Peanut Disease Control Field Trials, 2010: Experimental Fungicide & Cultivar Trials

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Peanut Disease Control Field Trials, 2010 Experimental Fungicide and Cultivar Trials

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

INTRODUCTION

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

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

During the 2010 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 in all trials was not as

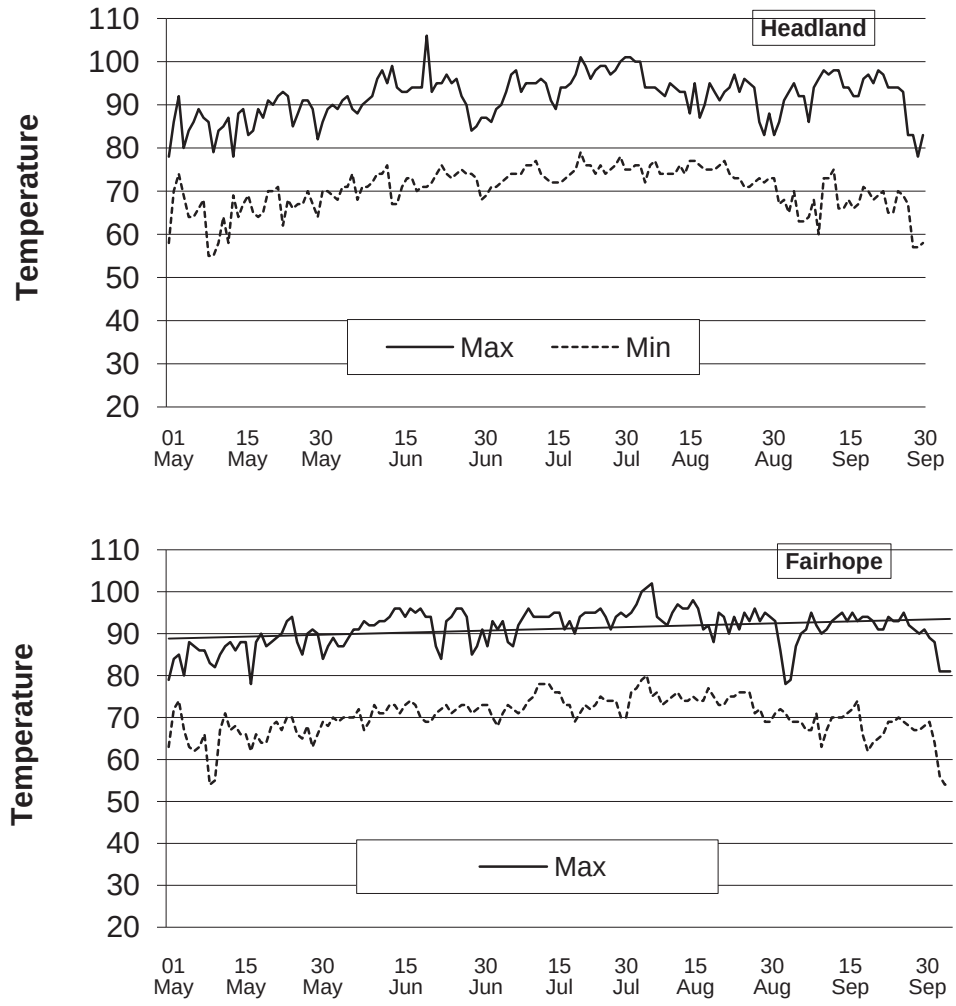

Figure 1. Daily minimum and maximum temperature (ºF), May to October 2010.

severe as previously observed in all trials, and due to higher soil temperatures soil-borne disease incidence was higher than that observed in previous years 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.

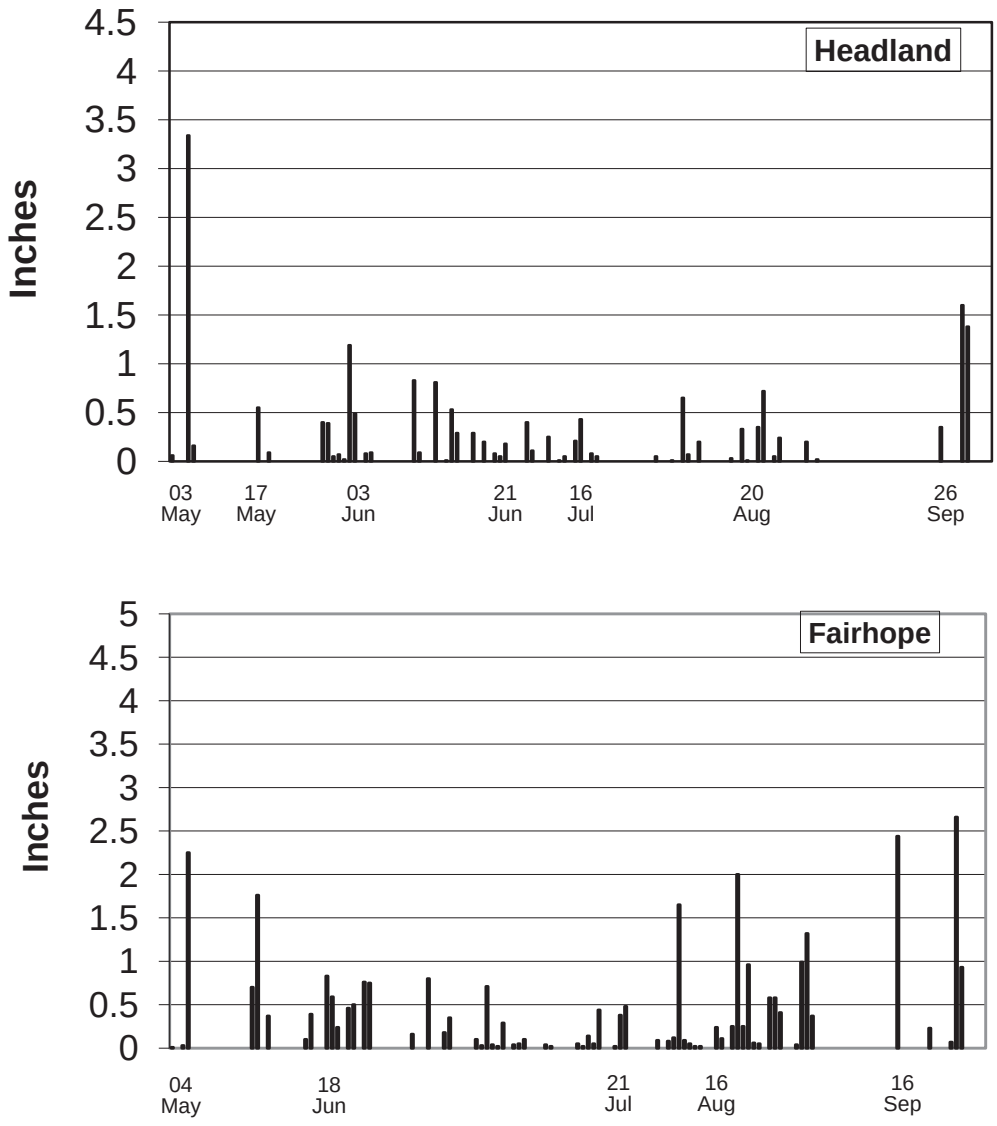

Figure 2. Daily precipitation (inches), May to October 2010.

EVALUATION OF TOPGUARD FOR CONTROL OF EARLY AND LATE LEAF SPOT AND SOUTHERN STEM ROT OF PEANUT IN SOUTHEAST ALABAMA, WREC

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

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

Methods: Peanut cultivar Georgia 06G was planted at the Wiregrass Research and Extension Center in Headland, Alabama, in a field with a history of peanut production on May 20. The soil type was a Dothan sandy loam (organic matter <1 percent). Seed were sown at a rate of approximately five seed per foot of row, and recommendations of the Alabama Cooperative Extension System for tillage, fertility, weed, and nematode control were followed. On March 15, the test area was turned. On May 19, 1 quart per acre of Sonalan + 0.45 ounce per acre of Strongarm were applied and incorporated for preemergent weed control. Thrips were controlled with an in-furrow application of 6.7 pounds per acre of Temik 15G at planting. On July 13, 1.5 pints per acre of 2,4 DB was applied for postemergent weed control.

Plots, which consisted of four 30-foot rows spaced 3 feet apart, were arranged in a randomized complete block with six replicates. Plots were located under a central pivot irrigation system and irrigated 0.75 inch on July 1; 1 inch on July 19, August 4, and August 12; 0.75 inch on August 17 and August 26; and 1 inch on September 7 and September 14. Fungicides were applied on a 14-day schedule using a four-row, tractor-mounted boom sprayer with three TX8 nozzles per row calibrated to deliver 15 gallons per acre on June 28, July 12, July 26, August 9, August 24, September 8, and September 21.

Disease Assessment: Early and late leaf spot were visually rated on October 1 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 (SR) loci (one locus was defined as ≤ 1 foot of consecutive symptoms and signs of the disease) were made on October 4 immediately after plot inversion. Plots were harvested on October 8 and yields were reported at 8.7 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 2010 peanut production season, temperatures were at or above normal and monthly rainfall totals were normal throughout the season. Leaf spot severity progressed during the season but due to high temperatures and lack of rainfall, severity was less than what had been observed in previous years. With the exception of the Echo 720/Topguard (28 fluid ounces per acre) and Echo 720/Topguard (7 fluid ounces) + Echo programs, all other Topguard programs gave significantly poorer leaf spot control than the season-long Echo 720 standard. While the level of leaf spot control obtained with the Echo 720/Muscle 3.6F and Echo 720/Echo 720 + Convoy programs was significantly worse compared with the Echo 720 standard, other programs and Echo 720 gave similar control of this disease. The Headline/Folicur/Headline/Bravo WS program gave better control of stem rot than did all the Topguard programs. All of the Topguard programs with the exception of the Echo 720/Topguard (10 fluid ounces) and the Echo 720/Topguard (28 fluid ounces) programs gave significantly worse control of stem rot than did the season-long Echo 720 standard. Stem rot incidence with the remaining fungicide programs was significantly better than the Echo-only treatment. Of the treatment programs evaluated, none of the treatment regimes that included Topguard yielded significantly better than did the Echo-only standard. Highest yield was with the Headline/Muscle/Headline/Echo treatment program. The Echo/Muscle, Echo/Echo + Convoy, and Echo/Provost treatments had yields similar to the Headline treatment.

EVALUATION OF TOPGUARD FOR CONTROL OF EARLY AND LATE LEAF SPOT AND SOUTHERN STEM ROT OF PEANUT IN SOUTHEAST ALABAMA, WREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	SR[3]	Yield *lb/A*
Echo 720 24.0 fl oz	1,2,7	3.7	8.8	4066
Topguard 7.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	4.0	5.8	4027
Topguard 10.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	3.5	8.0	4574
Topguard 14.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	3.0	5.2	4559
Topguard 28.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.8	7.0	4364
Topguard 7.0 fl oz + Echo 720 16.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	4.0	3.2	4723
Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,4,6,7	2.8	5.2	4582
Abound 2.08SC 18.5 fl oz	3,5			
Echo 720 24.0 fl oz	1,2,7	4.8	2.7	4856
Echo 720 16.0 fl oz + Convoy 13.0 fl oz	3,4,5,6			
Headline 2.09EC 6.0 fl oz	1,2	3.2	1.8	5114
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	2.6	5.3	4927
Provost 433SC 8.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.8	2.3	4888
Provost 433SC 10.7 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1-7	2.8	9.2	4223
LSD (P ≤ 0.05)		***0.4***	***2.9***	***504***

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

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

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

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

EVALUATION OF FONTELIS 200SC AND EXPERIMENTAL FUNGICIDES DPX YT 669, Q8Y78 SC, AND QFA61 FOR CONTROL OF EARLY AND LATE LEAF SPOT AND SOUTHERN STEM ROT OF PEANUT 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 experimental fungicides DPX YT 669, Q8Y78 SC, and QFA61 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 20 at the Wiregrass Research and Extension Center in Headland, Alabama, in a field with a history of peanut production. Seed were sown at a rate of approximately five seed per foot of row, and recommendations of the Alabama Cooperative Extension System for tillage, fertility, weed, and nematode control were followed. The soil type was a Dothan sandy loam (organic matter <1 percent). On May 19, 1 quart per acre of Sonalan + 0.45 ounce per acre of Strongarm were applied and incorporated for preemergent weed control. Thrips were controlled with an in-furrow application of 6.7 pounds per acre of Temik 15G at planting. On July 13, 1.5 pints per acre of 2,4 DB was applied for postemergent weed control.

Plots, which consisted of four 30-foot rows spaced 3 feet apart, were arranged in a randomized complete block with six replicates. Plots were located under a central pivot irrigation system and irrigated 0.75 inch on July 1; 1 inch on July 19, August 4, and August 12; 0.75 inch on August 17 and August 26; and 1 inch on September 7 and September 14. Fungicides were applied on a 14- to 21-day schedule on June 28, July 7, July 13, July 26, August 9, August 24, September 3, and September 16 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 27 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 (SR) loci (one locus was defined as < 1 foot of consecutive symptoms and signs of the disease) were made on October 5 immediately after plot inversion. Plots were harvested on October 8 and yields were reported at 7.13 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

Results: During the 2010 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 had been observed in previous years. Fungicide programs YT 669 + Induce, Q8Y78 SC + Induce, and Echo/Abound were equally effective in controlling leaf spot and gave significantly better control than Echo 720 alone. All others were equally effective as the season-long Echo 720 standard. Stem rot incidence was higher than in previous years. The best stem rot control was observed with the Q8Y78 SC + Induce and Headline/Convoy + Echo/Echo programs. All remaining programs had significantly lower stem rot incidence than the season-long Echo 720 standard. With the exception of season-long Q8Y78 SC and Echo programs, along with the Echo/Abound 2.08 programs, the Headline/Convoy + Echo/Echo and remaining fungicide programs had similar yields. Poorest yield response was obtained with the season-long Echo 720 standard.

