANUT ROOT KNOT CONTROL AND YIELD RESPONSE OF TWO PEANUT CULTIVARS, WREC

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

Objective: To compare the effectiveness of Enclosure 4L with Temik 15G for the control of peanut root knot nematode as well as on the yield response of a root knot susceptible and resistant peanut cultivar.

Methods: On June 1, the peanut cultivars Georgia-06G and Tifguard were planted at a rate of six seed per foot of row using conventional tillage practices in a Dothan fine sandy loam (OM<1%) soil at the Wiregrass Research and Extension Center. A preplant broadcast application of Sonalan at 1 quart per acre + Strongarm at 0.45 ounce per acre on May 17, which was incorporated with a disk harrow, was followed on July 13 with a broadcast application of Cadre at 2 fluid ounces per acre. Escaped weeds were plowed with flat sweeps or were pulled by hand. To control thrips, Thimet 20G at 4 pounds per acre was applied in furrow. On June 21, July 13, August 18, September 1, and September 12, 0.5, 0.5, 1.0, 1.0, and 1.0 acre inches of water, respectively, were applied. Soil fertility recommendations of the Alabama Cooperative Extension System were followed. A split plot design with peanut cultivars as whole plots and nematicide treatments as subplots was used. Whole plots were randomized in five complete blocks. Individual subplots consisted of four 30-foot rows spaced 3 feet apart. To control leaf spot diseases, full canopy sprays of Bravo Weather Stik 6F at 1.5 pints per acre were made on June 29 (1), July 13 (2), August 4 (3), August 11 (4), August 31 (5), September 10 (6), and September 23 (7) with a tractor-mounted boom sprayer with three TX-8 nozzles per row calibrated to deliver 15 gallons of spray volume per acre at 45 psi. Temik 15G was banded at 6 pounds per acre over the open seed furrow at-planting and again at 10 pounds per acre over the row middle 45 days after planting (DAP). Initial Enclosure 4L application at 48 fluid ounces per acre, which was made either (1) at-planting on June 1 on a 6-inch band centered over the open furrow, (2) at true ground cracking on June 9, or (3) early post on June 19 with a tractor-mounted boom sprayer with a single TX-8 nozzle at 2.5 gallons per acre spray volume, was followed by an appplication of Enclosure 4L at 48 fluid ounces per acre banded directly over the row center on July 24 (45 DAP) in 15 gallons per acre spray volume. An in furrow application of Enclosure 4L at 48 fluid ounces per acre was followed with banded applications of Enclosure at the same rate on July 24 and August 4 (45 and 60 DAP). Finally, an in furrow application of Temik 15G at 6 pounds per acre was followed by a banded application of 48 fluid ounces per acre of Enclosure 4L on July 24 as previously described.

Disease Assessment: Early and late leaf spot were rated together on October 20 using the 1 to 10 Florida peanut leaf spot scoring system where 1 = no disease, 2 = very few leaf spots, 3 = few leaf spots in lower and upper canopy, 4 = some leaf spotting and ≤ 10 percent defoliation, 5 = leaf spots noticeable and ≤ 25 percent defoliation, 6 = leaf spots numerous and ≤ 50 percent defoliation, 7 = leaf spots very numerous and ≤ 75 percent defoliation, 8 = numerous leaf spots on few remaining leaves and ≤90 percent defoliation, 9 = very few remaining leaves covered with leaf spots and ≤ 95 percent defoliation, and 10 = plants defoliated or dead. Stem rot hit counts (one hit was defined as ≤ 1 foot of consecutive stem rot damaged plants per row) and root knot damage ratings where 1 = no visible damage; 2 = 1 to 25 percent of roots and/or pods damaged; 3 = 26 to 50 percent damaged; 4 = 51 to 75 percent damage and 5 = >75 percent of pods/roots damaged were made immediately after plot inversion on October 21. Soil samples for a nematode soil assay, which were collected prior to inversion on October 16, were processed using sugar flotation method. Significance of treatment effects and interactions was first evaluated using PROC MIXED procedure in SAS. Means were separated using Fisher's protected least significant difference at P≤0.05.

Results: Since there was no cultivar x treatment interaction, data were pooled across peanut cultivars and nematicide treatments. Georgia-06G had higher leaf spot, stem rot, and root knot damage rating and higher root knot nematode juvenile counts but similar yields as the root knot nematode-resistant peanut cultivar Tifguard (Table 1). Higher leaf spot ratings were noted for several Temik 15G nematicide as well as the Enclosure 4L programs when compared with the non-treated control. When compared with the non-treated control, increased stem rot incidence was noted with Enclosure 4L IF fb Enclosure 4L 45 DAP, Enclosure 4L GC fb Enclosure 45 DAP, and Actinogro. Temik 15G 6 pounds IF fb Temik 15G 10 pounds 45 DAP reduced root knot gall ratings below those reported for the non-treated control, Enclosure 4L IF fb Enclosure 45 DAP fb Enclosure 60 DAP, and Actinogro. While the root knot juvenile

counts for most programs were similar, counts were higher for Actinogro than for the non-nematicide treated control. None of the Temik 15G or Enclosure 4L programs increased pod yield above that reported for the non-nematicide treated control but several including Actinogro had lower yields.

Summary: Despite lower ratings for stem rot and root knot damage to the roots, yields for the root knot resistant Tifguard and the root knot susceptible cultivar Georgia-06G did not significantly differ. When compared with the non-treated control, no yield gains were obtained with either Temik 15G or Enclosure 4L programs. While some differences in leaf spot ratings were noted, overall disease pressure was too low to influence yield.

NEMATODE CONTROL AND YIELD RESPONSE WITH ENCLOSURE 4L AND TEMIK 15G ON A ROOT KNOT SUSCEPTIBLE AND RESISTANT PEANUT CULTIVARS COMPARED, WREC

			——Root knot——		Yield
	LS [1]	SR [2]	Rating	Counts	(*bu/A*)
Peanut cultivar					
Georgia-06G	3.8 a	3.7 a	3.4 a	511 a	4006 a
Tifguard	3.0 b	2.0 b	1.5 b	108 b	4085 a
Nematicide					
Non-treated control	3.1 bc	1.6 a	2.7 a	250 a	4380 a
Temik 15G 6 lb IF5 fb Temik 15G 10 lb 45 DAP	3.6 a	2.5 a	2.0 b	270 a	4472 a
Temik 15G 6 lb IF fb Enclosure 4L 48 fl oz EP [3]	3.8 a	2.8 a	2.4 ab	252 a	3840 b
Enclosure 4L 48 fl oz IF fb Enclosure 4L 48 fl oz 45 DAP	3.2 abc	3.5 a	2.3 ab	374 a	3945 b
Enclosure 4L 48 fl oz GC fb Enclosure 4L 48 fl oz 45 DAP	3.6 a	3.6 a	2.4 ab	251 a	4119 ab
Enclosure 4L 48 fl oz EP fb Enclosure 4L 48 fl oz 45 DAP	2.9 c	2.5 a	2.3 ab	280 a	4037 ab
Enclosure 4L 48 fl oz IF fb Enclosure 4L 48 fl oz 45 DAP fb Enclosure 4L 48 fl oz 60 DAP	3.7 a	2.7 a	2.6 a	376 a	3620 b
Actinogro 3 oz IF	3.3 ab	3.6 a	2.6 a	394 a	3834 b

[1] Leaf spot diseases were rated using the Florida 1 to 10 leaf spot rating scale.
[2] Stem rot (SR) severity is expressed as the number of disease loci per 60 ft of row.
[3] Treatment placement and application timing: IF = in furrow over exposed seed; CG = ground cracking; EP = early post over at 100 percent seedling emergence; 45 days after planting (DAP) (July 24); and 60 days after planting (August 4).
Means in each column followed by the same letter are not significantly different according to analysis of variance and Fisher's least significant difference (LSD) test (P≤0.05).

EFFECT OF STANDARD AND HIGH INPUT FUNGICIDE PROGRAMS ON DISEASE CONTROL AND YIELDS ON SELECTED COMMERCIAL PEANUT CULTIVARS, WREC

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

Objective: To compare the yields and level of leaf spot and stem rot control obtained with a standard and high input fungicides on selected commercial peanut cultivars and breeding lines.