EVALUATION OF FONTELIS 200SC AND EXPERIMENTAL FUNGICIDES DPX YT 669, Q8Y78 SC, AND QFA61 FOR CONTROL OF EARLY AND LATE LEAF SPOT AND SOUTHERN STEM ROT OF PEANUT IN SOUTHEAST ALABAMA, WREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	SR[3]	Yield *lb/A*
Fontelis 200 SC 16.0 fl oz +	1-7	3.3	1.7	4550
Induce 0.125 percentv/v				
DPX YT 669 6.0 fl oz +	1-7	2.8	4.2	4267
Induce 0.125 percent v/v				
DPX YT 669 12.0 fl oz +	1-7	2.3	4.3	4146
Induce 0.125 percent v/v				
Q8Y78 18.0 fl oz +	1-7	2.4	4.5	4453
Induce 0.125 percent v/v				
Headline 2.09EC 9.0 fl oz	1.5	3.1	3.5	4579
Fontelis 200SC 16.0 fl oz	3,4,5			
Echo 720 24.0 fl oz	6,7			
QFA61 14.45 fl oz	1,2	2.7	5.5	4472
Provost 433SC 8.0 fl oz	3,4,5			
Echo 720 24.0 fl oz	6,7			
Headline 2.09EC 9.0 fl oz	1.5	2.4	5.2	4201
Provost 433SC 8.0 fl oz	3,4,5			
Echo 720 24.0 fl oz	6,7			
Headline 2.09EC 9.0 fl oz	1.5	2.9	1.5	4646
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	3.5	5.2	4404
Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.5	4.8	4203
Provost 433SC 8.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,4,6,7	2.3	5.7	4172
Abound 2.08SC 18.2 fl oz	3,5			
Echo 720 24.0 fl oz	1,2,4,6,7	2.5	5.2	4259
Echo 720 24.0 fl oz + Convoy 21.0 fl oz	3,5			
Headline 2.09EC 9.0 fl oz	1.5	2.7	4.3	4259
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	12.5	3162
LSD (P ≤ 0.05)		***0.4***	***2.7***	***467***

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

EVALUATION OF PROLINE 480SC, PROVOST 433SC, PROPULSE, AND ABSOLUTE 500SC FOR CONTROL OF EARLY AND LATE LEAF SPOT AND SOUTHERN STEM ROT OF PEANUT IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate Proline 480SC in-furrow, Provost 433SC, Propulse, and Absolute 500SC and compare them with other currently registered fungicides applied in-furrow at planting or as a foliar spray 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, in a field with a history of peanut production on May 20. The soil type was a Dothan sandy loam (organic matter <1 percent). Seed were sown at a rate of approximately five seed per foot of row, and recommendations of the Alabama Cooperative Extension System for tillage, fertility, weed, and nematode control were followed. On March 9, the test area was turned. On April 14, 1 ton of lime per acre was applied to the test area. On April 15, 1 quart per acre of Sonalan was applied and incorporated for preemergent weed control. Thrips were controlled with an in-furrow application of 6.7 pounds per acre of Temik 15G at planting. On June 8, 4 ounces per acre of Cadre + 1 pint per acre of 2,4 DB was applied for postemergent weed control.

Plots, which consisted of four 30-foot rows spaced 3 feet apart, were arranged in a randomized complete block with six replicates. In-furrow fungicides were applied at planting with a tractor-mounted drop sprayer calibrated to deliver 10 gallons per acre at 35 psi. Plots were located under a central pivot irrigation system and irrigated 1 inch on July 22, July 29, August 2, and August 10; 0.75 inch on August 18, August 24, August 31; and 0.5 inch on September 7. Fungicides were applied on a 14- to 21-day schedule using a four-row, tractor-mounted boom sprayer with three TX8 nozzles per row calibrated to deliver 15 gallons per acre on June 28, July 7, July 12, July 26, August 10, August 25, September 7, and September 20.

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

Counts of stem rot (SR) loci (one locus was defined as ≤ 1 foot of consecutive symptoms and signs of the disease) were made on September 30 immediately after plot inversion. Plots were harvested on October 4 and yields were reported at 7.96 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P = 0.05$).

Results: During the 2010 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 below what was usually observed. All of the treatment programs except for the Echo/Absolute + Muscle, Echo/Muscle, Echo/Abound, and Echo/Echo + Convoy gave significantly better leaf spot control than the season-long Echo 720 standard. With the exception of the Stratego/Provost/Stratego/Echo, and Echo/Abound programs, all other programs gave significantly better stem rot control than the season-long Echo 720 standard. Yield response with the Proline (IF)/Echo/Provost (10.7 fluid ounces) program was superior to the Stratego/Provost/Stratego/Echo, Echo/Convoy + Echo, and season-long Echo standard programs. Of the remaining treatment programs, only the Proline (IF)/Echo/Provost (8 fluid ounces) had significantly better yield than the season-long Echo 720 standard. Yields for the remaining fungicide programs were similar to the season-long Echo 720 standard.

EVALUATION OF PROLINE 480SC, PROVOST 433SC, PROPULSE, AND ABSOLUTE 500SC FOR CONTROL OF EARLY AND LATE LEAF SPOT AND SOUTHERN STEM ROT OF PEANUT IN SOUTHEAST ALABAMA, WREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	SR[3]	Yield *lb/A*
Proline 480SC 5.7 fl oz	IF	2.8	2.1	4897
Echo 720 24.0 fl oz	1,2,7			
Provost 433SC 8.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.8	4.7	4711
Provost 433SC 8.0 fl oz	3,4,5,6			
Proline 480SC 5.7 fl oz	IF	2.6	3.5	5227
Echo 720 24.0 fl oz	1,2,7			
Provost 433 10.7 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.8	5.8	4582
Provost 433SC 10.7 fl oz	3,4,5,6			
Propulse 13.7 fl oz	IF	2.6	3.8	4679
Echo 720 24.0 fl oz	1,2,7			
Provost 433SC 10.7 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	3.0	3.8	4655
Absolute 500SC 3.5 fl oz + Muscle 3.6F 5.2 fl oz	3,4,5,6			
Absolute 500SC 3.5 fl oz	1,2	2.8	3.0	4550
Provost 433SC 8.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	7			
Stratego 7.0 fl oz	1,2	2.6	4.3	4429
Provost 433SC 8.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	7			
Stratego 7.0 fl oz	1.5	2.6	4.5	4759
Provost 433SC 8.0 fl oz	3,4,5			
Stratego 7.0 fl oz	6			
Echo 720 24.0 fl oz	7			
Echo 720 24.0 fl oz	1,2,7	3.7	3.8	4307
Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,4,6,7	3.3	4.8	4509
Abound 2.08SC 18.2 fl oz	3,5			
Echo 720 24.0 fl oz	1,2,4,6,7	3.2	3.8	4292
Echo 720 24.0 fl oz + Convoy 21.0 fl oz	3,5			
Headline 2.09EC 6.0 fl oz	1,2	2.8	3.3	4687
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	3.2	7.5	4090
LSD (P = 0.05)		***0.4***	***3.1***	***726***

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

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

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

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

EVALUATION OF SERENADE SOIL FOR ITS EFFECT ON STAND, VIGOR, AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate Serenade Soil and compare it with other currently registered fungicides applied in-furrow at planting for its effects on stand, vigor, soil-borne diseases, 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, in a field with a history of peanut production on May 20. The soil type was a Dothan sandy loam (organic matter <1 percent). Seed were sown at a rate of approximately five seed per foot of row, and recommendations of the Alabama Cooperative Extension System for tillage, fertility, weed, and nematode control were followed. On March 9, the test area was turned. On April 14, 1 ton of lime per acre was applied to the test area. On April 15, 1 quart per acre of Sonalan was applied and incorporated for preemergent weed control. Thrips were controlled with an in-furrow application of 6.7 pounds per acre of Temik 15G at planting. On June 8, 4 ounces per acre of Cadre + 1 pint per acre of 2,4 DB was applied for postemergent weed control.

Plots, which consisted of four 30-foot rows spaced 3 feet apart, were arranged in a randomized complete block with six replicates. In-furrow fungicides were applied at planting with a tractor-mounted drop sprayer calibrated to deliver 10 gallons per acre at 35 psi. Plots were located under a central pivot irrigation system and irrigated 1 inch on July 22, July 29, August 2, and August 10; 0.75 inch on August 18, August 24, August 31; and 0.5 inch on September 7. Fungicides were applied on a 14- to 21-day schedule using a four-row, tractor-mounted boom sprayer with three TX8 nozzles per row calibrated to deliver 15 gallons per acre on June 28, July 7, July 12, July 26, August 10, August 25, September 7, and September 20.

Disease Assessment: Stand counts were made from each plot on June 14. Counts were made from one center row from each plot and numbers were made from one 30-foot row. Vigor ratings were also made on June 14 by evaluating each plot and comparing them to each other. Vigor was rated on the following scale: 1 = least vigorous,…5 = most vigorous growth.

Counts of stem rot (SR) loci (one locus was defined as ≤ 1 foot of consecutive symptoms and signs of the disease) were made on September 30 immediately after plot inversion. Plots were harvested on October 4 and yields were reported at 7.96 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P = 0.05$).

Results: During the 2010 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 below what was usually observed. All of the plots that were treated with Serenade Soil at planting had higher stand counts than did those that were treated with either Abound 2.08SC, Proline 480SC, or not treated. Serenade Soil (115 fluid ounces per acre) had significantly higher stand than did those treated with Abound 2.08SC or Proline 480SC. All others had similar stand. The plots treated with Abound 2.08SC were more vigorous than the other treated plots. However, they were only significantly better than those treated with Serenade Soil (115 fluid ounces) and the non-treated plots. The in-furrow applications had no effect on leaf spot severity since all plots were treated with chorothalonil (Echo 720 full-season). No significant differences were observed for control of stem rot among any of the plots; however, the lowest number of stem rot hits were seen in those plots treated with Serenade Soil (33 fluid ounces) and Abound 2.08SC. No significant differences in yield were obtained from any of the treated plots; however, all the treated plots yielded numerically higher than those which were not treated at planting.

EVALUATION OF SERENADE SOIL FOR ITS EFFECT ON STAND, VIGOR, AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHEAST ALABAMA, WREC

Treatment and rate/A	Application timing[1]	Stand[2]	Vigor[3]	SR[4]	Yield *lb/A*
Serenade Soil 33 fl oz	In-furrow at planting	84.2	3.7	4.3	4485
Echo 720 24.0 fl oz	1-7				
Serenade Soil 33 fl oz	In-furrow at planting	85.7	3.0	5.0	4283
Echo 720 24.0 fl oz	1-7				
Serenade Soil 33 fl oz	In-furrow at planting	81.3	3.3	5.7	4364
Echo 720 24.0 fl oz	1-7				
Serenade Soil 33 fl oz	In-furrow at planting	75.2	3.8	4.3	4404
Echo 720 24.0 fl oz	1-7				
Serenade Soil 33 fl oz	In-furrow at planting	75.2	3.2	5.0	4178
Echo 720 24.0 fl oz	1-7				
Untreated Control	In-furrow at planting	77.5	3.0	5.7	4001
Echo 720	1-7				
LSD (P = 0.05)		***9.0***	***0.7***	***3.6***	***607***

[1] Fungicide applications were made at 14-day intervals.
[2] Stand counts were made from 30 ft of row.
[3] Vigor was rated on a scale of 1 to 5, where 1 = least vigorous,…5 = most vigorous.
[4] Stem rot (SR) incidence is expressed as the number of disease hits per 60 feet of row.
Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

EVALUATION OF QUASH, TEBUZOL 3.6F, TOPSIN M, AND ELAST FOR CONTROL OF EARLY AND LATE LEAF SPOT AND SOUTHERN STEM ROT OF PEANUT IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate the new fungicide Quash along with Tebuzol 3.6F, Topsin M, and Elast and to 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 20 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 (organic matter <1 percent). On March 15, the test area was turned. On May 19, 1 quart per acre of Sonalan + 0.45 ounce per acre of Strongarm were applied and incorporated for preemergent weed control. Thrips were controlled with an in-furrow application of 6.7 pounds per acre of Temik 15G at planting. On July 13, 1.5 pints per acre of 2,4 DB was applied for postemergent weed control.

Plots, which consisted of four 30-foot rows spaced 3 feet apart, were arranged in a randomized complete block with six replicates. Plots were located under a central pivot irrigation system and irrigated 0.75 inch on July 1; 1 inch on July 19, August 4, and August 12; 0.75 inch on August 17 and August 26; and 1 inch on September 7 and September 14. Fungicides were applied on a 14-day schedule using a four-row, tractor-mounted boom sprayer with three TX8 nozzles per row calibrated to deliver 15 gallons per acre on June 28, July 13, July 26, August 9, August 24, September 3, and September 16.

Disease Assessment: Early and late leaf spot were visually rated on September 27 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 (SR) loci (one locus was defined as ≤ 1 foot of consecutive symptoms and signs of the disease) were made on October 5 immediately after plot inversion. Plots were harvested on October 8 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 ($P = 0.05$).

Results: During the 2010 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. Fungicide programs Echo/Quash (2.5 ounces per acre) and Elast/Muscle gave significantly poorer leaf spot control than did all other programs including the season-long Echo 720 standard. While Elast/Elast + Muscle/Echo, Elast/Elast + Artisan/Echo, Echo/Muscle, and Echo/Echo + Convoy were equally effective in controlling leaf spot compared with the Echo 720 standard, the remaining programs gave better leaf spot control. Stem rot incidence was higher than in previous years. The best stem rot control was obtained with the Echo/Echo + Convoy program. Stem rot incidence ratings for the remaining programs and season-long Echo 720 standard were similar. Similar high yields were recorded for the Echo 720/Provost (10.7 fluid ounces per acre), Echo 720/Convoy + Echo 720, Echo 720/Quash, Echo/Muscle, and Headline/Muscle/Headline/Echo 720 programs. All of the latter programs except for the Echo 720/Quash program had higher yields compared with the season-long Echo 720 standard. Higher yield was obtained with Provost 433SC (10.7 fluid ounces per acre) than with Provost 433SC (8 fluid ounces per acre). In contrast, application rate did not impact yield response with Quash. Yields for all other fungicide programs were similar to that obtained with the Echo 720 standard.

EVALUATION OF QUASH, TEBUZOL 3.6F, TOPSIN M, AND ELAST FOR CONTROL OF EARLY AND LATE LEAF SPOT AND SOUTHERN STEM ROT OF PEANUT IN SOUTHEAST ALABAMA, WREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	SR[3]	Yield *lb/A*
Echo 720 24.0 fl oz	1,2,7	3.9	8.2	4404
Quash 2.5 oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.7	4.7	4695
Quash 4.0 oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.8	6.8	4477
Tebuzol 3.6F 7.2 fl oz + Topsin M 5.0 fl oz	3,5			
Tebuzol 3.6F 7.2 fl oz	4,6			
Echo 720 24.0 fl oz	1,2	2.8	7.2	4437
Tebuzol 3.6F 7.2 fl oz + Topsin M 5.0 fl oz	3,5			
Tebuzol 3.6F 7.2 fl oz	4,6			
Topsin M 10.0 fl oz	7			
Elast 15.0 fl oz	1,2,7	4.2	3.2	4655
Muscle 3.6F 7.2 fl oz	3,4,5,6			
Elast 15.0 fl oz	1,2	2.9	5.3	4429
Elast 12.8 fl oz + Muscle 3.6F 7.2 fl oz	3,5			
Echo 720 24.0 fl oz	4,6,7			
Elast 15.0 fl oz	1,2	3.4	8.5	4292
Elast 12.8 fl oz + Artisan 16.0 fl oz	3,5			
Echo 720 24.0 fl oz	4,6,7			
Echo 720 24.0 fl oz	1,2,7	3.5	5.7	4582
Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.3	4.3	4558
Provost 433SC 8.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,4,6,7	2.5	5.0	4453
Abound 2.08SC 18.2 fl oz	3,5			
Echo 720 24.0 fl oz	1,2,7	3.1	1.3	4945
Echo 720 16.0 fl oz + Convoy 13.0 fl oz	3,4,5,6			
Headline 2.09EC 6.0 fl oz	1,2	2.7	5.3	4606
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	3.3	5.8	4453
LSD (P = 0.05)		***0.5***	***2.8***	***443***

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

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

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

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

EVALUATION OF ARTISAN AND CONVOY IN A FUNGICIDE Rx PROGRAM FOR CONTROL OF EARLY AND LATE LEAF SPOT AND SOUTHERN STEM ROT OF PEANUT IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate Artisan and Convoy in a fungicide Rx program and to compare them with currently registered fungicides in a standard spray application schedule 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 20 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 (organic matter <1 percent). On March 15, the test area was turned. On May 19, 1 quart per acre of Sonalan + 0.45 ounce per acre of Strongarm were applied and incorporated for preemergent weed control. Thrips were controlled with an in-furrow application of 6.7 pounds per acre of Temik 15G at planting. On July 13, 1.5 pints per acre of 2,4 DB was applied for postemergent weed control.

Plots, which consisted of four 30-foot rows spaced 3 feet apart, were arranged in a randomized complete block with six replicates. Plots were located under a central pivot irrigation system and irrigated 0.75 inch on July 1, 1 inch on July 19, August 4, and August 12; 0.75 inch on August 17 and August 26; and 1 inch on September 7 and September 14. Fungicides were applied on a 14- to 28-day schedule using a four-row, tractor-mounted boom sprayer with three TX8 nozzles per row calibrated to deliver 15 gallons per acre on June 29, July 7, July 13, July 28, August 11, August 16, August 24, September 9, and September 22.

Disease Assessment: Early and late leaf spot were visually rated on September 27 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 (SR) loci (one locus was defined as ≤ 1 foot of consecutive symptoms and signs of the disease) were made on October 5 immediately after plot inversion. Plots were harvested on October 8 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 ($P = 0.05$).

Results: During the 2010 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. Leaf spot results were inconsistent for the treatments tested. The best leaf spot control was with the Echo/Echo + Convoy treatment. Of the six treatments tested using the fungicide Rx schedule that included either Artisan or Convoy, only the low risk assessment program gave results that were similar to that obtained with the Echo-only treatment. All the other programs had leaf spot severity that was significantly worse than that observed with the Echo-only treatment. The high risk program that included Artisan had the highest leaf spot severity compared to the other treatment programs. All of the treatment programs had significantly lower incidence of stem rot than did the Echo-only season-long treatment. The best stem rot control was with the fungicide Rx treatments that included Convoy and with the Echo/Muscle treatment. All of the treatment programs with the exception of the fungicide Rx program that included Artisan yielded significantly higher than did the Echo-only season-long treatment.

EVALUATION OF ARTISAN AND CONVOY IN A FUNGICIDE Rx PROGRAM FOR CONTROL OF EARLY AND LATE LEAF SPOT AND SOUTHERN STEM ROT OF PEANUT IN SOUTHEAST ALABAMA, WREC

Treatment and rate/A	Application timing[1]	Risk index	Disease ratings LS [2]	SR [3]	Yield *lb/A*
Headline 9.0 fl oz	1,5	Low	3.0	2.2	4966
Artisan 26.0 fl oz + Echo 720 16.0 fl oz	3,4,5				
Topsin M 5.0 fl oz + Echo 720 16.0 fl oz	6				
Headline 9.0 fl oz	1,5	Medium	4.3	2.7	4598
Artisan 18.0 fl oz + Echo 720 16.0 fl oz	3,4,5,6				
Topsin M 5.0 fl oz + Echo 720 16.0 fl oz	7				
Headline 9.0 fl oz	1,5	High	5.7	5.2	4317
Artisan 16.0 fl oz + Echo 720 16.0 fl oz	3,4,5,6				
Topsin M 5.0 fl oz + Echo 720 16.0 fl oz	7				
Headline 2.09EC 9.0 fl oz	1,5	Low	3.8	1.7	5092
Convoy 21.0 fl oz + Echo 720 24.0 fl oz	3,4,5				
Topsin M 5.0 fl oz + Echo 720 16.0 fl oz	6				
Headline 2.09EC 9.0 fl oz	1,5	Medium	4.5	1.8	4904
Convoy 21.0 fl oz + Echo 720 24.0 fl oz	3,4,5,6				
Topsin M 5.0 fl oz + Echo 720 16.0 fl oz	7				
Headline 2.09EC 9.0 fl oz	1,5	High	4.2	1.5	4735
Convoy 21.0 fl oz + Echo 720 24.0 fl oz	3,4,5,6				
Topsin M 5.0 fl oz + Echo 720 16.0 fl oz	7				
Headline 2.09EC 9.0 fl oz	1,5	High	2.8	4.0	4784
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	High	3.8	1.7	4703
Muscle 3.6F 7.2 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,7	High	2.6	2.8	4888
Provost 433SC 8.0 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,4,6,7	High	2.9	4.8	4493
Abound 18.5 fl oz	3,5				
Echo 720 24.0 fl oz	1,2,7	High	3.4	3.5	4606
Echo 720 24.0 fl oz + Convoy 13.0 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,4,6,7	High	2.5	5.5	4513
Echo 720 24.0 fl oz + Convoy 21.0 fl oz	3,5				
Echo 720 24.0 fl oz	1-7	High	3.0	10.0	3945
LSD (P = 0.05)			***0.6***	***2.3***	***529***

[1] Fungicide applications were made at 14- to 28-day intervals.

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

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

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

EVALUATION OF ECHO 720 AND EMINENT 125SL AND ACTINOGROW AG APPLIED IN-FURROW AT PLANTING FOR CONTROL OF EARLY AND LATE LEAF SPOT AND SOUTHERN STEM ROT OF PEANUT IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate ActinoGrow applied in-furrow and Echo 720 and Eminent 125SL and to compare them with currently registered fungicides in a standard spray application schedule 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 20 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 (organic matter <1 percent). On March 9, the test area was turned. On May 3, 1 quart per acre of Sonalan + 0.45 ounce per acre of Strongarm were applied and incorporated for preemergent weed control. Thrips were controlled with an in-furrow application of 6.7 pounds per acre of Temik 15G at planting. On June 18, 2 ounces per acre of Cadre + 1.5 pints per acre of Blazer were applied for postemergent weed control.

Plots, which consisted of four 30-foot rows spaced 3 feet apart, were arranged in a randomized complete block with six replicates. In-furrow fungicides were applied at planting with a tractor-mounted drop sprayer calibrated to deliver 10 gallons per acre at 35 psi. Plots were located under a side roll irrigation system and irrigated 1 inch on July 21, July 26, August 13, and September 10 and 0.75 inch on August 18 and September 22. Fungicides were applied on a 14- to 21-day schedule using a four-row, tractor-mounted boom sprayer with three TX8 nozzles per row calibrated to deliver 15 gallons per acre on June 29, July 7, July 13, July 29, August 12, August 27, September 7, and September 21.

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

Counts of stem rot (SR) loci (one locus was defined as ≤ 1 foot of consecutive symptoms and signs of the disease) were made on September 30 immediately after plot inversion. Plots were harvested on October 4 and yields were reported at 7.68 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P = 0.05$).

Results: During the 2010 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. Leaf spot control among all treatment programs was similar to that observed with the season-long Echo 720 program except for the Echo + Eminent (1.5)/Echo + Muscle/Echo and ActinoGrow/Echo + Eminent (1.5)/Echo + Muscle/Echo treatment programs, which gave poor control. With the exception of the Echo + Eminent 10.2 (1.5)/Echo + Muscle/Echo, Headline/Muscle/Headline/Echo, Echo/Provost, and Echo/Abound programs, all other programs gave significantly better stem rot control than the season-long Echo 720 standard. ActinoGrow/Echo + Eminent (1.5)/Echo + Muscle/Echo had high yields similar to those of all fungicide programs except Echo + Eminent (10.2 fluid ounces per acre)/SA-0120305/Echo, Echo/Provost, and the season-long Echo 720 standard program, which had similarly low yields.

EVALUATION OF ECHO 720 AND EMINENT 125SL AND ACTINOGROW AG APPLIED IN-FURROW AT PLANTING FOR CONTROL OF EARLY AND LATE LEAF SPOT AND SOUTHERN STEM ROT OF PEANUT IN SOUTHEAST ALABAMA, WREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	SR[3]	Yield *lb/A*
Echo 720 16.0 fl oz + Eminent 125SL 7.2 fl oz	1,2	2.9	1.0	3541
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	3.8	2.8	3178
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	2.6	1.7	3388
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	2.4	2.7	3251
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	1,2	2.8	2.3	3469
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	3.2	3.5	3114
SA-0120305 32.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	7			
ActinoGrow AG 3.0 oz	IF	3.3	1.5	3590
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			
ActinoGrow AG 3.0 oz	IF	2.6	2.3	3485
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 24.0 fl oz	7			
Headline 2.09EC 9.0 fl oz	1.5	2.3	3.3	3251
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	2.9	1.0	3307
Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.4	3.3	3033
Provost 433SC 8.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,4,6,7	2.4	4.2	3372
Abound 2.08SC 18.2 fl oz	3,5			
Echo 720 24.0 fl oz	1,2,7	2.7	2.7	3130
Echo 720 24.0 fl oz + Convoy 13.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1-7	2.8	5.3	2702
LSD (P = 0.05)		***0.5***	***2.2***	***470***

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

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

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

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

EVALUATION OF TILT-BRAVO 4.3SE, BRAVO WEATHER STIK, ABOUND 2.08SC, AND ALTO 0.83SL FOR CONTROL OF EARLY AND LATE LEAF SPOT AND SOUTHERN STEM ROT OF PEANUT IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate TiltBravo, Bravo Weather Stik, Abound 2.08SC, 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 20 at the Wiregrass Research and Extension Center in Headland, Alabama, in a field with a history of peanut production. The soil type was a Dothan sandy loam (organic matter <1 percent). Seed were sown at a rate of approximately five seed per foot of row, and recommendations of the Alabama Cooperative Extension System for tillage, fertility, weed, and nematode control were followed. On March 15, the test area was turned. On May 19, 1 quart per acre of Sonalan + 0.45 ounce per acre of Strongarm were applied and incorporated for preemergent weed control. Thrips were controlled with an in-furrow application of 6.7 pounds per acre of Temik 15G at planting. On July 13, 1.5 pints per acre of 2,4 DB was applied for postemergent weed control.

Plots, which consisted of four 30-foot rows spaced 3 feet apart, were arranged in a randomized complete block with six replicates. Plots were located under a central pivot irrigation system and irrigated 0.75 inch on July 1; 1 inch on July 19, August 4, and August 12; 0.75 inch on August 17 and August 26; and 1 inch on September 7 and September 14. Fungicides were applied on a 14-day schedule using a four-row, tractor-mounted boom sprayer with three TX8 nozzles per row calibrated to deliver 15 gallons per acre on June 29, July 13, July 25, August 6, August 21, September 9, and September 21.

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 (SR) loci (one locus was defined as ≤ 1 foot of consecutive symptoms and signs of the disease) were made on October 4 immediately after plot inversion. Plots were harvested on October 7 and yields were reported at 7.78 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 2010 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 that observed in previous years. Poorest leaf spot control was with the Bravo/Muscle program. 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 gave significantly better stem rot control than the season-long Bravo WS standard. The Bravo/Bravo + Convoy program not only gave the best stem rot control but also the highest yields. Programs that had significantly lower yields than Bravo/Bravo + Convoy were TiltBravo/Bravo, TiltBravo/Abound (18 fluid ounces)/Bravo, TiltBravo/Abound (18 fluid ounces) + Alto/Bravo, and the season-long Bravo WS standard. With the exception of Tilt-Bravo/Bravo, yields for all other fungicide programs were significantly higher than the season-long Bravo WS standard.