Methods: The study area at the Wiregrass Research and Extension Center, which is maintained in a peanut-corn rotation, was turned with a moldboard plow and worked to seedbed condition with a disk harrow. Rows were laid off on April 20 with a KMC strip till rig with rolling baskets. On May 12, runner peanut cultivars and advanced breeding lines were planted at a rate of six seed per foot of row using conventional tillage practices in a Dothan fine sandy loam (OM<1%) soil. Temik 15G at 6 pounds per acre was applied in furrow for thrips control. Weed control was obtained with a preemergent, incorporated application of Sonalan HFP at 1 quart per acre on April 21. Soil fertility recommendations of the Alabama Cooperative Extension System were followed. The test area was irrigated as needed. A split plot design with peanut cultivars as whole plots and fungicide treatments as subplots was used. Whole plots were randomized in four complete blocks. Subplots, which consisted of four 30-foot rows spaced 3 feet apart, were randomized within each whole plot. While the standard fungicide program consisted of seven applications of 1.5 pints per acre of Bravo Weather Stik 6F, the high input program included two initial applications of Bravo Weather Stik at 1.5 pints per acre followed by Abound 2SC at 1.1 pints per acre, Bravo Weather Stik at 1.5 pints per acre + Convoy at 21 fluid ounces per acre, Abound 2SC at 1.1 pints per acre, Bravo Weather Stik 6F at 1.5 pints per acre + Convoy at 21 fluid ounces per acre, and two final applications of Bravo Weather Stik 6F at 1.5 pints per acre. Fungicides were applied on June 30, July 20, August 1, August 16, August 30, September 12, and September 23 with a tractor-mounted boom sprayer with three TX-8 nozzles per row calibrated to deliver 15 gallons of spray volume per acre at 45 psi.

Disease Assessment: Tomato spotted wilt virus (TSWV) hits counts (one hit was defined as ≤ 1 foot of consecutive severely TSWV-damaged plants per row) were made on September 29. Early and late leaf spot were rated together on September 29 for all cultivars except for Florida 07 and Georgia-10T, which were rated on October 11 using the 1 to 10 Florida peanut leaf spot scoring system where 1 = no disease, 2 = very few leaf spots, 3 = few leaf spots in lower and upper canopy, 4 = some leaf spotting and ≤ 10 percent defoliation, 5 = leaf spots noticeable and ≤ 25 percent defoliation, 6 = leaf spots numerous and ≤ 50 percent defoliation, 7 = leaf spots very numerous and ≤ 75 percent defoliation, 8 = numerous leaf spots on few remaining leaves and ≤90 percent defoliation, 9 = very few remaining leaves covered with leaf spots and ≤ 95 percent defoliation, and 10 = plants defoliated or dead. Stem rot hit counts (one hit was defined as ≤ 1 foot of consecutive stem rot-damaged plants per row) were made immediately after plot inversion on October 4 for all cultivars except for Florida 07 and Georgia-10T, which were inverted on October 11. Yields were reported at 9.4 percent moisture. Significance of interactions was evaluated using PROC MIXED procedure in SAS. Statistical analyses were done on rank transformations for non-normal data, which were back transformed for presentation. Means were separated using Fisher's least significant difference (LSD) test (P≤0.05).

Results: With the exception of August, monthly rainfall totals during the study period were below to well below the 30 year historical average for the study site, while temperatures were above too well above normal, which greatly reduced leaf spot intensity. Temperatures and peanut cropping frequency favored stem rot but the disease failed to develop. The fungicide treatment x peanut cultivar interaction for TSWV and stem rot incidence, leaf spot intensity, and yield were not significant, so pooled data are presented. Incidence of TSWV was higher in Georgia-09B compared with all commercial peanut cultivars and advanced breeding lines, which had similarly low TSWV ratings. Highest leaf spot ratings were recorded for the breeding line 09H36566, while equally low disease levels was noted in Georgia-06G, 09H46566, Georgia Greener, Georgia-10T, Georgia-09B, and 09H46768. Stem rot incidence and yield did not significantly differ between peanut cultivars.

Summary: Due in part to dry weather patterns, fungicide input levels did not influence the control of leaf spot diseases and stem rot or peanut yield. In other words, similar yields were obtained with the far less costly standard

compared with the more expensive high input fungicide program. Generally, the low leaf spot and stem rot levels also contributed to the similar yields obtained for all of the commercial peanut cultivars and the three breeding lines. Since the TSWV pressure was very low, few differences in peanut cultivar reaction to this disease were seen.

YIELD AND DISEASE CONTROL OF SELECTED COMMERCIAL PEANUT CULTIVARS AND BREEDING LINES AS IMPACTED BY FUNGICIDE INPUT LEVEL

	TSWV [1]	LS [2]	Stem rot [1]	Yield *lb/A*
Cultivar means				
Florida 07	0.9 b	2.6 bc	0.8 a	4924 a
Georgia-06G	1.5 b	2.0 d	1.0 a	5106 a
Georgia-07W	1.4 b	3.2 b	2.0 a	5088 a
Georgia-09B	4.3 a	2.4 cd	2.4 a	4761 a
Georgia-10T	0.5 b	2.4 cd	0.1 a	4429 a
Georgia Greener	1.5 b	2.3 cd	2.3 a	4792 a
Tifguard	0.6 b	3.2 b	1.1 a	5130 a
09H46566	1.3 b	2.1 cd	2.1 a	4653 a
09H36566	1.9 b	4.3 a	1.6 a	5155 a
09H46768	0.5 b	2.4 cd	2.8 a	4665 a
Fungicide program means				
Standard	1.6 a	2.8 a	1.9 a	4869 a
High Input	1.3 a	2.6 a	1.4 a	4871 a

[1] Tomato spotted wilt virus (TSWV) and stem rot (SR) severity is expressed as the number of hits per 60 foot of row.
[2] Leaf spot diseases were rated using the Florida 1 to 10 leaf spot rating scale.
Means followed by the same letter in each column are not significantly different according to analysis of variance and Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

IMPACT OF TILLAGE, PEANUT CULTIVAR SELECTION, PLANTING DATE, AND ROW PATTERN ON YIELD AND OCCURRENCE OF PEANUT DISEASES, WREC

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

Objective: To assess the impact of conventional compared with conservation tillage, cultivar selection, planting date, and single compared with twin row pattern on peanut yield and the occurrence of TSWV, leaf spot, and white mold.

Methods: The study site has been maintained in a peanut-cotton-peanut rotation. Conservation tillage plots laid out in rye were killed with Roundup Weathermax at 22 fluid ounces per acre in early March and turned with a KMC subsoiler + coulter + rolling basket rig on April 20, while the conventional tillage plots were turned with a moldboard plow on April and worked to seedbed condition with a disk harrow. Peanut cultivars Georgia-06G and Tifguard were planted on April 21, May 18, and June 7, 2011 in a Dothan fine sandy loam (OM<1%) soil. Temik 15G at 6.5 pound per acre was applied in furrow for thrips control. Weed control was obtained with a preplant application of Sonalan at 1 quart per acre + 0.45 ounce per acre of Strongarm on April 20 followed by a broadcast application of Blazer at 1.5 pints per acre on June 15. A center pivot irrigation system was used to apply 1.0, 0.5, 0.5, 1.0, 1.0, and 0.75 acre inches of water on May 31, June 6, June 16, August 19, September 1, and September 13, respectively. Row spacing included single 36-inch or twin rows spaced 7 inches apart on 36-inch centers. The experimental design was a split–split-split plot design with tillage as the whole plot, planting date as the split plot, peanut cultivar as the split-split plot, and row spacing as the split-split-split plot, which consisted of four 30-foot rows in four replications. Applications of Bravo Weather Stik 6F at 1.5 pints per acre at 14-day intervals were made on June 30, July 20, August 1, August 16, August 29, September 12, and September 26 to all plots for leaf spot control with a tractor-mounted boom sprayer with three TX-8 nozzles per row calibrated to deliver 15 gallons of spray volume per acre at 45 psi.

Disease Assessment: Final TSWV hit counts (one hit was defined as ≤ 1 foot of consecutive TSWV-damaged plants per row) were made on July 8, August 16, and August 30 for the first, second, and third planting date, respectively. Early and late leaf spot were rated together on September 7, October 4, and October 20 for the first, second, and third planting dates, respectively, using the 1 to 10 Florida peanut leaf spot scoring system where 1 = no disease, 2 = very few spotted leaves in canopy, 3 = few spotted leaves in lower and upper canopy, 4 = some leaf spotting and ≤ 10 percent defoliation, 5 = leaf spotting noticeable and ≤ 25 percent defoliation, 6 = spotted leaves numerous and ≤ 50% defoliation, 7 = spotted leaves very numerous and ≤ 75 percent defoliation, 8 = numerous leaf spots on few remaining leaves and ≤90 percent defoliation, 9 = very few remaining leaves covered with leaf spots and ≤ 95 percent defoliation, and 10 = plants defoliated or dead. White mold hit counts (one hit was defined as ≤ 1 foot of consecutive white mold-damaged plants per row) were made immediately after plots were dug on September 7, October 6, and October 21 for the first, second, and third planting dates, respectively. Yields were reported at 7 percent moisture. Analysis of variance were done using the PROC MIXED procedure in SAS with tillage, cultivar, planting date, and row spacing as fixed effects and replication as a random effect. Significance of treatment effects were tested by the Fishers protected least significant difference (LSD) test (P≤0.05).

Results: For the third consecutive year, TSWV incidence was low. Interaction between TSWV and other fixed variables were not observed. Tillage and row spacing effects were significant for TSWV data but cultivar and planting date did not. While TSWV levels were higher under conventional than conservation tilled peanuts, disease incidence was similar across planting dates and peanut cultivar. Incidence of TSWV was also lower in twin compared with single row peanuts.

Significant tillage x cultivar x row spacing and cultivar x planting date interactions for leaf spot intensity were recorded. Leaf spot, which intensified with each successive planting date on Georgia-06G, declined between the May 18 and June 7 plantings of Tifguard (Table 1). With the exception of the June 7 planting, leaf spot intensity was lower in Georgia-06G than Tifguard. Although tillage did not influence leaf spot intensity on Tifguard, Georgia-06G—under conservation but not conventional tillage—had lower leaf spot intensity ratings in twin than in single rows (Table 2).

The significant tillage x planting date interaction showed that white mold incidence differed across planting dates on the single and twin row peanuts. For the single row peanuts, stem rot incidence declined at each successive planting date. Peanuts planted on April 21 and May 18 had higher disease incidence than peanuts planted on June 7 (Table 3). When compared with twin row spacing pattern, higher disease indices were observed for the single row peanuts at the April 7 and May 18 planting dates but not the June 7 planting date. Tillage and cultivar selection did not influence stem rot incidence.

For pod yield data, significant interactions were noted for tillage x planting date, cultivar x planting date, and planting date x row spacing. For conventional tilled peanuts, highest yields were observed at the May 18 planting date than at the earlier or later planting dates, which had similar yields. In contrast, similarly high yields were reported at the May 18 and June 7 planting dates compared with the April 18 planting date. In addition, yields were higher for the conventional than for the conservation tilled peanuts at the two earlier planting dates; at the June 7 planting date similar yields for the two tillage systems were noted. While equally high yields were observed for Georgia-06G at the latter two planting dates, the May 18 planting of Tifguard had higher yields when compared with the earlier and later planting, which had similarly low yield. Also, yield was higher for Georgia-06G than Tifguard at the June 7 but not the two earlier planting dates. While peanut planted on twin rows had similarly high yields at the two latter planting dates, highest yield for the single row peanuts occurred at the May 18 planting date. Similar yields were noted for both row spacings at the two earlier but not the late planting date where higher yields were recorded for the twin row peanuts than for the single row peanuts.

Summary: As noted in previous study years, production practices can have a significant impact on occurrence of diseases as well as on peanut yield. In 2011, pressure from all diseases with the possible exception of stem rot did not have a sizable impact on pod yield, while the exceptionally hot and dry weather patterns, as well as marginal irrigation, probably did. As reported in earlier studies, incidence of TSWV is lower in conservation tilled and twin row peanuts. Cultivar selection and planting date did not play a role in TSWV levels in peanut. As was previously observed, leaf spot intensified with later planting dates on Georgia-06G but not Tifguard. Increased leaf spot pressure in later planted peanuts would be expected with increasing numbers of conidia of leaf spot fungi in the atmosphere as earlier planted fields are dug and harvested. In a twin row pattern, leaf spot intensity was lower on conventional than conservation tilled Georgia-06G, while tillage and row spacing did not influence leaf spot on Tifguard. In 2010, leaf spot intensity was lower on the conventional compared with conservation tilled peanuts. Other studies suggest that leaf spot intensity is lower under conservation than conventional tillage. Planting date but not the other production inputs significantly impacted stem rot incidence. As has previously been reported, highest risk for stem rot in peanut is on late April and possibly early May-planted peanuts. When planting is delayed until the middle of May, the stem rot risk is greatly reduced. Pod yield was significantly impacted by the interaction of several variables. Yield of Georgia-06G was equally high at the latter two planting dates, while Tifguard yield peaked in mid-May. Higher yields were obtained with the twin compared with the single row pattern at the June 7 but not the earlier two planting dates. At the two earlier planting dates, yield was higher for the conventional than for the conservation tilled peanuts. In 2010, peanut cropped using conventional compared with conservation tillage practices also held a significant yield advantage.

TABLE 1. EFFECT OF PLANTING DATE X CULTIVAR INTERACTION ON LEAF SPOT INTENSITY AND YIELD

Planting date	Leaf spot [1]		Yield (lb/A)	
	Georgia-06G	Tifguard	Georgia-06G	Tifguard
April 21	2.1 d	2.6 ab	2930 b	2896 b
May 10	2.3 c	2.8 a	3555 a	3598 a
June 5	2.5 b	2.5 b	3662 a	2854 b

[1] Late and early leaf spot intensity rated using the Florida 1 to 10 leaf spot rating scale.
Means in columns under each variable followed by the same letter are not significantly different according to the least significant difference (LSD) test (P≤0.05).

TABLE 2. LEAF SPOT INTENSITY ON GEORGIA-06G AND TIFGUARD AS IMPACTED BY TILLAGE AND ROW SPACING, 2011

Tillage	Leaf spot [1]			
	Georgia-06G		Tifguard	
	Single [2]	Twin	Single	Twin
Conventional	2.3 cd	2.2 d	2.6 ab	2.7 a
Conservation	2.3 cd	2.4 bc	2.8 a	2.6 ab

[1] Late and early leaf spot intensity rated using the Florida 1 to 10 leaf spot rating scale.
[2] Single or twin rows 7 inches apart were on 36-inch centers.
Means in columns under each variable that are followed by the same letter are not significantly different according to the least significant difference (LSD) test (P ≤ 0.05).

TABLE 3. STEM ROT INCIDENCE AND YIELD AS INFLUENCED BY PLANTING DATE AND ROW SPACING, 2011

Planting date	Stem rot[1]		Yield (lb/A)	
	Single [2]	Twin	Single	Twin
April 21	6.7 a	3.8 b	2758 c	3067 bc
May 10	2.9 b	1.8 c	3440 ab	3713 a
June 5	1.4 c	1.3 c	2767 c	3748 a

[1] Stem rot incidence are expressed as the number of hits of each disease per 60 foot of row.
[2] Single or twin rows 7 inches apart were on 36-inch centers.
Means in columns under each variable that are followed by the same letter are not significantly different according to the least significant difference (LSD) test (P ≤ 0.05).

DISEASE INCIDENCE AND YIELD OF PEANUT AS IMPACTED BY CULTIVAR SELECTION AND INSECTICIDE TREATMENTS, WREC

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

Objective: To assess the impact of cultivar selection and early season insecticide treatments on thrips damage, leaf spot intensity, and incidence of TSWV and stem rot in peanut.

Methods: On May 19, peanut cultivars were planted at a rate of six seed per foot of row using conventional tillage practices in a Dothan fine sandy loam (OM<1%) soil. Weed control and soil fertility recommendations of the Alabama Cooperative Extension System were followed. The test area was received 0.5, 1, 1, 0.75, 1, 1, and 1 acre inches of water on May 20, June 10, July 8, August 4, August 12, August 19, and August 29, respectively. A split plot design with cultivars as whole plots and insecticide treatments as subplots was used. Whole plots were randomized in six complete blocks. Individual subplots consisted of four 30-foot rows spaced 3 feet apart. Subplot insecticide treatments were in furrow applications of Thimet 20G at 5 pounds per acre, Orthene 90S applied as a seed dressing in the hopper box at 0.4 pound per 100 pounds of seed, and a non-treated control. Full canopy sprays of Echo 720 6F at 1.5 pints per acre on June 30 and July 20 were followed by applications of generic tebuconazole at 7.2 fluid ounces per acre on August 1, August 16, August 30, and September 13 and Echo 720 6F at 1.5 pints per acre on September 16 with a tractor-mounted boom sprayer with three TX-8 nozzles per row calibrated to deliver 15 gallons of spray volume per acre at 45 psi.

Insect Damage and Disease Assessment: Stand counts were taken on June 7 on the two middle rows in each subplot. Thrips damage was rated on July 1 on a 0 to 10 scale based on the percent leaf area scarred or distorted by thips feeding activity, where 0 = no visible leaf scarring, 1=10 percent leaf area scarred, 2=20 percent leaf area scarred, 3=30 percent leaf area scarred, 4=40 percent leaf area scarred, to 10=100 percent leaf area affected and plants near death. Final tomato spotted wilt virus (TSWV) hit counts (one hit was defined as ≤ 1 foot of consecutive severely TSWV-damaged plants per row) were made on October 7. Leaf spot disease intensity was rated October 7 using the 1 to 10 Florida peanut leaf spot scoring system where 1 = no disease, 2 = very few leaf spots in canopy, 3 = few leaf spots noticed in lower and upper canopy, 4 = some leaf spotting in canopy and ≤ 10 percent defoliation, 5 = leaf spot noticeable and ≤ 25 percent defoliation, 6 = leaf spots numerous and ≤ 50 percent defoliation, 7 = leaf spots very numerous and ≤ 75 percent defoliation, 8 = numerous leaf spots on few remaining leaves and ≤90 percent defoliation, 9 = very few remaining leaves covered with leaf spots and ≤ 95 percent defoliation, and 10 = plants defoliated or dead. Stem rot hit counts (one hit was defined as ≤ 1 foot of consecutive white mold damaged plants per row) were made immediately after plot inversion on October 13 for all cultivars except for Georgia-10T, which was inverted on October 28. Yields were reported at 7 percent moisture. For non-normal disease and thrips damage ratings, statistical analyses were done on rank transformations of data. For presentation, ranks data are back transformed. Analyses of variance were done using the PROC MIXED procedure in SAS. Means were separated using Fisher's protected least significant difference (LSD) test (P≤0.05).