EVALUATION OF TILT-BRAVO 4.3SE, BRAVO WEATHER STIK, ABOUND 2.08SC, AND ALTO 0.83SL FOR CONTROL OF EARLY AND LATE LEAF SPOT AND SOUTHERN STEM ROT OF PEANUT IN SOUTHEAST ALABAMA, WREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	SR[3]	Yield *lb/A*
Tilt-Bravo 4.3SE 24.0 fl oz	1,2	2.6	14.2	3524
Bravo WS 24.0 fl oz	3,4,5,6,7			
Tilt-Bravo 4.3SE 24.0 fl oz	1,2	2.5	7.8	4316
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	2.6	6.8	4485
Abound 2.08SC 15.0 fl oz	3,5			
Bravo WS 24.0 fl oz	4,6,7			
Tilt-Bravo 4.3SE 24.0 fl oz	1,2	2.4	7.5	3945
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	2.5	6.8	4203
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	2.6	7.3	3985
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	2.7	7.2	4058
Abound 2.08SC 18.0 fl oz + Bravo WS 24.0 fl oz	3,5			
Bravo WS 24.0 fl oz	4,6,7			
Tilt-Bravo 4.3SE 24.0 fl oz	1,2	2.6	7.8	4324
Abound 2.08SC 18.0 fl oz + Bravo WS 24.0 fl oz + Alto 0.83SL 5.5 fl oz	3,5			
Bravo WS 24.0 fl oz	4,6,7			
Bravo WS 24.0 fl oz	1,2,7	3.3	4.2	4146
Muscle 3.6F 7.2 fl oz	3,4,5,6			
Bravo WS 24.0 fl oz	1,2,7	2.8	8.0	4550
Provost 433SC 8.0 fl oz	3,4,5,6			
Bravo WS 24.0 fl oz	1,2,4,6,7	2.5	5.7	4404
Abound 2.08SC 18.2 fl oz	3,5			
Bravo WS 24.0 fl oz	1,2,7	2.5	1.8	4654
Bravo WS 24.0 fl oz + Convoy 13.0 fl oz	3,4,5,6			
Headline 2.09EC 6.0 fl oz	1,2	2.7	4.7	4622
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	2.5	16.0	3178
LSD (P = 0.05)		***0.4***	***3.3***	***635***

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

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

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

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

EVALUATION OF FUNGICIDE Rx PROGRAMS FOR THEIR EFFICACY IN CONTROLLING EARLY AND LATE LEAF SPOT AND SOUTHERN STEM ROT OF PEANUT IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate Headline 2.09EC, Artisan 3.6E, Bravo Weather Stik, and Abound 2.08SC and compare them for their ability to control 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 20 at the Wiregrass Research and Extension Center in Headland, Alabama, in a field with a history of peanut production. The soil type was a Dothan sandy loam (organic matter <1 percent). Seed were sown at a rate of approximately five seed per foot of row, and recommendations of the Alabama Cooperative Extension System for tillage, fertility, weed, and nematode control were followed. On March 15, the test area was turned. On May 19, 1 quart per acre of Sonalan + 0.45 ounce per acre of Strongarm were applied and incorporated for preemergent weed control. Thrips were controlled with an in-furrow application of 6.7 pounds per acre of Temik 15G at planting. On July 13, 1.5 pints per acre of 2,4 DB was applied for postemergent weed control.

Plots, which consisted of four 30-foot rows spaced 3 feet apart, were arranged in a randomized complete block with six replicates. Plots were located under a central pivot irrigation system and irrigated 0.75 inch on July 1; 1 inch on July 19, August 4, and August 12; 0.75 inch on August 17 and August 26; and 1 inch on September 7 and September 14. . Fungicides were applied on a 14-day schedule using a four-row, tractor-mounted boom sprayer with three TX8 nozzles per row calibrated to deliver 15 gallons per acre on June 30, July 7, July 12, July 27, August 2, August 10, August 16, August 25, August 31, September 8, September 15, and September 21.

risk

Disease Assessment: Early and late leaf spot were visually rated on September 27 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 (SR) loci (one locus was defined as ≤ 1 foot of consecutive symptoms and signs of the disease) were made on October 5 immediately after plot inversion. Plots were harvested on October 8 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 2010 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. Stem rot severity was higher compared to previous years. When grouped together according to fungicide program, the Headline 2.09EC high risk index had higher leaf spot severity than did either the low or medium risk indices; however, there were no significant differences among the indices. Stem rot incidence was lowest for the medium risk index and highest for the high risk index. None were statistically different. Yield was highest for the low risk index and lowest for the high risk index. Among those treatments that included Artisan, leaf spot severity was lowest with the high risk index and had significantly better control than both the medium and low risk indices. Stem rot incidence was lowest for the medium risk index and highest for the high risk index; however, none of the indices were statistically different. Yield response was highest with the high risk index; however, it was only significantly better than that obtained with the medium index. For those that included Tilt-Bravo, the medium risk index had the highest leaf spot severity and the high risk index had the lowest severity. The highest incidence of stem rot was with the high risk index. Yield response was highest with the high risk index; however, it was not significantly better than either the low or medium risk indices. When Bravo Weather Stik was compared using the risk index, the high risk index,

which included seven applications, had better leaf spot control than did either of the other two. Only the low risk index had lower incidence of stem rot than did the other two. Yield was best with the medium risk index.

When all indices were compared, the low and medium risk indices with Artisan and the medium risk index with Bravo alone had higher leaf spot severity than did all other programs except the Tilt-Bravo medium risk index. Stem rot incidence was lowest with the medium risk index that included Artisan but was similar to all other treatment programs except the Headline high risk index and the medium and high risk indices of Bravo full season, which had significantly higher incidence. Highest yield was with the Headline low risk index. Lowest yield was with the Artisan medium risk index and was significantly lower than all other treatment programs.

EVALUATION OF FUNGICIDE Rx PROGRAMS FOR THEIR EFFICACY IN CONTROLLING EARLY AND LATE LEAF SPOT AND SOUTHERN STEM ROT OF PEANUT IN SOUTHEAST ALABAMA, WREC

Treatment and rate/A	Application timing[1]	Risk index	Disease ratings LS [2]	SR [3]	Yield *lb/A*
Headline 2.09EC 9.0 fl oz	2	Low	2.8	2.4	4804
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	Med	2.8	1.8	4429
Muscle 3.6F 7.2 fl oz + Bravo WS 16.0 fl oz	3				
Headline 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	3.3	4.0	3981
Muscle 3.6F 7.2 fl oz + Bravo WS 16.0 fl oz	3,5				
Headline 12.0 fl oz	4				
Bravo WS 24.0 fl oz	6,7				
Headline 2.09EC 9.0 fl oz	1.5	Low	4.3	2.0	4235
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 2.09EC 9.0 fl oz	1.5	Med	4.3	1.3	3025
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 2.09EC 9.0 fl oz	1.5	High	3.4	3.0	4298
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				
Tilt-Bravo 36.0 fl oz	2	Low	3.0	2.5	4178
Abound 2.08SC 18.2 fl oz	3.5,5				
Bravo WS 24.0 fl oz	6				
Tilt-Bravo 36.0 fl oz	1.5	Med	3.7	2.8	4179
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	2.8	3.2	4711
Abound 2.08SC 18.2 fl oz	3,5				
Bravo WS 24.0 fl oz	6,7				
Bravo WS 24.0 fl oz	2,3.5,5,6.5	Low	3.0	2.8	4356
Bravo WS 24.0 fl oz	1.5,3,4,5.5,7	Med	4.3	5.8	4413
Bravo WS 24.0 fl oz	1-7S	High	2.7	4.6	3853
LSD (P = 0.05)			***0.7***	***2.6***	***602***

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

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

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

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

EVALUATION OF EQUUS 720, ORIUS 3.6F, ORIUS 20AQ, AND BUMPER 41.8EC FOR THEIR EFFICACY IN CONTROLLING EARLY AND LATE LEAF SPOT AND SOUTHERN STEM ROT OF PEANUT IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate Equus 720, Orius 3.6F, Orius 20AQ, and Bumper 41.8EC and compare them for their ability to control 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 in a field with a history of peanut production on May 20 at the Wiregrass Research and Extension Center in Headland, Alabama. The soil type was a Dothan sandy loam (organic matter <1 percent). Seed were sown at a rate of approximately five seed per foot of row, and recommendations of the Alabama Cooperative Extension System for tillage, fertility, weed, and nematode control were followed. On March 15, the test area was turned. On May 19, 1 quart per acre of Sonalan + 0.45 ounce per acre of Strongarm were applied and incorporated for preemergent weed control. Thrips were controlled with an in-furrow application of 6.7 pounds per acre of Temik 15G at planting. On July 13, 1.5 pints per acre of 2,4 DB was applied for postemergent weed control.

Plots, which consisted of four 30-foot rows spaced 3 feet apart, were arranged in a randomized complete block with six replicates. Plots were located under a central pivot irrigation system and irrigated 0.75 inch on July 1; 1 inch on July 19, August 4, and August 12; 0.75 inch on August 17 and August 26; and 1 inch on September 7 and September 14. . Fungicides were applied on a 14-day schedule using a four-row, tractor-mounted boom sprayer with three TX8 nozzles per row calibrated to deliver 15 gallons per acre on June 30, July 13, July 28, August 11, August 25, September 10, and September 21.

Disease Assessment: Early and late leaf spot were visually rated on September 27 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 (SR) loci (one locus was defined as ≤ 1 foot of consecutive symptoms and signs of the disease) were made on October 5 immediately after plot inversion. Plots were harvested on October 8 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 ($P = 0.05$).

Results: During the 2010 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. The best leaf spot control was with the Equus 720/Provost treatment program. The worst leaf spot control was with the Equus 720/Orius 3.6F program. With the exception of the Equus 720/Orius 20AQ (7.76 fluid ounces per acre) + Bumper (2.5 fluid ounces per acre) and the Eqqus/Orius 20AQ/Bumper treatment programs, all other programs that included either Orius 3.6F, 20AQ, or Bumper 41.8EC were not significantly better than the Equus/Orius 3.6F treatment. The highest incidence of stem rot occurred in both treatments consisting of Equus 720/Bumper (both 2.5 and 4 fluid ounces per acre). Significant reductions in stem rot was observed with the Equus/Muscle, Equus/Orius 3.6F, Equus/Orius 20AQ + Bumper (4 fluid ounces per acre), and Equus/Provost treatment programs. Highest yield occurred with the Equus/Provost treatment program. Yield results from the Equus/Muscle, Equus/Orius 20AQ, Equus/Orius 3.6F (3.6 fluid ounces per acre) + Bumper (4 fluid ounces per acre), Equus.Orius20AQ + Bumper (4 fluid ounces per acre), and Equus/Orius 3.6F/Bumper treatments were significantly similar to the Equus/Provost treatment. All other treatments had yields similar to the Equus 720 only full-season treatment.

EVALUATION OF EQUUS 720, ORIUS 3.6F, ORIUS 20AQ, AND BUMPER 41.8EC FOR THEIR EFFICACY IN CONTROLLING EARLY AND LATE LEAF SPOT AND SOUTHERN STEM ROT OF PEANUT IN SOUTHEAST ALABAMA, WREC

Treatment and rate/A	Application timing [1]	–Disease ratings– LS [2]	SR [3]	Yield *lb/A*
Equus 720 24.0 fl oz	1,2,7	3.8	3.7	4493
Muscle 3.6F 7.2 fl oz	3,4,5,6			
Equus 720 24.0 fl oz	1,2,7	4.2	5.5	4001
Orius 3.6F 7.2 fl oz	3,4,5,6			
Equus 720 24.0 fl oz	1,2,7	3.7	7.8	4388
Orius 20AQ 15.5 fl oz	3,4,5,6			
Equus 720 24.0 fl oz	1,2,7	3.7	10.3	3840
Bumper 41.8EC 2.5 fl oz	3,4,5,6			
Equus 720 24.0 fl oz	1,2,7	3.8	10.3	4017
Bumper 41.8EC 2.5 fl oz	3,4,5,6			
Equus 720 24.0 fl oz	1,2,7	4.0	8.8	4090
Orius 3.6F 3.6 fl oz + Bumper 41.8EC 2.5 fl oz	3,4,5,6			
Equus 720 24.0 fl oz	1,2,7	3.5	9.8	3670
Orius 20AQ 7.76 fl oz + Bumper 41.8EC 2.5 fl oz	3,4,5,6			
Equus 720 24.0 fl oz	1,2,7	3.7	7.0	4171
Orius 3.6F 3.6 fl oz + Bumper 41.8EC 4.0 fl oz	3,4,5,6			
Equus 720 24.0 fl oz	1,2,7	3.7	7.5	4235
Orius 20AQ 7.76 fl oz + Bumper 41.8EC 4.0 fl oz	3,4,5,6			
Equus 720 24.0 fl oz	1,2,7	3.7	6.7	4243
Orius 3.6F 7.2 fl oz	3,5			
Bumper 41.8EC 4.0 fl oz	4,6			
Equus 720 24.0 fl oz	1,2,7	3.3	7.7	3888
Orius 20AQ 15.5 fl oz	3,5			
Bumper 41.8EC 4.0 fl oz	4,6			
Equus 720 24.0 fl oz	1,2,7	2.4	5.0	4589
Provost 433SC 8.0 fl oz	3,4,5,6			
Equus 720 24.0 fl oz	1-7	2.8	9.8	3880
LSD (P = 0.05)		***0.6***	***3.6***	***496***

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

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

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

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

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

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

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

Production Method: On May 26, peanut cultivars were planted at a rate of six seed per foot of row using conventional tillage practices in a Dothan fine sandy loam (organic matter <1 percent) soil. Weed control and soil fertility recommendations of the Alabama Cooperative Extension System were followed. The test area was irrigated as needed. A split plot design with cultivars as whole plots and 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 and Temik 15G at 6.7 pounds per acre; a single early postapplication of Orthene 97 AG at 0.5 pounds per acre, which was applied with a tractor-mounted boom sprayer with a single TX-8 nozzle per row at 5 gallons of spray volume per acre at 45 psi; and a non-treated control. Full canopy sprays of Tilt Bravo SE at 2.25 pints per acre on June 24 and July 8 were followed by applications of Abound 2SC at 18.2 fluid ounces per acre on July 21; Bravo Weather Stik at 1.5 pints per acre + Convoy at 2 pints per acre on August 6; Abound 2SC at 18.2 fluid ounces per acre on August 18; Bravo Weather Stik at 1.5 pints per acre + Convoy at 2 pints per acre on September 3; and Bravo Weather Stik at 1.5 pints per acre on September 16. All sprays were applied 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 14 on the two middle rows in each subplot. Thrips damage (TDR) was rated on June 21 on a 0 to 10 scale based on the percent leaf area scarred or distorted by thips feeding activity. Final tomato spotted wilt virus (TSWV) hit counts (1 hit was defined as ≤ 1 foot of consecutive severely TSWV-damaged plants per row) were made on October 13. Early leaf spot was rated October 13 using the 1 to 10 Florida peanut leaf spot scoring system (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). White mold hit counts (1 hit was defined as ≤ 1 foot of consecutive white mold-damaged plants per row) were made immediately after plot inversion on October 14 for all cultivars except for Georgia-02C, which was inverted on October 26. Yields were reported at 8.8 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected 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 mid- and late summer daily temperatures were often above normal, which resulted in reduced leaf spot intensity compared with previous years. Insecticide treatment x peanut cultivar interactions for thrips damage rating (TDR), TSWV incidence, leaf spot intensity, and yield were not significant, so pooled data are presented (Table 1).