Results: The peanut cultivar x insecticide interaction for stand count, thrips damage rating (TDR), TSWV and stem rot incidence, leaf spot intensity, and yield were not significant, so pooled data are presented (Table 1).

The insecticide treatments significantly influenced stand count, TDR, and TSWV incidence but not leaf spot intensity, stem rot incidence, and pod yield (Table 1). Stand counts were significantly reduced with the Orthene 90S seed dressing but not the Thimet 20G-treatment and non-treated control. In contrast, TDR ratings and TSWV incidence were higher for the non-treated control when compared with both insecticide treatments.

While Georgia-09B and Georgia-10T had the highest stand counts, intermediate stand counts were recorded for Florida 07, Georgia-06G, Georgia-07W, and Tifguard (Table 1). Despite low thrips pressure, the TDR rating for Georgia-09B and Florida 07 was higher compared with Georgia-06G, Georgia-07W, Georgia-10T, and Georgia Greener. Incidence of TSWV was similar across all peanut cultivars. Georgia-09B had the highest leaf spot indices, while Florida 07 suffered the least leaf spotting. Highest stem rot incidence was for Georgia-09B, while equally low

stem rot levels were noted in Georgia-07W, Florida 07, and Tifguard. Georgia-07W and Georgia-06G had similarly high pod yields. Lowest yields were recorded for Georgia-09B and Georgia-10T.

Summary: As indicated by the low TDR values, thrips activity was inadequate to severely damage peanut foliage. The two insecticide treatments did significantly reduce TDR and TSWV incidence but did not influence pod yield. Leaf spot and stem rot incidence was not impacted by the insecticide treatments.

As noted above, the generally dry and unusually hot summer and early fall weather patterns suppressed the development of leaf spot diseases and did not intensify stem rot. Also, sizable differences in TDR levels noted in previous years failed to materialize due to the low thrips pressure. While sizable differences in yield were noted between peanut cultivars, diseases and thrips had little if any influence. While Georgia-06G and Georgia-07W posted the highest yields, the newly released Georgia-09B and Georgia-10T had the lowest yields.

DISEASE AND THRIPS DAMAGE RATINGS AS INFLUENCED BY INSECTICIDE TREATMENT AND CULTIVAR SELECTION, GCREC

	Stand [1] count	TDR [2]	TSWV [3]	LS [4]	SR [3]	Yield (*lb/A*)
Insecticide means						
Thimet 20G 5 lb/A [5]	89 a	1.5 b	0.5 b	3.0 a	2.2 a	5726 a
Orthene 90S 0.4 lb [5]	81 b	1.5 b	0.5 b	3.0 a	1.7 a	5689 a
Non-treated control	87 a	2.2 a	1.0 a	3.1 a	1.9 a	5589 a
Cultivar means						
Florida 07	83 b	2.0 ab	0.6 a	2.7 c	1.0 bc	5444 c
Georgia-06G	83 b	1.5 cd	0.6 a	3.0 b	1.6 b	6097 a
Georgia-07W	83 b	1.6 cd	0.9 a	3.0 b	0.7 c	6257 a
Georgia-09B	97 a	2.1 a	0.9 a	3.6 a	4.8 a	5070 d
Georgia-10T	94 a	1.6 cd	0.8 a	3.0 b	1.8 b	5208 cd
Georgia Greener	74 c	1.4 d	0.3 a	3.0 b	2.1 b	5828 b
Tifguard	85 b	1.7 bc	0.5 a	3.0 b	1.4 bc	5791 b

[1] Stand count = total number of peanut plants per 30 row ft.
[2] Thrips damage rating (TDR) was rated on a scale of 0 to 10 (0 = no visible leaf scarring, 1=10 percent leaf area scarred, 2=20 percent leaf area scarred, 3=30 percent leaf area scarred, 4=40 percent leaf area scarred, to 10=100 percent leaf area affected and plants near death).
[3] TSWV and stem rot incidence was expressed as the number of hits per 60 feet of row.
[4] Leaf spot (LS) was rated using the Florida 1 to 10 rating scale.
[5] Temik 15G and Thimet 20G were applied as at-plant, in furrow treatments while Orthene 97AG was applied to seed in the hopper box at a rate of 0.4 pound per 100 pounds of seed.
Means in each column that are followed by the same letter are not significantly different according to Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

DISEASE AND YIELD RESPONSE OF SELECTED COMMERCIAL PEANUT CULTIVARS AS INFLUENCED BY SEEDING RATE AND PLANTING DATE, WGREC

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

Objective: To determine the impact of seeding rate as influenced by planting date on stand density; the occurrence of TSWV, leaf spot, and stem rot; and the yield of selected commercial peanut cultivars at the Wiregrass Research and Extension Center in Headland, Alabama.

Methods: The study area at the Wiregrass Research and Extension Center, which is maintained in a peanut-corn rotation, was turned with a moldboard plow and worked to seedbed condition with a disk harrow. Rows were laid off on April 20 with a KMC strip till rig with rolling baskets. Peanut cultivars Florida 07, Georgia Green, and Georgia-06G were planted on April 21 and May 18 using conventional tillage practices in a Dothan fine sandy loam (OM<1%) soil. Temik 15G at 6 pounds per acre was applied in furrow for thrips control. Weed control was obtained with a preemergent, incorporated application of Sonalan HFP at 1 quart per acre. Soil fertility recommendations of the Alabama Cooperative Extension System were followed. The test area received 0.5, 0.5, 1.0, 1.0, and 0.75 acre inches of water on June 6, June 14, August 15, August 20, and September 14, respectively. A split plot design with planting date as whole plots, peanut cultivar as the split plot, and seeding rate as split-split-plots was used. Whole plots were randomized in four complete blocks. Individual split-split plots, which consisted of four 30-foot rows spaced 3 feet apart, were randomized within each whole plot. Chlorothalonil at 1.5 pints per acre was applied on June 30, July 20, August 2, August 16, August 29, September 12, and September 27 with an ATV-mounted boom sprayer with a tractor-mounted boom sprayer with three TX-8 nozzles per row at 15 gallons of spray volume per acre at 45 psi. Harvest dates were September 19 and October 18.

Disease Assessment: Final TSWV hit counts (one hit was defined a ≤ 1 foot of consecutive symptomatic plants per row) were made for the first and second planting dates on September 15 and October 14, respectively. Early and late leaf spot were rated together on September 15 and October 14 for the first and second planting dates, respectively using the 1 to 10 Florida peanut leaf spot scoring system where 1 = no disease, 2 = very few leaf spots, 3 = few leaf spots in lower and upper canopy, 4 = some leaf spotting and ≤ 10 percent defoliation, 5 = leaf spots noticeable and ≤ 25 percent defoliation, 6 = leaf spots numerous and ≤ 50 percent defoliation, 7 = leaf spots very numerous and ≤ 75 percent defoliation, 8 = numerous leaf spots on few remaining leaves and ≤90 percent defoliation, 9 = very few remaining leaves covered with leaf spots and ≤ 95 percent defoliation, and 10 = plants defoliated or dead. Stem rot hit counts (one hit was defined as ≤ 1 foot of consecutive stem rot-damaged plants per row) were made immediately after plot inversion on September 15 and October 14 for the first and second planting dates, respectively. Yields were reported at 7.8 percent moisture. Significance of interactions was evaluated using PROC MIXED procedure in SAS. Statistical analyses were done on rank transformations for non-normal data, which were back transformed for presentation. Means were separated using Fisher's least significant difference (LSD) test (P≤0.05).

Results: While rainfall totals were below to well below the historical average throughout the summer and early fall of 2011, temperatures during the same period were above average. As a result, leaf spot intensity was lower than levels observed in previous years.

Interactions for planting date x cultivar for TSWV and leaf spot as well as planting date x seeding rate and cultivar x seeding rate for leaf spot were significant, so data were segregated for each variable, while data for the non-significant interactions were pooled.

While overall TSWV incidence for 2011 was low, impact of planting date on disease incidence differed significantly between peanut cultivars (Table 1). For Florida 07 and Georgia-06G, disease incidence was equally low at the first (April 21) and second (May 18) planting dates but higher TSWV counts were recorded for Georgia Green at the later planting date. Leaf spot intensity was similar at both planting dates for Florida 07 but not for Georgia Green and Georgia-06G, which had higher disease ratings at the second compared with the first planting date. Leaf spot ratings for the May 18- but not April 21-planted Georgia Green and Georgia-06G were significantly higher when compared with Florida 07. Later-planted Georgia Green had a higher leaf spot rating than Georgia-06G and Tifguard, which

suffered the least leaf spot damage. While higher yields were noted for peanuts planted on May 18 than for peanuts planted on April 21, similar stem rot ratings were noted at both planting dates (Table 2). Among peanut cultivars Georgia Green had significantly lower yields compared with Florida 07 and Georgia-06G, which had similarly high yields (Table 3).

While seeding rate had no affect on the TSWV or stem rot incidence or on yield (Table 4), leaf spot intensity was significantly impacted by seeding rate at the second but not the first planting date (Table 5). Higher leaf spot ratings were observed for the May 18-planted peanuts at seeding rates of six compared with rates of two seed per row foot, while leaf spot ratings recorded for the other seeding rates were intermediate. In addition, increased leaf spot intensity was noted at the three higher seeding rates for peanuts planted on May 18 but not those planted on April 21.

With Florida 07 and Georgia-06G, seeding rate had no influence on leaf spot intensity. In contrast, leaf spot intensity was lower on Georgia Green at the lowest compared with the three higher seeding rates (Table 5).

Stand density on all three cultivars progressively rose at both planting dates with increasing seeding rates. Regardless of the cultivar and planting date, higher stand counts were noted at the highest seeding rate (six seed per row foot) compared with lower seeding rates. For each seeding rate, Florida 07 had lower stand counts than Georgia-06G and Georgia Green at the May 18 but not the April 21 planting dates. At the April 21 planting date, lower stand density was noted at the lowest seeding rate (two seed per row foot) but not the higher seeding rate for Georgia Green compared with Florida 07 and Georgia-06G, which had similar stand counts at all seeding rates.

Summary: Peanut seed is an increasingly costly input, which may account for nearly 20 percent of total production expenses. A surprising number of peanut producers are saving seed from the 2011 crop to plant in 2012. With the low TSWV incidence in this and similar studies, peanut growers have the option of reducing seeding rates. Over three year study period, equally high yields have been obtained with seeding rates ranging from 2 to the recommended six seed per foot of row. Seeding rate also had no impact on TSWV and stem rot incidence, while leaf spot intensified with increasing seeding rates on Georgia Green but not Florida 07 and Georgia-06G. Even with the greatly reduced TSWV pressure, disease incidence was higher in Georgia Green but not the more virus-resistant cultivars Georgia-06G and Florida 07 at the earlier April 21 but not the later May 18 planting date. Leaf spot intensity was also higher on two of three cultivars at the later planting date, higher yields were obtained across all peanut cultivars at the May 18 compared with the April 21 planting date. While Georgia Green and Georgia-06G had similarly high stem rot ratings, yield for the latter cultivar and Florida 07 were equally higher. Overall, reducing seeding rates did not negatively impact yields, nor did it greatly impact disease activity in peanut.

TABLE 1. INTERACTION OF PLANTING DATE AND CULTIVAR SELECTION ON TSWV INCIDENCE AND LEAF SPOT INTENSITY

Peanut cultivar	TSWV [1]		LS [2]	
	April 21	May 18	April 21	May 18
Florida 07	0.6 c	0.4 c	2.9 c	2.8 c
Georgia Green	3.1 a	0.8 bc	2.9 c	3.8 a
Georgia-06G	1.3 b	0.7 bc	2.8 c	3.3 b

[1] TSWV incidence is expressed as the number of hits per 60 foot of row.
[2] Leaf spot intensity was rated using the Florida 1 to 10 rating scale.
Means for TSWV incidence and leaf spot intensity that are followed by the same letter are not significantly different according to analysis of variance and the least significant difference (LSD) test ($P \leq 0.05$).

TABLE 2. IMPACT OF PLANTING DATE ON PEANUT YIELD

Planting date	Yield *(lb/A)*
April 21	4059 b
May 18	4271 a

Means in columns under each variable that are followed by the same letter are not significantly different according to the least significant difference (LSD) test ($P \leq 0.05$).

TABLE 3. STEM ROT INCIDENCE AND YIELD AS INFLUENCED BY CULTIVAR SELECTION

Peanut cultivar	Stem rot[1]	Yield *(lb/A)*
Florida 07	1.6 b	4226 a
Georgia-06G	2.4 a	4404 a
Georgia Green	3.1 a	3859 b

[1] Stem rot incidence is expressed as the number of hits of each disease per 60 foot of row.
Means in columns under each variable that are followed by the same letter are not significantly different according to the least significant difference (LSD) test (P ≤ 0.05).

TABLE 4. TSWV, STEM ROT INCIDENCE AND YIELD AS INFLUENCED BY SEEDING RATE

Seeding rate	TSWV [1]	SR [1]	Yield *(lb/A)*
2	1.4 a	2.1 a	3965 a
3	0.9 a	2.3 a	4156 a
4	1.1 a	2.4 a	4245 a
6	1.0 a	2.9 a	4305 a

[1] TSWV and stem rot incidence is expressed as the number of hits per 60 foot of row.
Means in each column that are followed by the same letter are not significantly different according to analysis of variance and the least significant difference (LSD) test (P ≤ 0.05).

TABLE 5. INTERACTION OF PLANTING DATE, SEEDING RATE, PEANUT CULTIVAR, AND SEEDING RATE ON LEAF SPOT INTENSITY IN 2011

	Leaf spot intensity [1]				
Seeding rate	Peanut cultivar			Planting date	
	Florida 07	Georgia 06G	Georgia Green	April 21	May 18
2	2.9 cd	2.9 cd	3.0 cd	2.8 c	3.0 bc
3	2.7 d	3.1 abcd	3.4 ab	2.8 c	3.4 ab
4	2.9 cd	2.9 cd	3.5 a	2.8 c	3.4 ab
6	2.9 cd	3.3 abc	3.4 ab	3.0 bc	3.5 a

[1] Leaf spot was rated using the Florida 1 to 10 rating scale was rated on September 15 and October 14 for the April 21 and May 18-planted peanuts.
Means for peanut cultivars and planting dates that are followed by the same letter are not significantly different according to analysis of variance and the least significant difference (LSD) test (P ≤ 0.05).

DISEASE INCIDENCE AND YIELD OF PEANUT AS IMPACTED BY CULTIVAR SELECTION AND INSECTICIDE TREATMENTS, GCREC

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

Objective: To assess the impact of peanut cultivar selection and early season insecticide treatments on thrips damage, as well as on leaf spot intensity and incidence of TSWV and white mold.

Methods: On June 7, commercial runner-market type peanut cultivars were planted at a rate of six seed per foot of row using conventional tillage practices in a Malbis fine sandy loam (OM<1%) soil in a field cropped to peanut every third year at the Gulf Coast Research and Extension Center. 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 insecticide treatments 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 in furrow applications of Thimet 20G at 5 pounds per acre, Orthene 90S applied as a seed dressing in the hopper box at 0.4 pound per 100 pounds of seed, and a non-treated control. Full canopy sprays of Echo 720 at 1.5 pints per acre on July 1 and July 26 were followed with applications of Provost 480SC at 10.7 fluid ounces per acre on August 10, August 23, September 9, and September 19 and Echo 720 at 1.5 pints per acre on October 3. 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: Stand counts, which represent the total number of plants per 30 row foot, were taken on June 21 on the two middle rows in each sub plot. Thrips damage on the leaves was assessed on June 29 using the following scale where 0 = no visible leaf scarring, 1 = 10 percent leaf area scarred, 2 = 20 percent leaf area scarred, 3 = 30 percent leaf area scarred, 4 = 40 percent leaf area scarred, to 10 = 100 percent leaf area affected and plants near death. Final tomato spotted wilt (TSWV) hit counts (one hit was defined as ≤ 1 foot of consecutive severely TSWV-damaged plants per row) were made on October 12. Early and late leaf spot were rated on October 12 using the 1 to 10 Florida peanut leaf spot scoring system where 1 = no disease, 2 = very few lesions on leaves in lower canopy, 3 = few lesions noticed on leaves in lower and upper canopy, 4 = some lesion in upper and lower canopy 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. Stem rot hit counts (one hit was defined as ≤ 1 foot of consecutive stem rot damaged plants per row) were made immediately after plot inversion on October 24. Yields were reported at 8 percent moisture. Statistical analyses were done on rank transformations of data. For presentation, ranks data are back transformed. Analyses of variance were done using the PROC MIXED procedure in SAS. Means were separated using Fisher's protected least significant difference (LSD) test (P≤0.05).

Results: The peanut cultivar x insecticide interaction for stand count, Thrips damage rating (TDR), TSWV and stem rot incidence, leaf spot intensity and yield were not significant, so pooled data are presented (Table 1).