When compared with the non-treated control, significant reductions in TDR and TSWV incidence were obtained with all insecticides. While the least thrips damage was noted on the Temik 15G-treated peanuts, Thimet 20G gave the poorest protection from thrips. When compared with the non-treated control, similar reductions in TSWV incidence were obtained by all insecticides. In addition, yields were similar for the insecticide-treated peanuts and the non-treated control.

Equal thrips damage ratings were recorded for Georgia Green, Georgia Greener, and Florida 07, while Georgia-02C suffered the highest level of thrips damage. While overall TSWV and leaf spot pressure was low, significant differences in the reaction of peanut cultivars to both diseases were noted. Similarly high TSWV incidence

was recorded in Georgia-02C, Tifguard, and Georgia Green. Georgia-02C had higher leaf spot ratings than all other peanut cultivars. Florida 07, Tifguard, Georgia Greener, Georgia Green, and Georgia-06G, which had equally low leaf spot ratings, suffered only light leaf spotting in the lower canopy with no premature leaf shed. White mold incidence was minimal. Georgia-07W, Georgia-06G, and Florida 07 had similarly high yields, while the industry standard Georgia Green and Georgia-02C had the lowest yields.

Summary: Due to low TSWV pressure, only minor differences in disease incidence and yield were noted between the insecticide treatments and the non-treated controls. While significant differences in TSWV incidence were found, development of this disease was also minor. Leaf spot intensity was also low. Despite the minor differences in leaf spot and TSWV, significant differences in yield were noted between peanut cultivars. Newer commercial cultivars Florida 07, Georgia-06G, Georgia-07W, and Georgia Greener yielded considerably higher than the in-

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

	TDR [1]	TSWV [2]	LS [3]	Yield (*lb/A*)
Split plot analysis *P*(F value)				
Peanut cultivar	0.0233*[4]	0.1222	0.1302	0.2109
Insecticide	<0.0001***	0.001 [6]***	0.1891	0.7698
Cultivar x insecticide	0.2948	0.7534	0.4108	0.3776
Insecticide means				
Temik 15G 7 lb [5]	2.3 d	1.1 b	2.8 a	4354 a
Thimet 20G 5 lb [5]	4.1 b	0.9 b	2.9 a	4384 a
Orthene 97 AG 0.5 lb [5]	3.4 c	1.1 b	3.0 a	4395 a
Non-treated control	5.3 a	1.8 a	2.8 a	4477 a
Cultivar means: **Mid-season (130 – 145 DAP)**				
Florida 07	3.5 bcd	1.0 cd	2.6 c	4739 ab
Georgia-06G	3.8 bc	0.7 d	2.9 bc	4554 ab
Georgia-07W	4.1 b	1.0 cd	3.0 b	4933 a
Georgia Green	2.8 d	1.4 abc	2.8 bc	3712 d
Georgia Greener	3.3 cd	1.2 bcd	2.8 bc	4554 ab
Tifguard	4.1 b	1.6 ab	2.6 c	4356 bc
Cultivar means: **Late (140 – 165 DAP)**				
Georgia-02C	4.9 a	1.8 a	3.4 a	3856 cd

[1] Thrips damage rating (TRD) was based on a 0 to 10 scale (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).
[2] TSWV was expressed as the number of disease hits per 60 ft of row.
[3] Leaf spot was rated using the Florida 1 to 10 rating scale.
[4] Significance at the 0.05, 0.01, and 0.001 levels is indicated by *, **, or ***, respectively.
[5] While Temik 15G and Thimet 20G were applied in-furrow, Orthene 97 was banded at-cracking over the newly emerged peanut seedlings.
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 ($P \leq 0.05$).

EVALUATION OF TOPGUARD 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 compare it with currently registered fungicides for control of early and late leaf spot and rust and for yield response in an dryland peanut production system in southwest Alabama.

Methods: Peanut cultivar Georgia 06G was planted on May 24 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 (organic matter <1 percent). Recommendations of the Alabama Cooperative Extension System for fertility and weed control were followed. On March 23, Roundup was applied at 1 quart per acre to burn down winter weeds. On April 15, 186 pounds per acre of 11-21-21 fertilizer + 10 pounds per acre Sulfur + 0.5 pound per acre Boron (20-40-40-10S-0.5B) was applied to the test area. On April 16, 2 pints per acre of Prowl was applied and incorporated for preemergent weed control. On June 11, 8 ounces per acre Gramoxone + 1 pint per acre of Storm + 1 pint of Induce per 25 gallons of water was applied for postemergent weed control. On June 23, 1.5 pints per acre of Poast + 1 quart per acre of Crop Oil was applied for postemergent weed control. On July 1, 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 Temik 15G at planting. Ten pounds per acre of *Rhizobium* innoculant was also applied at planting. Karate insecticide was applied on September 14 for control of velvetbean caterpillar.

Plots, which consisted of four 30-foot rows on 38-inch centers, were arranged in a randomized complete block with six replications. Plots were not irrigated. Foliar fungicides were applied as a full canopy spray at 14-day intervals on June 30, July 14, July 28, August 9, August 25, September 7, and September 22 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 7 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 and ≤ 10 percent defoliation; 5 = lesions noticeable in upper canopy with some defoliation and ≤ 25 percent defoliation; 6 = lesions numerous with significant defoliation and ≤ 50 percent defoliation; 7 = lesions numerous with heavy defoliation and ≤ 75 percent defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation and ≤ 90 percent defoliation; 9 = very few remaining leaves covered with lesions and ≤ 95 percent defoliation; and 10 = plants completely defoliated or dead). Rust was rated using the ICRISAT rust rating scale (1 = no disease, ...9 = plants severely affected, 80 to 100 percent leaves withering).

Counts of stem rot (SR) loci were made on October 8 immediately after plot inversion (one locus was defined as ≤ 1 foot of consecutive stem rot damaged plants per row). Plots were harvested on October 15 and yields were reported at 8.75 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P = 0.05$).

Results: In 2010, 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. Late leaf spot appeared early and intensified throughout the season. Rust appeared in late August and intensified through harvest. With the exception of the Echo 720/Topguard (10 fluid ounces per acre) treatment, all other treatment programs that included Topguard gave significantly better control than did Echo 720/Muscle 3.6F. However, none of these treatment programs were significantly different than the Echo-only season-long standard. Only Echo/Muscle had significantly worse leaf spot control than did the Echo-only treatment. For controlling rust, none of the treatment programs tested was significantly better than the Echo-only treatment. Stem rot incidence was less than in previous years and none of the treatment programs showed any significant reductions in the incidence of the disease (data not shown). No significant differences in yield response were observed among any of the treatment programs.

EVALUATION OF TOPGUARD 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*
Echo 720 24.0 fl oz	1,2,7	2.8	3.2	6056
Topguard 7.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	3.1	2.8	6094
Topguard 10.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.9	2.8	5987
Topguard 14.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.8	2.7	6140
Topguard 28.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.6	2.3	6278
Topguard 7.0 fl oz + Echo 720 24.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	3.3	2.8	6132
Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,4,6,7	2.9	2.5	6278
Abound 2.08SC 18.2 fl oz	3,5			
Echo 720 24.0 fl oz	1,2,7	2.6	2.5	6423
Echo 720 16.0 fl oz + Convoy 13.0 fl oz	3,4,5,6			
Headline 2.09EC 6.0 fl oz	1,2	3.2	3.0	6423
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	2.5	2.2	6331
Provost 433SC 8.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.5	2.5	6507
Provost 433SC 10.7 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1-7	2.8	2.8	6492
LSD (P = 0.05)		***0.4***	***0.8***	***644***

[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 FONTELIS 200SC AND EXPERIMENTAL FUNGICIDES DPX YT 669, Q8Y78 SC, AND QFA61 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 compare it with currently registered fungicides for control of early and late leaf spot and stem rot and yield response in an irrigated peanut production system in southwest Alabama.

Methods: Peanut cultivar Georgia 06G was planted on May 24 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 (organic matter <1 percent). Recommendations of the Alabama Cooperative Extension System for fertility and weed control were followed. On March 23, Roundup was applied at 1 quart per acre to burn down winter weeds. On April 15, 186 pounds per acre of 11-21-21 fertilizer + 10 pounds per acre Sulfur + 0.5 pound per acre Boron (20-40-40-10S-0.5B) was applied to the test area. On April 16, 2 pints per acre of Prowl was applied and incorporated for preemergent weed control. On June 11, 8 ounces per acre Gramoxone + 1 pint per acre of Storm + 1 pint of Induce per 25 gallons of water was applied for postemergent weed control. On June 23, 1.5 pints per acre of Poast + 1 quart per acre of Crop Oil was applied for postemergent weed control. On July 1, 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 Temik 15G at planting. Ten pounds per acre of *Rhizobium* innoculant was also applied at planting. Karate insecticide was applied on September 14 for control of velvetbean caterpillar.

Plots, which consisted of four 30-foot rows on 38-inch centers, were arranged in a randomized complete block with six replications. Plots were not irrigated. Foliar fungicides were applied as a full canopy spray at 14-day intervals on June 30, July 14, July 28, August 9, August 25, September 7, and September 22 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 7 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 and ≤ 10 percent defoliation; 5 = lesions noticeable in upper canopy with some defoliation and ≤ 25 percent defoliation; 6 = lesions numerous with significant defoliation and ≤ 50 percent defoliation; 7 = lesions numerous with heavy defoliation and ≤ 75 percent defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation and ≤ 90 percent defoliation; 9 = very few remaining leaves covered with lesions and ≤ 95 percent defoliation; and 10 = plants completely defoliated or dead). Rust was rated using the ICRISAT rust rating scale (1 = no disease, ...9 = plants severely affected, 80 to 100 percent leaves withering).

Counts of stem rot (SR) loci were made on October 8 immediately after plot inversion (one locus was defined as ≤ 1 foot of consecutive stem rot damaged plants per row). Plots were harvested on October 15 and yields were reported at 8.75 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P = 0.05$).

Results: In 2009, 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. Late leaf spot appeared early and intensified throughout the season. Rust appeared in late August and intensified through harvest. With the exception of the Echo 720/Topguard (10 fluid ounces per acre) treatment, all other treatment programs that included Topguard gave significantly better control than did Echo 720/Muscle 3.6F. However, none of these treatment programs were significantly different than the Echo-only season-long standard. Only Echo/Muscle had significantly worse leaf spot control than did the Echo-only treatment. For controlling rust, none of the treatment programs tested was significantly better than the Echo-only treatment. 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 (data not shown). No significant differences in yield response were observed among any of the treatment programs.

EVALUATION OF FONTELIS 200SC AND EXPERIMENTAL FUNGICIDES DPX YT 669, Q8Y78 SC, AND QFA61 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*
Fontelis 200SC 16.0 fl oz + NIS 0.125 percent v/v	1-7	2.2	2.7	7034
YT 669 6.0 fl oz + NIS 0.125 percent v/v	1-7	2.8	2.7	6259
YT 669 12.0 fl oz + NIS 0.125 percent v/v	1-7	3.0	2.8	6461
Q8Y78 SC 18.0 fl oz	1-7	2.6	2.5	6251
Headline 2.09EC 9.0 fl oz	1,5	2.6	2.5	6389
Fontelis 200SC 16.0 fl oz + 0.125 percent v/v	3,4,5			
Echo 720 24.0 fl oz	6,7			
QFA61 14.5 fl oz	1,2	2.7	2.8	6574
Provost 433SC 8.0 fl oz	3,4,5			
Echo 720 24.0 fl oz	6,7			
Headline 2.09EC 9.0 fl oz	1,5	2.8	2.8	6526
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	3.2	3.0	6405
Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.4	2.7	6494
Provost 433SC 8.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,4,6,7	3.1	3.0	6728
Abound 2.08SC 18.2 fl oz	3,5			
Echo 720 24.0 fl oz	1,2,4,6,7	2.8	2.8	7018
Echo 720 24.0 fl oz + Convoy 21.0 fl oz	3,5			
Headline 2.09EC 9.0 fl oz	1,5	3.3	2.7	6542
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	1-7	2.5	2.7	6502
LSD (P = 0.05)		***0.5***	***0.7***	***617***

[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 PROLINE 480SC, PROVOST 433SC, PROPULSE, AND ABSOLUTE 500SC 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 480SC in-furrow, Provost 433SC, Propulse, and Absolute 500SC and compare them with other currently registered fungicides applied in-furrow at planting or by foliar application for control of early and late leaf spot and stem rot and yield response in an irrigated peanut production system in southwest Alabama.

Methods: Peanut cultivar Georgia 06G was planted on May 24 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 every third year. The soil type was a Malbis fine sandy loam (organic matter <1 percent). Recommendations of the Alabama Cooperative Extension System for fertility and weed control were followed. On March 23, Roundup was applied at 1 quart per acre to burn down winter weeds. On April 15, 186 pounds per acre of 11-21-21 fertilizer + 10 pounds per acre Sulfur + 0.5 pound per acre Boron (20-40-40-10S-0.5B) was applied to the test area. On April 16, 2 pints per acre of Prowl was applied and incorporated for preemergent weed control. On June 11, 8 ounces per acre Gramoxone + 1 pint per acre of Storm + 1 pint of Induce per 25 gallons of water was applied for postemergent weed control. On June 23, 1.5 pints per acre of Poast + 1 quart per acre of Crop Oil was applied for postemergent weed control. On July 1, 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 Temik 15G at planting. Ten pounds per acre of *Rhizobium* innoculant was also applied at planting. Karate insecticide was applied on September 14 for control of velvetbean caterpillar.