Insecticide treatments had a significant impact on stand count, TDR, and leaf spot intensity but not the other variables (Table 1). Stand counts were lower for the Orthene 90S hopper box seed treatment than for Thimet 20G and the non-treated control. The non-treated control had a significantly higher TDR rating when compared with both the Orthene 90S hopper box seed dressing and in furrow Thimet 20G treatments, with the latter having the lowest TDR rating. Leaf spot intensity was higher for the Thimet 20G- than for the Orthene 90S-treated seed and the non-treated control. Stem rot and TSWV incidence as well as yields were similar for both insecticide treatments and the non-treated control.

Significant differences in stand counts, TSWV and stem rot incidence, and yield were noted between peanut cultivars (Table 1). Among all peanut cultivars, Georgia-10T and Georgia-09B had the highest stand counts, while the poorest stands were noted for Georgia-07W, Georgia Greener, and Georgia Green. Although TSWV incidence was very low, highest disease levels were observed in Georgia Green. In contrast, equally low disease indices were noted for Georgia-10T, Georgia-06G, Tifguard, Georgia Greener, and Florida 07. Florida 07 and Georgia Green had higher

stem rot indices than Georgia-09B, Georgia-06G, Georgia, 07W, Georgia Greener, and Tifguard. Yields were higher for Georgia-09B and Georgia-06G, while lowest yields were recorded for Georgia-10T.

Summary: Due to the late planting date, insecticide treatments had limited impact on the TDR ratings and ultimately none on TSWV incidence and pod yield when compared with the non-treated control. With respect to leaf spot and stem rot, dry weather patterns through much of the summer and early fall greatly restricted disease development. The significant but relatively small differences in TSWV and stem rot incidence probably had no impact on pod yields. Overall, highest yields were obtained with Georgia-09B and Georgia-06G.

DISEASE AND THRIPS DAMGE RATINGS AS INFLUENCED BY INSECTICIDE TREATMENT AND CULTIVAR SELECTION, GCREC, 2011

	Stand count[1]	TDR [2]	TSWV [3]	LS [4]	SR [3]	Yield *lb/A*
Insecticide means						
Thimet 20G 5 lb/A [5]	92 ab	1.4 c	0.4 a	2.6 a	1.1 a	5658 a
Orthene 90S 0.4 oz	90 b	1.9 b	0.7 a	2.5 b	1.4 a	5687 a
Non-treated control	94 a	2.3 a	0.5 a	2.4 b	1.1 a	5576 a
Cultivar means						
Florida 07	96 ab	1.8 a	0.4 bc	2.5 a	2.3 a	5761 b
Georgia-06G	92 bc	1.8 a	0.2 bc	2.5 a	1.0 bc	6051 a
Georgia-07W	85 e	1.9 a	0.7 b	2.5 a	1.1 bc	5539 b
Georgia-09B	100 a	1.8 a	0.6 b	2.3 a	0.6 c	6265 a
Georgia-10T	100 a	1.7 a	0.1 c	2.5 a	1.3 b	5131 d
Georgia Green	88 cde	1.8 a	1.5 a	2.5 a	1.4 ab	5335 c
Georgia Greener	83 de	1.9 a	0.4 bc	2.5 a	0.8 bc	5434 c
Tifguard	93 bcd	1.8 a	0.3 bc	2.6 a	1.1 bc	5646 b

[1] Stand count = total number of peanut plants per 30 row ft.
[2] TDR = Thrips damage rating where 0 = no visible leaf scarring, 1=10% leaf area scarred, 2=20% leaf area scarred, 3=30% leaf area scarred, 4=40% leaf area scarred, to 10=100% leaf area affected and plants near death.
[3] TSWV and stem rot incidence are expressed as the number of hits per 60 feet of row.
[4] Leaf spot (LS) was rated using the Florida 1 to 10 rating scale.
[5] Thimet 20G were applied as at-plant, in furrow treatments, while Orthene 90S was applied to seed in the hopper box at a rate of 0.4 ounces per 100 pounds of seed.
Means in each column that are followed by the same letter are not significantly different according to Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

COMPARISON OF PROVOST 433SC AND BRAVO WEATHER STIK PEANUT DISEASE Rx PROGRAMS ON PEANUT, GCREC

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

Objective: To validate the Bayer Provost 433SC Peanut Rx program for the control of leaf spot and stem rot on peanut as well as the yield response of two peanut cultivars.

Methods: On June 7 the peanut cultivars Georgia-06G and Tifguard were planted at a rate of six seed per foot of row using conventional tillage in a Malbis fine sandy loam (OM<1%) soil in a field cropped to peanut every third year. Temik 15G was applied at 5 pounds per acre in furrow for thrips control. An early cracking application of Gramoxone Inteon at 8 fluid ounces per acre + Storm at 1 pint per acre + 1 percent Induce (NIS) on June 21 was followed by an application of Gramoxone 8 fluid ounces per acre + Storm 1.5 pints per acre + 1 percent Induce + Butyrac 175 1 pint per acre on June 29. Postemergent weed control was obtained with an application of Poast at 1.5 pints per acre + Crop Oil at 1 quart per acre on July 12. The test was not irrigated. A split plot design with cultivars as whole plots and fungicide treatments as subplots was used. Whole plots were randomized in four complete blocks. Individual subplots consisted of four 30-foot rows spaced 3.2 feet apart. Proline 480SC at 5.7 fluid ounces per acre was applied to selected plots over the open seed furrow. Full canopy sprays were made using an ATV-mounted boom sprayer with three TX-8 nozzles per row at 10 gallons of spray per acre at 45 psi. Fungicide applications were made on July 11 (1), July 11 (1.5), July 26 (2), August 12 (3), August 22 (4), August 22 (4.5), September 8 (5), September 19 (6), and October 3 (7).

Disease Assessment: Early and late leaf spot were rated together on October 12 using the 1 to 10 Florida peanut leaf spot scoring system where 1 = no disease, 2 = very few leaf spots, 3 = few leaf spots in lower and upper canopy, 4 = some leaf spotting and ≤ 10 percent defoliation, 5 = leaf spots noticeable and ≤ 25 percent defoliation, 6 = leaf spots numerous and ≤ 50 percent defoliation, 7 = leaf spots very numerous and ≤ 75 percent defoliation, 8 = numerous leaf spots on few remaining leaves and ≤90 percent defoliation, 9 = very few remaining leaves covered with leaf spots and ≤ 95 percent defoliation, and 10 = plants defoliated or dead. Stem rot hit counts (one hit was defined as ≤ 1 foot of consecutive stem rot-damaged plants per row) were made immediately after plot inversion on October 24. Yields were reported at 9 percent moisture. Means were separated using Fisher's protected least significant difference (LSD) test (P≤0.05).

Results: Rainfall totals for July and September were above the 30-year average but were below average for June, August, and October. Based on Peanut Disease Risk Index guidelines, this site was rated as a medium and high risk for leaf spot and stem rot, respectively, on Georgia-06G and Tifguard. As a result, leaf spot disease was considerably below normal levels and leaf rust was absent. While leaf spot intensity was higher for Tifguard than Georgia-06G, stem rot incidence and pod yield were lower. Fungicide program influence on leaf spot and stem rot as well as pod yield did not significantly differ.

Summary: Given the relatively dry weather patterns for this site, the Peanut Rx guidelines greatly overestimated the risk for leaf spot and stem rot. As a result, the low risk, four-application Bravo Ultrex and Provost Peanut Rx programs provided equally effective control of both of the latter diseases as similar yield response when compared with the Peanut Rx-specified five- or seven-fungicide application programs.

COMPARISON OF PROVOST 433SC AND BRAVO WEATHER STIK PEANUT DISEASE Rx PROGRAMS ON PEANUT, GCREC

	Timing	No Sprays	Risk level	LS [1]	SR [2]	Yield *lb/A*
Cultivar means						
Tifguard	—	—	—	2.8 a	0.8 b	5974 b
Georgia-06G	—	—	—	2.5 b	1.4 a	6735 a
Fungicide means						
Bravo WS 1.5 pt	1-7	7	High	2.6 a	1.0 a	6450 a
Bravo WS 1.5 pt	1.5,3,4.5, 6,7	5	Med	2.7 a	1.2 a	6346 a
Bravo WS 1.5 pt	1,3,5,7	4	Low	2.8 a	1.7 a	6316 a
Bravo WS 1.5 pt	1,2,7	7	High	2.6 a	1.0 a	6423 a
Provost 433SC 8 fl oz	3-6					
Bravo WS 1.5 pt	1.5,7	5	Med	2.8 a	0.8 a	6526 a
Provost 433SC 8 fl oz	3,4.5,7					
Bravo WS 1.5 pt	1,7	4	Low	2.6 a	1.0 a	6228 a
Provost 433SC 8 fl oz	3,5					
Proline 5.7 fl oz	Early Post	7	High	2.7 a	1.2 a	6213 a
Bravo WS 1.5 pt	1,2,7					
Provost 433SC 8 fl oz	3-6					
Proline 5.7 fl oz	Early Post	5	Med	2.8 a	1.4 a	6251 a
Bravo WS	1.5,7					
Provost 433SC 8 fl oz	3,4.5,7					
Proline 5.7 fl oz	Early Post	4	Low	2.6 a	1.0 a	6407 a
Bravo WS	1,7					
Provost 433SC 8 fl oz	3,5					
Bravo WS 1.5 pt	1,2,7	7	High	2.6 a	1.1 a	6351 a
Provost 433SC 10.7 fl oz	3-6					

[1] Leaf spot diseases were rated using the Florida 1 to 10 leaf spot rating scale.
[2] Stem rot (SR) severity is expressed as the number of disease loci per 60 ft of row.
Means in each column followed by the same letter are not significantly different according to analysis of variance and Fisher's least significant difference (LSD) test ($P \leq 0.05$).
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COMPARISON OF RECOMMENDED FUNGICIDES FOR CONTROL OF EARLY LEAF SPOT ON PEANUT, PBU

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

Objective: To compare the effectiveness of recommended fungicide programs for the control of early leaf spot and the impact on the yield of two peanut cultivars.

Methods: The test site, which was first cropped to peanut in 2010, was disked and chiseled prior to sowing the runner market type peanut cultivars Georgia-06G and Tifguard at a rate of six seed per foot of row in an Independence (Cahaba) loamy fine sand (OM<1%) on May 26. Weed control was obtained with a preplant application of Pendant at 1.5 pints per acre + Charger at 1 pints per acre on May 24. Thrips control was obtained with an in furrow application of Phorate 20G at 5 pounds per acre. A hose-tow irrigation system was used to apply 0.5, 0.8, 0.7, 1.0, and 1.1 acre inches of water on May 26, June 16, July 13, August 22, and August 31, respectively. A split plot design with cultivar as whole plot and fungicide treatments as subplots was used. Individual subplots, which contained four 30-foot rows spaced 3 feet apart, were randomized within main plots which were replicated four times. Fungicide treatments were applied on June 27 (1), July 11 (2), July 27 (3), August 11 (4), August 25 (5), September 8 (6), and September 22 (7) with a four-row, tractor-mounted sprayer.

Disease Assessment: Early leaf spot severity was rated on October 1 using the 1 to 10 Florida peanut leaf spot scoring system where 1 = no disease, 2 = very few leaf spots, 3 = few leaf spots in lower and upper canopy, 4 = some leaf spotting and ≤ 10 percent defoliation, 5 = leaf spots noticeable and ≤ 25 percent defoliation, 6 = leaf spots numerous and ≤ 50 percent defoliation, 7 = leaf spots very numerous and ≤ 75 percent defoliation, 8 = numerous leaf spots on few remaining leaves and ≤90 percent defoliation, 9 = very few remaining leaves covered with leaf spots and ≤ 95 percent defoliation, and 10 = plants defoliated or dead. Stem rot hit counts (one hit was defined as ≤ 1 foot of consecutive stem rot damaged plants per row) were made immediately after plot inversion on October 6. Yields were reported at 10 percent moisture. Early leaf spot ratings and yields were compared among peanut cultivars using PROC MIXED procedure. Analysis of variance indicated that the cultivar effect on early leaf spot intensity and yield was not significant, so subsequent analyses were done on data pooled across cultivars for each variable. All statistical analyses on early leaf spot and yield values were done on rank transformations of data. For presentation, data are back transformed. Means were separated using Fisher's least significant difference (LSD) test ($P \leq 0.05$).

Results: Rainfall totals were below to well below the historical average through most of the summer and temperatures were often above average. While early leaf spot intensity was similar on Georgia-06G and Tifguard, the former cultivar had higher yields. Regardless of the fungicide program, stem rot incidence was minimal and data are not presented. Both of the Provost 433SC and Headline 2.09E programs proved equally effective in controlling early leaf spot. In addition to the latter fungicide programs, the season-long Echo 720 and Convoy + Echo 720 programs gave poorer leaf spot control when compared the Folicur 3.6F + Echo 720, Artisan 3.6E + Echo 720, and Quash programs. Yields for all fungicide programs did not significantly differ.

Summary: Despite higher disease ratings, Georgia-06G outyielded Tifguard. The most effective control of early leaf spot was obtained with the Provost 480SC and Headline programs. Both rates of Provost 480SC gave the same level of early leaf spot control. Disease pressure was insufficient for significant yield loss to occur, so yields for the Echo 720 standard and other fungicide programs did not significantly differ.

EARLY LEAF SPOT CONTROL ON PEANUT WITH RECOMMENDED FUNGICIDES COMPARED, PBU

	Application timing	ELS [1]	Yield *lb/A*
Peanut cultivar mean			
Georgia-06G	—	4.1 a	4188 a
Tifguard	—	3.9 a	3828 b
Fungicide mean (rate per A)			
Echo 720 1.5 pt	1-7	4.9 a	3708 a
Echo 720 1.5 pt	1,2,7	3.0 c	4405 a
Provost 433SC 8 fl oz	3,4,5,6		
Echo 720 1.5 pt	1,2,7	3.2 c	4006 a
Provost 433SC 10.7 fl oz	3,4,5,6		
Echo 720 1.5 pt	1,2,4,6,7	4.2 b	3866 a
Artisan 3.6E 26 fl oz + Echo 720 1.0 pt	3,5		
Equus 720 1.5 pt	1,2,4,6,7	4.8 a	3954 a
Convoy 1 pt + Echo 720 1.5 pt	3,5		
Echo 720 1.5 pt	1,2,4,6,7	3.6 c	4147 a
Headline 2.09E 9 fl oz	3,5		
Echo 720 1.5 pt	1,2,4,6,7	4.3 b	4096 a
Folicur 3.6F + Echo 720 1.0 pt	3,5		
Echo 720 1.5 pt	1,2,7	4.2 b	4057 a
Quash 50WDG 4 oz	3,4,5,6		

[1] Early leaf spot (ELS) intensity was rated using the Florida 1 to 10 peanut leaf spot rating scale. Means in each column that were followed by the same letter are not significantly different according to Fisher's least significant difference (LSD) test ($P \leq 0.05$).

YIELD RESPONSE AND DISEASE RATINGS OF RUNNER AND VIRGINIA MARKET TYPE PEANUT CULTIVARS IN CENTRAL ALABAMA, PBU

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

Objective: To compare the yield response and disease susceptibility of commercial runner and Virginia market type peanut cultivars in Central Alabama.

Methods: The test site, which was first cropped to peanut in 2010, was disked and chiseled prior to sowing runner and Virginia market type peanut cultivars at a rate of six seed per foot of row in an Independence (Cahaba) loamy fine sand (OM<1%) on May 26. Weed control was obtained with a preplant application of Pendant at 1.5 pints per acre + Charger at 1 pint per acre on May 24. Thrips control was obtained with an in furrow application of Phorate 20G at 5 pounds per acre. A hose-tow irrigation system was used to apply 0.5, 0.8, 0.7, 1.0, and 1.1 acre inches of water on May 26, June 16, July 13, August 22, and August 31, respectively. Plots, which contained four 30-foot rows spaced 3 feet apart, were arranged in a randomized complete block with six replications. To control leaf spot diseases, full canopy applications of Echo 720 6F at 24 fluid ounces per acre were made on June 27, July 11, July 27, August 11, August 25, and September 8 with a four-row, tractor-mounted sprayer.

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

Results: While rainfall totals were below to well below the historical average through most of the summer months, temperatures were above throughout most of the summer of 2011. Stem rot incidence was uniformly low across all peanut cultivars and those data are not presented. With the notable exception of Georgia-09B, early leaf spot intensity was lower for the runner than Virginia peanut cultivars. The level of lesion development and premature defoliation attributed to early leaf spot was higher on Georgia-09B compared with all other runner peanut cultivars, all of which had similar disease ratings. Among the Virginia peanuts, early leaf spot levels on NC VII were lower compared with Phillips, Sugg, and Gregory but not Bailey, Phillips, and Perry. Also, TSWV incidence was significantly lower for Sugg and Bailey than for Gregory, NCVII, and Philips but not Perry. In contrast, all of the runner peanut cultivars had similarly low TSWV incidence ratings. Among the runner peanut cultivars, equally high yields were recorded for Florida 07, Tifguard, and Georgia-06G, while Georgia-10T. Georgia-09B, Georgia Greener, and Georgia-07 had similarly low yields. Of the Virginia peanut cultivars, only Phillips had yields comparable to runner peanut cultivar Florida 07. Yields for Bailey, Gregory, NC VII, Perry, and Sugg did not significantly differ.

Summary: While the overall early leaf spot and TSWV levels were low, significant differences in ratings were noted among the cultivars tests. With some exceptions, the runner peanut cultivars had lower ratings for both diseases and compared with the Virginia peanut cultivars. Yields for the two market types were mixed.