Plots, which consisted of four 30-foot rows on 38-inch centers, were arranged in a randomized complete block with six replications. Plots were not irrigated. Foliar fungicides were applied as a full canopy spray at 14-day intervals on June 30, July 14, July 28, August 9, August 25, September 7, and September 22 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 7 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 and ≤ 10 percent defoliation; 5 = lesions noticeable in upper canopy with some defoliation and ≤ 25 percent defoliation; 6 = lesions numerous with significant defoliation and ≤ 50 percent defoliation; 7 = lesions numerous with heavy defoliation and ≤ 75 percent defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation and ≤ 90 percent defoliation; 9 = very few remaining leaves covered with lesions and ≤ 95 percent defoliation; and 10 = plants completely defoliated or dead). Rust was rated using the ICRISAT rust rating scale (1 = no disease, ...9 = plants severely affected, 80 to 100 percent leaves withering).

Counts of stem rot (SR) loci were made on October 8 immediately after plot inversion (one locus was defined as ≤ 1 foot of consecutive stem rot damaged plants per row). Plots were harvested on October 11 and yields were reported at 8.75 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P = 0.05$).

Results: In 2010, 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 noted. The treatments that include Proline or Provost were not significantly different than the season-long Echo treatment. The treatment regimens Echo/Muscle, Echo/Abound, Echo/Echo + Convoy, and Headline/Muscle/Headline/Echo had leaf spot ratings that were significantly worse than Echo alone. Rust appeared in September and never intensified as in previous years. Echo/Abound and Headline/Muscle/Headline/Echo treatments proved least effective in controlling rust and gave significantly poorer rust control than the Echo-only program. When compared with Echo alone, significant reductions in rust severity were not provided by any of the other programs. Stem rot (SR) incidence was low despite

the frequent rain showers and high temperatures. No significant differences were observed among fungicide programs (data not shown). When compared with similar Provost programs, the addition of Proline in-furrow failed to enhance the control of any disease or to increase yield. Highest yield was obtained with the Echo/Absolute + Muscle 3.6F program. Of the remaining programs only the Echo/Provost (8 fluid ounces per acre) program had significantly higher yields than the season-long Echo 720 program.

EVALUATION OF PROLINE 480SC, PROVOST 433SC, PROPULSE, AND ABSOLUTE 500SC 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*
Proline 480SC 5.7 fl oz	In-furrow	2.4	2.2	6140
Echo 720 24.0 fl oz	1,2,7			
Provost 433SC 8.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.1	2.5	6263
Provost 433SC 8.0 fl oz	3,4,5,6			
Proline 480SC 5.7 fl oz	In-furrow	2.1	2.5	6033
Echo 720 24.0 fl oz	1,2,7			
Provost 433SC 10.7 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.3	2.3	6072
Provost 433SC 10.7 fl oz	3,4,5,6			
Propulse 13.7 fl oz	In-furrow	2.2	2.5	5919
Echo 720 24.0 fl oz	1,2,7			
Provost 433SC 10.7 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.6	2.2	6928
Absolute 500SC 3.5 fl oz + Muscle 3.6F 5.2 fl oz	3,4,5,6			
Absolute 500SC 3.5 fl oz	1,2	2.3	2.5	5980
Provost 433SC 8.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	7			
Stratego 7.0 fl oz	1,2	2.3	2.7	6163
Provost 433SC 8.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	7			
Stratego 7.0 fl oz	1.5	2.6	2.5	6140
Provost 433SC 8.0 fl oz	3,4,5			
Stratego 7.0 fl oz	6			
Echo 720 24.0 fl oz	7			
Echo 720 24.0 fl oz	1,2,7	2.9	3.0	5896
Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,4,6,7	2.9	3.2	6041
Abound 2.08SC 18.2 fl oz	3,5			
Echo 720 24.0 fl oz	1,2,4,6,7	2.9	2.8	6033
Echo 720 24.0 fl oz + Convoy 21.0 fl oz	3,5			
Headline 2.09EC 6.0 fl oz	1,.2	3.0	3.3	6018
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		2.3	2.3	5698
LSD (P = 0.05)		***0.5***	***0.8***	***488***

[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 QUASH, TEBUZOL 3.6F, TOPSIN M, 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 Quash, Tebuzol 3.6F, Topsin M, and Elast and compare them with other currently registered fungicides applied as a foliar spray for control of early and late leaf spot and stem rot and yield response in an irrigated peanut production system in southwest Alabama.

Methods: Peanut cultivar Georgia 06G was planted on May 24 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 every third year. The soil type was a Malbis fine sandy loam (organic matter <1 percent). Recommendations of the Alabama Cooperative Extension System for fertility and weed control were followed. On March 23, Roundup was applied at 1 quart per acre to burn down winter weeds. On April 15, 186 pounds per acre of 11-21-21 fertilizer + 10 pounds per acre Sulfur + 0.5 pound per acre Boron (20-40-40-10S-0.5B) was applied to the test area. On April 16, 2 pints per acre of Prowl was applied and incorporated for preemergent weed control. On June 11, 8 ounces per acre Gramoxone + 1 pint per acre of Storm + 1 pint of Induce per 25 gallons of water was applied for postemergent weed control. On June 23, 1.5 pints per acre of Poast + 1 quart per acre of Crop Oil was applied for postemergent weed control. On July 1, 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 Temik 15G at planting. Ten pounds per acre of *Rhizobium* innoculant was also applied at planting. Karate insecticide was applied on September 14 for control of velvetbean caterpillar.

Plots, which consisted of four 30-foot rows on 38-inch centers, were arranged in a randomized complete block with six replications. Plots were not irrigated. Foliar fungicides were applied as a full canopy spray at 14-day intervals on June 30, July 14, July 28, August 9, August 25, September 7, and September 22 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 7 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 and ≤ 10 percent defoliation; 5 = lesions noticeable in upper canopy with some defoliation and ≤ 25 percent defoliation; 6 = lesions numerous with significant defoliation and ≤ 50 percent defoliation; 7 = lesions numerous with heavy defoliation and ≤ 75 percent defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation and ≤ 90 percent defoliation; 9 = very few remaining leaves covered with lesions and ≤ 95 percent defoliation; and 10 = plants completely defoliated or dead). Rust was rated using the ICRISAT rust rating scale (1 = no disease, ...9 = plants severely affected, 80 to 100 percent leaves withering).

Counts of stem rot (SR) loci were made on October 7 immediately after plot inversion (one locus was defined as ≤ 1 foot of consecutive stem rot damaged plants per row). Plots were harvested on October 12 and yields were reported at 8.75 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P = 0.05$).

Results: In 2010, 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 noted. The worst leaf spot control was observed with the Echo/Quash (2.5 ounces per acre) treatment and the best leaf spot control was observed with the Echo/Provost (10.7 fluid ounces per acre) treatment. When compared against the season-long Echo 720 treatment, only the Echo/Quash (2.5 ounce per acre), Elast/Muscle, Echo/Muscle, and Headline/Muscle/Headline/Echo treatments gave significantly worse leaf spot control. For rust control, the worst control was with the Echo/Quash (2.5 ounces per acre) treatment and the best control was with the Elast/Elast + Muscle/Echo treatment. None of the other treatment programs gave significantly different results than did the season-long Echo 720 treatment. Stem rot (SR) incidence was low despite the frequent rain showers and high temperatures. No significant differences were

observed among fungicide programs (data not shown). Yields for all treatment programs were high. When compared with the season-long Echo 720 treatment, only the Elast/Muscle treatment gave significantly higher control. All other treatment programs had yields similar to the Echo-only treatment.

EVALUATION OF QUASH, TEBUZOL 3.6F, TOPSIN M, 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]	Rust[3]	Yield *lb/A*
Echo 720 24.0 fl oz	1,2,7	4.3	3.5	6284
Quash 2.5 oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.9	3.0	6526
Quash 4.0 oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	3.1	2.7	6268
Tebuzol 3.6F 7.2 fl oz + Topsin M 5.0 fl oz	3,5			
Tebuzol 3.6F 7.2 fl oz	4,6			
Echo 720 24.0 fl oz	1,2	2.5	3.0	6621
Tebuzol 3.6F 7.2 fl oz + Topsin M 5.0 fl oz	3,5			
Tebuzol 3.6F 7.2 fl oz	4,6			
Topsin M 10.0 fl oz	7			
Elast 15.0 fl oz	1,2,7	3.4	3.2	6792
Muscle 3.6F 7.2 fl oz	3,4,5,6			
Elast 15.0 fl oz	1,2	2.5	2.2	6228
Elast 12.8 fl oz + Muscle 7.2 fl oz	3,5			
Echo 720 24.0 fl oz	4,6,7			
Elast 15.0 fl oz	1,2	2.8	2.8	6542
Elast 12.8 fl oz + Artisan 16.0 fl oz	3,5			
Echo 720 24.0 fl oz	4,6,7			
Echo 720 24.0 fl oz	1,2,7	3.7	3.3	6357
Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.5	2.5	6518
Provost 433SC 8.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.1	2.3	6671
Provost 433SC 10.7 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,4,6,7	2.8	3.0	6631
Abound 2.08SC 18.2 fl oz	3,5			
Echo 720 24.0 fl oz	1,2,7	2.7	2.7	6526
Echo 720 16.0 fl oz + Convoy 13.0 fl oz	3,4,5,6			
Headline 2.09EC 6.0 fl oz	1,2	3.2	3.3	6349
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	2.6	2.7	6469
LSD (P = 0.05)		***0.5***	***0.7***	***555***

[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 ARTISAN AND CONVOY IN A FUNGICIDE Rx PROGRAM 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 Artisan and Convoy in a fungicide Rx program and to compare them with currently registered fungicides in a standard spray application schedule for control of early and late leaf spot and stem rot and yield response in a dryland peanut production system in southwest Alabama.

Methods: Peanut cultivar Georgia 06G was planted at the Gulf Coast Research and Extension Center near Fairhope, Alabama, on May 24 at a rate of five to six seed per foot of row in a field that had previously cropped to peanut every third year. Recommendations of the Alabama Cooperative Extension System for fertility and weed control were followed. The soil type was a Malbis fine sandy loam (organic matter <1 percent). On March 23, Roundup was applied at 1 quart per acre to burn down winter weeds. On April 15, 186 pounds per acre of 11-21-21 fertilizer + 10 pounds per acre Sulfur + 0.5 pound per acre Boron (20-40-40-10S-0.5B) was applied to the test area. On April 16, 2 pints per acre of Prowl was applied and incorporated for preemergent weed control. On June 11, 8 ounces per acre Gramoxone + 1 pint per acre of Storm + 1 pint of Induce per 25 gallons of water was applied for postemergent weed control. On June 23, 1.5 pints per acre of Poast + 1 quart per acre of Crop Oil was applied for postemergent weed control. On July 1, 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 Temik 15G at planting. Ten pounds per acre of *Rhizobium* innoculant was also applied at planting. Karate insecticide was applied on September 14 for control of velvetbean caterpillar.

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 14-28 day intervals on June 30, July 14, July 28, August 9, August 16, August 25, September 7, and September 22 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 7 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 and ≤ 10 percent defoliation; 5 = lesions noticeable in upper canopy with some defoliation and ≤ 25 percent defoliation; 6 = lesions numerous with significant defoliation and ≤ 50 percent defoliation; 7 = lesions numerous with heavy defoliation and ≤ 75 percent defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation and ≤ 90 percent defoliation; 9 = very few remaining leaves covered with lesions and ≤ 95 percent defoliation; and 10 = plants completely defoliated or dead). Rust was rated using the ICRISAT rust rating scale (1 = no disease, ...9 = plants severely affected, 80 to 100 percent leaves withering).

Counts of stem rot (SR) loci were made on October 7 immediately after plot inversion (one locus was defined as ≤ 1 foot of consecutive stem rot damaged plants per row). Plots were harvested on October 12 and yields were reported at 7.6 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P = 0.05$).

Results: In 2010, 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 noted. Late leaf spot and rust developed late in the season and severity was not as great as had been in previous years. Of the treatment programs tested, only the medium risk index consisting of Headline/Convoy + Echo/Topsin + Echo gave significantly worse leaf spot control than did the season-long Echo-only treatment. The best leaf spot control was with the Echo/Provost (10.7 fluid ounces per acre) treatment program and was significantly better than all other programs. The best rust control occurred with the high index program consisting of Headline/Artisan + Echo/Echo. The worst rust control was with the medium risk index program of Headline/Convoy + Echo/Topsin + Echo. All others were similar to the season-long Echo-only treatment. Stem rot (SR) incidence was low despite the frequent rain showers

and high temperatures. No significant differences were observed among the fungicide programs and the season-long Echo program (data not shown). Of the treatment programs tested, only the medium risk Headline/Convoy + Echo/Topsin + Echo treatment was significantly lower than the Echo-only treatment. All other treatment programs had similar yields.

EVALUATION OF ARTISAN AND CONVOY IN A FUNGICIDE Rx PROGRAM FOR CONTROL OF EARLY AND LATE LEAF SPOT AND RUST OF PEANUT IN SOUTHWEST ALABAMA, WREC

Treatment and rate/A	Application timing [1]	Risk index	Disease ratings LS [2]	SR [3]	Yield *lb/A*
Headline 9.0 fl oz	1,5	Low	3.1	3.2	6079
Artisan 26.0 fl oz + Echo 720 16.0 fl oz	3,4,5				
Topsin M 5.0 fl oz + Echo 720 16.0 fl oz	6				
Headline 9.0 fl oz	1,5	Medium	3.0	3.7	5743
Artisan 18.0 fl oz + Echo 720 16.0 fl oz	3,4,5,6				
Topsin M 5.0 fl oz + Echo 720 16.0 fl oz	7				
Headline 9.0 fl oz	1,5	High	2.7	2.2	6056
Artisan 16.0 fl oz + Echo 720 16.0 fl oz	3,4,5,6				
Topsin M 5.0 fl oz + Echo 720 16.0 fl oz	7				
Headline 2.09EC 9.0 fl oz	1,5	Low	2.8	3.0	5995
Convoy 21.0 fl oz + Echo 720 24.0 fl oz	3,4,5				
Topsin M 5.0 fl oz + Echo 720 16.0 fl oz	6				
Headline 2.09EC 9.0 fl oz	1,5	Medium	4.0	3.8	5542
Convoy 21.0 fl oz + Echo 720 24.0 fl oz	3,4,5,6				
Topsin M 5.0 fl oz + Echo 720 16.0 fl oz	7				
Headline 2.09EC 9.0 fl oz	1,5	High	2.9	2.7	6049
Convoy 21.0 fl oz + Echo 720 24.0 fl oz	3,4,5,6				
Topsin M 5.0 fl oz + Echo 720 16.0 fl oz	7				
Headline 2.09EC 9.0 fl oz	1,5	High	3.2	2.8	6209
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	High	3.2	3.0	6347
Muscle 3.6F 7.2 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,7	High	2.7	2.8	6003
Provost 433SC 8.0 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,7	High	2.4	2.7	6331
Provost 433SC 10.7 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,4,6,7	High	3.0	2.8	6087
Abound 18.5 fl oz	3,5				
Echo 720 24.0 fl oz	1,2,7	High	3.2	2.7	6041
Echo 720 24.0 fl oz + Convoy 13.0 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,4,6,7	High	3.2	2.8	6324
Echo 720 24.0 fl oz + Convoy 21.0 fl oz	3,5				
Echo 720 24.0 fl oz	1-7	High	3.0	3.0	6255
LSD (P = 0.05)			***0.4***	***0.8***	***466***

[1] The 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 AND EMINENT 125SL AND ACTINOGROW AG APPLIED IN-FURROW AT PLANTING FOR CONTROL OF EARLY AND LATE LEAF SPOT AND SOUTHERN STEM ROT OF PEANUT IN SOUTHWEST ALABAMA, GCREC

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

Objective: To evaluate ActinoGrow applied in-furrow and Echo 720 and Eminent 125SL and to compare them with currently registered fungicides in a standard spray application schedule for control of early and late leaf spot and stem rot and yield response in a dryland peanut production system in southwest Alabama.

Methods: Peanut cultivar Georgia 06G was planted at the Gulf Coast Research and Extension Center near Fairhope, Alabama, on May 24 at a rate of five to six seed per foot of row in a field that had previously cropped to peanut every third year. Recommendations of the Alabama Cooperative Extension System for fertility and weed control were followed. The soil type was a Malbis fine sandy loam (organic matter <1 percent). On March 23, Roundup was applied at 1 quart per acre to burn down winter weeds. On April 15, 186 pounds per acre of 11-21-21 fertilizer + 10 pounds per acre Sulfur + 0.5 pound per acre Boron (20-40-40-10S-0.5B) was applied to the test area. On April 16, 2 pints per acre of Prowl was applied and incorporated for preemergent weed control. On June 11, 8 ounces per acre Gramoxone + 1 pint per acre of Storm + 1 pint of Induce per 25 gallons of water was applied for postemergent weed control. On June 23, 1.5 pints per acre of Poast + 1 quart per acre of Crop Oil was applied for postemergent weed control. On July 1, 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 Temik 15G at planting. Ten pounds per acre of *Rhizobium* innoculant was also applied at planting. Karate insecticide was applied on September 14 for control of velvetbean caterpillar.

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 14-28 day intervals on June 30, July 14, July 28, August 9, August 16, August 25, September 7, and September 22 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 7 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 and ≤ 10 percent defoliation; 5 = lesions noticeable in upper canopy with some defoliation and ≤ 25 percent defoliation; 6 = lesions numerous with significant defoliation and ≤ 50 percent defoliation; 7 = lesions numerous with heavy defoliation and ≤ 75 percent defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation and ≤ 90 percent defoliation; 9 = very few remaining leaves covered with lesions and ≤ 95 percent defoliation; and 10 = plants completely defoliated or dead). Rust was rated using the ICRISAT rust rating scale (1 = no disease, ...9 = plants severely affected, 80 to 100 percent leaves withering).

Counts of stem rot (SR) loci were made on October 7 immediately after plot inversion (one locus was defined as ≤ 1 foot of consecutive stem rot damaged plants per row). Plots were harvested on October 12 and yields were reported at 7.6 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P = 0.05$).

Results: In 2010, temperatures were at or above normal and monthly rainfall totals were near normal throughout the growing season. Late leaf spot and rust, which developed late in the season, were the primary foliar diseases noted and were not as severe as they had been in previous years. Of the treatment programs tested, the best leaf spot control was with the Echo/Provost program. Of the programs that consisted of Echo + Eminent, only the Echo + Eminent (1.5)/Echo + Muscle/Echo treatment gave significantly worse leaf spot control than did the Echo-only treatment. All other treatment programs gave similar results to that observed with the Echo-only treatment. For rust control, the ActinoGrow/Echo + Eminent (1,2)/Echo + Muscle/Echo treatment had the best control. All other treatments with the exception of the Echo + Eminent (1.5)/Echo + Muscle/Echo treatment and the Headline/Muscle/Headline/Echo treatment were statistically similar to the Echo-only full-season treatment. Stem rot

(SR) incidence was low despite the frequent rain showers and high temperatures. However, Echo/Echo + Muscle treatment program had significantly lower stem rot than did the Echo-only treatment. Yield response was similar among all treatment programs.

EVALUATION OF ECHO 720 AND EMINENT 125SL AND ACTINOGROW AG APPLIED IN-FURROW AT PLANTING FOR CONTROL OF EARLY AND LATE LEAF SPOT AND SOUTHERN STEM ROT OF PEANUT IN SOUTHWEST ALABAMA, GCREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	Rust[3]	SR[4]	Yield *lb/A*
Echo 720 24.0 fl oz	1,2,7	3.2	2.7	0.3	6393
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	1,2	3.1	3.3	1.7	6212
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	3.7	3.7	1.5	6278
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	3.0	2.8	1.3	6362
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	2.8	3.0	0.8	6224
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	1,2	3.1	2.8	1.3	6270
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	3.5	3.3	1.0	6010
SA-0120305 32.0 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	7				
ActinoGrow AG 3.0 oz	IF	3.1	2.3	1.3	6171
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				
ActinoGrow AG 3.0 oz	!F	2.7	2.0	1.7	6224
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 24.0 fl oz	7				
Headline 2.09EC 9.0 fl oz	1.5	3.5	3.8	1.3	6454
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	3.5	3.3	0.8	6370
Muscle 3.6F 7.2 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,7	2.5	2.7	0.8	6377
Provost 433SC 8.0 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,4,6,7	2.8	2.8	1.2	6186
Abound 2.08SC 18.2 fl oz	3,5				
Echo 720 24.0 fl oz	1,2,7	3.0	3.0	1.2	6339
Echo 720 24.0 fl oz + Convoy 13.0 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1-7	3.1	2.8	3.0	5964
LSD (P = 0.05)		**0.6**	**0.7**	**2.3**	**502**

[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 rated using the ICRISAT 1 to 9 rating scale (1 = no disease, ... 9 = plants severely affected, 80-100 percent leaves withering).
[4] Stem rot (SR) incidence is expressed as the number of disease hits per 60 feet of row.
Mean separation within columns was according to Fisher's protected least significant difference (LSD) test (*P*=0.05).

EVALUATION OF TILT-BRAVO 4.3SE, BRAVO WEATHER STIK, ABOUND 2.08SC, AND ALTO 0.83SL FOR CONTROL OF EARLY AND LATE LEAF SPOT, RUST, AND SOUTHERN STEM ROT OF PEANUT IN SOUTHWEST ALABAMA, GCREC

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

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

Methods: Peanut cultivar Georgia 06G was planted at the Gulf Coast Research and Extension Center near Fairhope, Alabama, on May 24 at a rate of five to six seed per foot of row in a field that had previously been cropped to peanut. The soil type was a Malbis fine sandy loam (organic matter <1 percent). Recommendations of the Alabama Cooperative Extension System for fertility and weed control were followed. On March 23, Roundup was applied at 1 quart per acre to burn down winter weeds. On April 15, 186 pounds per acre of 11-21-21 fertilizer + 10 pounds per acre Sulfur + 0.5 pound per acre Boron (20-40-40-10S-0.5B) was applied to the test area. On April 16, 2 pints per acre of Prowl was applied and incorporated for preemergent weed control. On June 11, 8 ounces per acre Gramoxone + 1 pint per acre of Storm + 1 pint of Induce per 25 gallons of water was applied for postemergent weed control. On June 23, 1.5 pints per acre of Poast + 1 quart per acre of Crop Oil was applied for postemergent weed control. On July 1, 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 Temik 15G at planting. Ten pounds per acre of *Rhizobium* innoculant was also applied at planting. Karate insecticide was applied on September 14 for control of velvetbean caterpillar.

Plots, which consisted of four 30-foot rows on 38-inch centers, were arranged in a randomized complete block with six replications. Plots were not irrigated. Foliar fungicides were applied as a full canopy spray at 14-day intervals on June 30, July 14, July 28, August 9, August 16, August 25, September 7, and September 22 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 7 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 and ≤ 10 percent defoliation; 5 = lesions noticeable in upper canopy with some defoliation and ≤ 25 percent defoliation; 6 = lesions numerous with significant defoliation and ≤ 50 percent defoliation; 7 = lesions numerous with heavy defoliation and ≤ 75 percent defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation and ≤ 90 percent defoliation; 9 = very few remaining leaves covered with lesions and ≤ 95 percent defoliation; and 10 = plants completely defoliated or dead). Rust was rated using the ICRISAT rust rating scale (1 = no disease, ...9 = plants severely affected, 80 to 100 percent leaves withering).

Counts of stem rot (SR) loci were made on October 7 immediately after plot inversion (one locus was defined as ≤ 1 foot of consecutive stem rot damaged plants per row). Plots were harvested on October 11 and yields were reported at 8.25 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test (P= 0.05).

Results: In 2010, 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 noted. Leaf spot severity was lower than had previously been observed. Bravo/Muscle gave the poorest leaf spot control. All the other programs including those which included TiltBravo and Alto gave the same level of leaf spot control as the season-long Bravo WS-only program. Rust appeared in September and never intensified as in previous years. All of the treatment programs which included either TiltBravo or Alto, with the exception of TiltBravo/Abound (15 fluid ounces per acre)/Bravo, gave similar levels of rust control as the season-long Bravo treatment. Stem rot incidence was low despite the frequent rain showers and high temperatures. No significant differences were observed among any of

the treatments (data not shown). When compared with the season-long Bravo WS program, only the Bravo/Provost treatment had significantly higher yield. Of the remaining fungicide programs, all had yields similar to the season-long Bravo WS program.

EVALUATION OF TILT-BRAVO 4.3SE, BRAVO WEATHER STIK, ABOUND 2.08SC, AND ALTO 0.83SL FOR CONTROL OF EARLY AND LATE LEAF SPOT, RUST, AND SOUTHERN STEM ROT OF PEANUT IN SOUTHWEST ALABAMA, GCREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	Rust[3]	Yield *lb/A*
TiltBravo 4.3SE 24.0 fl oz	1,2	2.9	3.7	6155
Bravo WS 24.0 fl oz	3,4,5,6,7			
TiltBravo 4.3 SE	1,2	3.3	4.2	5995
Provost 433SC 8.0 fl oz	3,4,5,6			
Bravo WS 24.0 fl oz	7			
TiltBravo 4.3 SE	1,2	3.2	4.3	6194
Abound 2.08SC15.0 fl oz	3,5			
Bravo WS 24.0 fl oz	4,6,7			
TiltBravo 4.3 SE	1,2	3.3	3.8	5773
Abound 2.08SC 18.0 fl oz	3,5			
Bravo WS 24.0 fl oz	4,6,7			
TiltBravo 4.3 SE	1,2	3.1	3.4	6194
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			
TiltBravo 4.3 SE	1,2	2.9	3.5	6607
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			
TiltBravo 4.3 SE	1,2	2.7	3.5	6492
Abound 2.08SC 18.0 fl oz + Bravo WS 16.0 fl oz	3,5			
Bravo WS 24.0 fl oz	4,6,7			
TiltBravo 4.3 SE	1,2	2.7	3.0	6148
Abound 2.08SC 18.0 fl oz + Bravo WS 24.0 fl oz + Alto 0.83SL 5.5 fl oz	3,5			
Bravo WS 24.0 fl oz	4,6,7			
Bravo WS 24.0 fl oz	1,2,7	3.7	4.5	6408
Muscle 3.6F 7.2 fl oz	3,4,5,6			
Bravo WS 24.0 fl oz	1,2,7	2.7	3.3	6913
Provost 433SC 8.0 fl oz	3,4,5,6			
Bravo WS 24.0 fl oz	1,2,4,6,7	2.8	3.5	6217
Abound 2.08SC 18.2 fl oz	3,5			
Bravo WS 24.0 fl oz	1,2,7	2.9	3.7	6461
Bravo WS 24.0 fl oz + Convoy 13.0 fl oz	3,4,5,6			
Headline 2.09EC 6.0 fl oz	1,2	3.2	4.0	6461
Muscle 3.6F 7.2 fl oz	3,5			
Headline 2.09EC 9.0 fl oz	4			
Bravo WS 24.0 fl oz	6,7			
Bravo WS 24.0 fl oz	1-7	2.9	3.2	5865
LSD (P = 0.05)		***0.5***	***1.0***	***744***

[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 CURRENTLY AVAILABLE CHLOROTHALONIL PRODUCTS FOR CONTROL OF EARLY AND LATE LEAF SPOT AND RUST OF PEANUT IN SOUTHWEST ALABAMA, GCREC

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

Objective: To evaluate currently available chlorothalonil products and compare them with each other for their effect on the 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 at a rate of five to six seed per foot of row in a field that had previously been cropped to peanut at the Gulf Coast Research and Extension Center near Fairhope, Alabama, on May 24. The soil type was a Malbis fine sandy loam (organic matter <1 percent). Recommendations of the Alabama Cooperative Extension System for fertility and weed control were followed. On March 23, Roundup was applied at 1 quart per acre to burn down winter weeds. On April 15, 186 pounds per acre of 11-21-21 fertilizer + 10 pounds per acre Sulfur + 0.5 pound per acre Boron (20-40-40-10S-0.5B) was applied to the test area. On April 16, 2 pints per acre of Prowl was applied and incorporated for preemergent weed control. On June 11, 8 ounces per acre Gramoxone + 1 pint per acre of Storm + 1 pint of Induce per 25 gallons of water was applied for postemergent weed control. On June 23, 1.5 pints per acre of Poast + 1 quart per acre of Crop Oil was applied for postemergent weed control. On July 1, 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 Temik 15G at planting. Ten pounds per acre of *Rhizobium* innoculant was also applied at planting. Karate insecticide was applied on September 14 for control of velvetbean caterpillar.