DISEASE RATINGS AND YIELDS FOR RUNNER AND VIRGINIA MARKET TYPE PEANUTS IN CENTRAL ALABAMA IN 2011

Peanut type	LS[1]	TSWV [2]	Yield (lb/A)
Runner			
Florida 07	4.5 de	1.0 bcd	4264 a
Georgia-06G	4.5 de	0.7 cd	3731 abcd
Georgia-07W	4.3 e	1.0 bcd	3643 b-e
Georgia-09B	5.7 a	0.7 cd	3466 cdef
Georgia-10T	4.3 e	0.2 d	3241 def
Georgia Greener	4.4 e	1.8 abcd	3492 b-f
Tifguard	4.4 e	0.3 d	4017 ab
Virginia			
Bailey	4.9 bcd	0.0 d	3352 cdef
Gregory	5.2 b	3.7 a	3056 f
NC V11	4.6 cde	3.0 ab	3393 cdef
Perry	5.0 bc	1.8 abcd	3546 b-f
Phillips	5.3 ab	2.8 abc	3802 abc
Sugg	5.1 b	0.2 d	3189 ef

[1] Early leaf spot (ELS) intensity was rated using the Florida 1 to 10 peanut leaf spot rating scale.

[2] TSWV incidence is expressed as the number of disease loci per 60 ft of row.

Means in each column that are followed by the same letter are not significantly different according Fisher's least significant difference (LSD) test ($P \leq 0.05$).

YIELD RESPONSE AND DISEASE RATINGS OF COMMERCIAL RUNNER TYPE PEANUT VARIETIES IN SOUTH ALABAMA, BARU

A. K. Hagan, K. L. Bowen, and J. R. Akridge

Objective: To assess yield response and the reaction of commercial runner peanut cultivars to leaf spot diseases and stem rot.

Methods: On May 25, commercial runner peanut lines were planted at a rate of approximately six seed per foot of row in a field that was cropped to peanut the previous two years in a Benndale sandy loam soil (OM<1 percent). A preemergent weed control broadcast application of Dual Magnum II at 1.3 pints per acre on May 25 was followed with broadcast applications of Shadow at 12 fluid ounces per acre on July 13 and a tank mixture of Cadre 70DG at 0.72 ounce per acre + Strongarm 84WDG at 0.223 ounce per acre on July 14. Escape weeds were plowed with flat sweeps or pulled by hand. The study was not irrigated. Plots that consisted of four 30–foot rows spaced 3 feet apart were arranged in a randomized complete block with six replications. Full canopy sprays of 1.5 pints per acre of Echo 720 6F were applied on July 7, July 21, August 4, August 18, September 1, September 15, and September 26 with a tractor-mounted boom sprayer with three TX-8 nozzles per row calibrated to deliver 15 gallons per acre of spray volume at 45 psi.

Disease Assessment: Final tomato spotted wilt virus (TSWV) loci counts (one locus was defined as ≤ 1 foot of consecutive severely TSWV-damaged plants per row) were made on September 26. Early and late leaf spots were rated on October 5 using the 1 to 10 Florida peanut leaf spot scoring system where 1 = no disease, 2 = very few leaf spots, 3 = few leaf spots in lower and upper canopy, 4 = some leaf spotting and ≤ 10 percent defoliation, 5 = leaf spots noticeable and ≤ 25 percent defoliation, 6 = leaf spots numerous and ≤ 50 percent defoliation, 7 = leaf spots very numerous and ≤ 75 percent defoliation, 8 = numerous leaf spots on few remaining leaves and ≤90 percent defoliation, 9 = very few remaining leaves covered with leaf spots and ≤ 95 percent defoliation, and 10 = plants defoliated or dead. Stem rot hit counts (one hit was defined as ≤ 1 foot of consecutive stem rot-damaged plants per row) were made immediately after plot inversion on October 5. Yields were reported at 7 percent moisture. Statistical analyses for TSWV, LS, and SR but not yield were done on rank transformations of data. For presentation, data for TSWV, LS, and SR are back transformed. Means were separated using Fisher's least significant difference (LSD) test (P≤0.05).

Results: Rainfall totals for May, June, and August were below too well below the 30-year average and near normal for July and September, while temperatures ranged from above too well above normal during the same time period. Since very low TSWV ratings were recorded for all cultivars, data are not presented. Leaf spot development was slowed by periodic dry weather patterns. Higher leaf spot intensity was noted on Georgia-09B and Georgia Green, while similarly low leaf spot levels were seen in Florida 07, Georgia-07W, Georgia-10T, Georgia Greener and Tifguard. Stem rot incidence was equally low on Georgia-06G and Georgia-10T, while highest ratings for this disease were recorded for Georgia-09B and Tifguard. Florida 07, Georgia-06G, and Georgia Greener produced equally high yields, while equally low yields were noted for Tifguard, Georgia Green, Georgia-07W, Georgia-09B, and Georgia-10T.

Summary: With the exception of leaf spot on Georgia Green along with leaf spot and stem rot on Georgia-09B, diseases did not appear to have a significant impact on yield. As has been noted in previous field trials, highest yields were reported for Florida 07 and Georgia-06G, while Tifguard had among the lowest yield. High leaf spot and stem rot ratings for Georgia-09B, which have also been noted at other study locations in 2011, mean that this cultivar should probably not be planted on sites with a high rate of leaf spot and/or where stem rot damage has previously occurred.

DISEASE RATINGS AND YIELDS FOR RECOMMENDED RUNNER PEANUT CULTIVARS IN SOUTH ALABAMA, 2011

Peanut cultivar	LS [1]	SR [2]	Yield (lb/A)
Florida 07	4.3 c	2.2 bc	4407 a
Georgia-07W	3.6 c	2.2 bc	3908 bc
Georgia-06G	4.7 b	1.7 cd	4144 ab
Georgia Green	5.4 a	2.2 bc	3576 c
Georgia Greener	4.3 c	3.7 bc	3927 abc
Georgia-09B	5.6 a	6.5 a	3725 bc
Georgia-10T	4.1 c	0.2 d	3691 bc
Tifguard	4.1 c	3.8 ab	3642 c

[1] Early and late leaf spots were rated using the Florida 1 to 10 peanut leaf spot rating scale.

[2] Stem rot incidence is expressed as the number of hits per 60 foot of row.

Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P \leq 0.05$). Letters following data, when different, indicate significant differences.

Alabama's Agricultural Experiment Station
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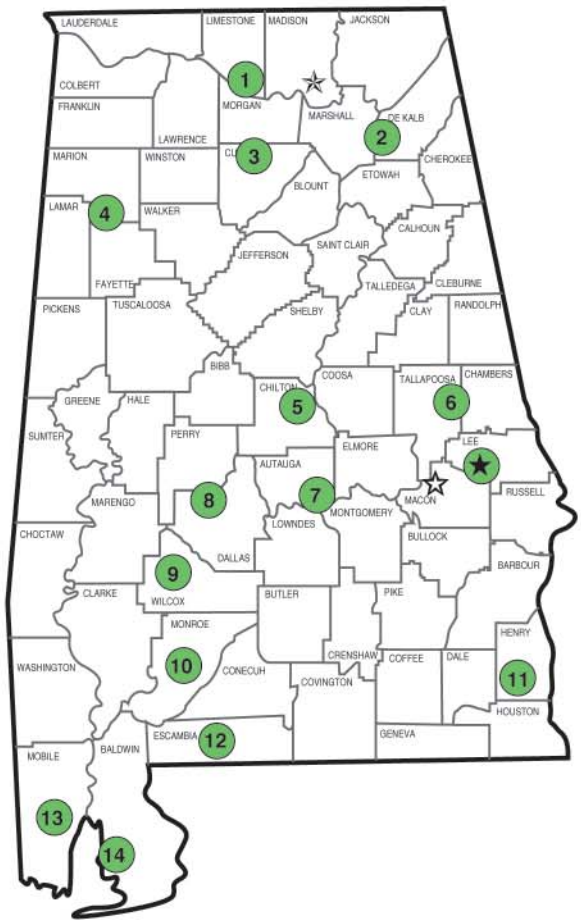

Research Unit Identification

★ 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.
3. North Alabama Horticulture Research Center, Cullman.
4. Upper Coastal Plain Agricultural Research Center, Winfield.
5. Chilton Research and Extension Center, Clanton.
6. Piedmont Substation, Camp Hill.
7. Prattville Agricultural Research Unit, Prattville.
8. Black Belt Research and Extension Center, Marion Junction.
9. Lower Coastal Plain Substation, Camden.
10. Monroeville Agricultural Research Unit, Monroeville.
11. Wiregrass Research and Extension Center, Headland.
12. Brewton Agricultural Research Unit, Brewton.
13. Ornamental Horticulture Research Center, Spring Hill.
14. Gulf Coast Research and Extension Center, Fairhope.