Plots, which consisted of four 30-foot rows on 38-inch centers, were arranged in a randomized complete block with six replications. Plots were not irrigated. Foliar fungicides were applied as a full canopy spray at 14-day intervals on June 30, July 14, July 28, August 9, August 16, August 25, September 7, and September 22 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 7 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 and ≤ 10 percent defoliation; 5 = lesions noticeable in upper canopy with some defoliation and ≤ 25 percent defoliation; 6 = lesions numerous with significant defoliation and ≤ 50 percent defoliation; 7 = lesions numerous with heavy defoliation and ≤ 75 percent defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation and ≤ 90 percent defoliation; 9 = very few remaining leaves covered with lesions and ≤ 95 percent defoliation; and 10 = plants completely defoliated or dead). Rust was rated using the ICRISAT rust rating scale (1 = no disease, ...9 = plants severely affected, 80 to 100 percent leaves withering).

Counts of stem rot (SR) loci were made on October 7 immediately after plot inversion (one locus was defined as ≤ 1 foot of consecutive stem rot damaged plants per row). Plots were harvested on October 11 and yields were reported at 8.25 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P = 0.05$).

Results: In 2010, 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 noted. Leaf spot severity was lower than had previously been observed. Of the five chlorothalonil products tested, all gave similar levels of leaf spot control with the exception of Initiate 720 which gave significantly worse leaf spot control than did the other products. For rust control, the worst control was with Initiate 720; however, Bravo WS gave similar control. The other three products gave similar levels of rust control. Stem rot incidence was low despite the frequent rain showers and high temperatures. No significant differences were observed among any of the treatments (data not shown). The highest yield was recorded with Echo 720 but it was only significantly better than the yield recorded with Chloronil 720 and Initiate 720. Yield with Echo 720 was higher than both Bravo WS and Equus 720 but not significantly different.

EVALUATION OF CURRENTLY AVAILABLE CHLOROTHALONIL PRODUCTS 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*
Bravo WS 24.0 fl oz	1-7	2.64	3.2	5689
Echo 720	1-7	2.6	2.8	6156
Equus 720	1-7	2.9	3.0	5827
Chloronil 720	1-7	2.7	2.8	5353
Initiate 720	1-7	3.7	4.2	5451
LSD (P = 0.05)		***0.4***	***1.1***	***572***

[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 EQUUS 720, ORIUS 3.6F, ORIUS 20AQ, AND BUMPER 41.8EC FOR THEIR EFFICACY IN CONTROLLING EARLY AND LATE LEAF SPOT, RUST, AND STEM ROT OF PEANUT IN SOUTHWEST ALABAMA, GCREC

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

Objective: To evaluate Equus 720, Orius 3.6F, Orius 20AQ, and Bumper 41.8EC, and compare them for their ability to control early and late leaf spot, rust and stem rot and yield response in an irrigated peanut production system in southwest Alabama.

Methods: Peanut cultivar Georgia 06G was planted at a rate of five to six seed per foot of row in a field that had previously been cropped to peanut at the Gulf Coast Research and Extension Center near Fairhope, Alabama, on May 24. The soil type was a Malbis fine sandy loam (organic matter <1 percent). Recommendations of the Alabama Cooperative Extension System for fertility and weed control were followed. On March 23, Roundup was applied at 1 quart per acre to burn down winter weeds. On April 15, 186 pounds per acre of 11-21-21 fertilizer + 10 pounds per acre Sulfur + 0.5 pound per acre Boron (20-40-40-10S-0.5B) was applied to the test area. On April 16, 2 pints per acre of Prowl was applied and incorporated for preemergent weed control. On June 11, 8 ounces per acre Gramoxone + 1 pint per acre of Storm + 1 pint of Induce per 25 gallons of water was applied for postemergent weed control. On June 23, 1.5 pints per acre of Poast + 1 quart per acre of Crop Oil was applied for postemergent weed control. On July 1, 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 Temik 15G at planting. Ten pounds per acre of *Rhizobium* innoculant was also applied at planting. Karate insecticide was applied on September 14 for control of velvetbean caterpillar.

Plots, which consisted of four 30-foot rows on 38-inch centers, were arranged in a randomized complete block with six replications. Plots were not irrigated. Foliar fungicides were applied as a full canopy spray at 14-day intervals on June 30, July 14, July 28, August 9, August 16, August 25, September 7, and September 22 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 7 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 and ≤ 10 percent defoliation; 5 = lesions noticeable in upper canopy with some defoliation and ≤ 25 percent defoliation; 6 = lesions numerous with significant defoliation and ≤ 50 percent defoliation; 7 = lesions numerous with heavy defoliation and ≤ 75 percent defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation and ≤ 90 percent defoliation; 9 = very few remaining leaves covered with lesions and ≤ 95 percent defoliation; and 10 = plants completely defoliated or dead). Rust was rated using the ICRISAT rust rating scale (1 = no disease, ...9 = plants severely affected, 80 to 100 percent leaves withering).

Counts of stem rot (SR) loci were made on October 7 immediately after plot inversion (one locus was defined as ≤ 1 foot of consecutive stem rot damaged plants per row). Plots were harvested on October 11 and yields were reported at 8.25 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P = 0.05$).

Results: In 2010, 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 noted. Leaf spot severity was lower than had previously been observed. Of the fungicide programs tested, the worst leaf spot control was with the Equus/Orius 3.6F program. Compared to the other programs, only Equus/Orius 20AQ, Equus/Orius 3.6F (3.6 fluid ounces per acre) + Bumper (4 fluid ounces per acre), Equus/Orius 20AQ (7.76 fluid ounces per acre) + Bumper (4 fluid ounces per acre), Equus/Provost, and Equus 720 full-season gave significantly better control. The Equus/Provost treatment provided the best control of rust. Of the remaining treatment programs, Equus 720 full-season gave significantly better control than did all other treatment programs except, Equus/Muscle, Equus/Orius 3.6F, Equus/Bumper (2.5 fluid ounces and 4 fluid ounces per acre), Equus/Orius 20AQ (7.76 fluid ounces per acre) +

Bumper (2.5 fluid ounces per acre), Equus/Orius 3.6F (3.6 fluid ounces per acre) + Bumper (4 fluid ounces per acre), Equus/Orius 20AQ (7.76 fluid ounces per acre) + Bumper (4 fluid ounces per acre), and Equus/Provost. Stem rot incidence was low despite the frequent rain showers and high temperatures. However, significant decreases in stem rot incidence was observed with the Equus/Muscle, Equus/Orius 3.6F, Equus/Orius 20AQ, Equus/Orius 3.6F + Bumper (2.5 fluid ounces per acre), Equus/Orius 3.6F/Bumper, and Equus/Orius 20AQ/Bumper treatment programs. Yield response among the treatment programs was similar to that obtained with the Equus 720 full-season treatment program with the exception of the Equus/Bumper (2.5 fluid ounces per acre) treatment which had significantly lower yields.

EVALUATION OF EQUUS 720, ORIUS 3.6F, ORIUS 20AQ, AND BUMPER 41.8EC FOR THEIR EFFICACY IN CONTROLLING EARLY AND LATE LEAF SPOT, RUST, AND STEM ROT OF PEANUT IN SOUTHWEST ALABAMA, GCREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	Rust[3]	SR[4]	Yield *lb/A*
Equus 720 24.0 fl oz	1,2,7	3.8	4.3	1.0	6056
Muscle 3.6F 7.2 fl oz	3,4,5,6				
Equus 720 24.0 fl oz	1,2,7	4.0	4.7	0.6	6166
Orius 3.6F 7.2 fl oz	3,4,5,6				
Equus 720 24.0 fl oz	1,2,7	3.5	3.8	0.8	5995
Orius 20AQ 15.5 fl oz	3,4,5,6				
Equus 720 24.0 fl oz	1,2,7	3.8	4.0	3.8	5376
Bumper 41.8EC 2.5 fl oz	3,4,5,6				
Equus 720 24.0 fl oz	1,2,7	3.8	4.0	1.5	5680
Bumper 41.8EC 2.5 fl oz	3,4,5,6				
Equus 720 24.0 fl oz	1,2,7	3.7	4.2	0.8	5880
Orius 3.6F 3.6 fl oz + Bumper 41.8EC 2.5 fl oz	3,4,5,6				
Equus 720 24.0 fl oz	1,2,7	3.5	3.8	2.2	5429
Orius 20AQ 7.76 fl oz + Bumper 41.8EC 2.5 fl oz.	3,4,5,6				
Equus 720 24.0 fl oz	1,2,7	3.0	3.7	1.2	6072
Orius 3.6F 3.6 fl oz + Bumper 41.8EC 4.0 fl oz	3,4,5,6				
Equus 720 24.0 fl oz	1,2,7	3.0	3.3	1.5	5796
Orius 20AQ 7.76 fl oz + Bumper 41.8EC 4.0 fl oz.	3,4,5,6				
Equus 720 24.0 fl oz	1,2,7	3.8	4.2	0.8	5753
Orius 3.6F 7.2 fl oz	3,5				
Bumper 41.8EC 4.0 fl oz	4,6				
Equus 720 24.0 fl oz	1,2,7	3.8	4.5	0.8	5483
Orius 20AQ 15.5 fl oz	3,5				
Bumper 41.8EC 4.0 fl oz	4,6				
Equus 720 24.0 fl oz	1,2,7	2.9	3.0	2.7	6117
Provost 433SC 8.0 fl oz	3,4,5,6				
Equus 720 24.0 fl oz	1-7	2.8	3.3	2.7	5842
LSD (P = 0.05)		***0.5***	***0.8***	***1.6***	***434***

[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 rated using the ICRISAT 1 to 9 rating scale (1 = no disease, ... 9 = plants severely affected, 80-100 percent leaves withering).
[4] Stem rot (SR) incidence is expressed as the number of disease hits per 60 feet of row.
Mean separation within columns was according to Fisher's protected least significant difference (LSD) test (P=0.05).

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. D. Pegues, and J. Jones

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

Production Methods: On May 28, 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 (organic matter <1 percent) soil in a field cropped to peanut every third year at the Gulf Coast Research and Extension Center near Fairhope, Alabama. 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 and Temik 15G at 6.7 pounds per acre; a single early postdirect application of Orthene 97AG at 0.4 pounds per acre, which was applied with an ATV-mounted boom sprayer with a single TX-8 nozzle over the emerging seedlings at 10 gallons of spray volume per acre at 45 psi on June 16 (28 days after planting); and a non-treated control. Full canopy sprays of Echo 720 at 1.5 pints per acre on July 1 were followed by an application of Echo 720 + Muscle 3.6F at 7.2 fluid ounces per acre on July 22; Echo 720 at 1.5 pints per acre + Convoy at 2 pints per acre on August 8; Echo 720 at 1 pint per acre + Muscle 3.6F at 7.2 fluid ounces per acre on August 20; Echo at 1 pint per acre + Convoy at 2 pints per acre on September 2; Echo 720 at 1 pint per acre + Muscle 3.6F at 7.2 fluid ounces per acre on September 14; and Echo 720 at 1.5 pints per acre on October 1. Fungicides were applied with an ATV-mounted boom sprayer with three TX-8 nozzles per row at 10 gallons of spray volume per acre at 45 psi.

Disease Assessment: Final 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 11. Leaf spot diseases were visually rated on October 7 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 and ≤ 10 percent defoliation; 5 = lesions noticeable in upper canopy with some defoliation and ≤ 25 percent defoliation; 6 = lesions numerous with significant defoliation and ≤ 50 percent defoliation; 7 = lesions numerous with heavy defoliation and ≤ 75 percent defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation and ≤ 90 percent defoliation; 9 = very few remaining leaves covered with lesions and ≤ 95 percent defoliation; and 10 = plants completely defoliated or dead). Rust was rated using the ICRISAT rust rating scale (1 = no disease, ...9 = plants severely affected, 80 to 100 percent leaves withering) on October 11. Counts of stem rot loci (one locus was defined as ≤ 1 foot of consecutive stem rot-damaged plants per row) were made immediately after plot inversion on October 12. Yields were reported at 8 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

Results: Rainfall totals for May, June, August, and September were near to above the 30-year average but were below average for July and October. While peanut cultivar x insecticide interaction was significant for only leaf spot severity, peanut cultivar selection significantly impacted thrips damage rating (TDR), TSWV, leaf spot rating, rust, and yield, and the insecticide treatment had a significant impact on TDR and TSWV (Table 1). Despite wet weather patterns in August and September, leaf spot disease and rust pressure were considerably below levels seen in the previous two years. Due to very low stem rot pressure, disease incidence was similar for all peanut cultivars and insecticide treatments. The TDR was lower for Temik 15G and Thimet 20G compared with Orthene. In addition, TSWV incidence, leaf spot and rust ratings, and yield were not influenced by insecticide treatments. Highest thrips damage ratings were recorded for Florida 07 and Georgia-07W. The least thrips damage was seen on Georgia Green and Georgia Greener. While overall TSWV pressure was low, Georgia Green had higher disease levels compared with Florida 07, Georgia-06G, Georgia Greener, and Tifguard, all of which had similar ratings for TSWV. Leaf spot intensity was lower in Florida 07, Georgia Greener, and Georgia Green than Georgia-07W.

Rust ratings were similar for all peanut cultivars. Although sizable differences in disease ratings were noted among peanut cultivars, Florida 07 and Georgia-07W had the highest yields among the seven peanut cultivars. Georgia Green and Georgia-02C had equally low yields, while those of the remaining three cultivars were intermediate.

Summary: Even when TSWV, leaf spot, and rust levels were relatively low, significant differences in yield were noted between peanut cultivars. Florida 07 and Georgia-07W, which had among the highest thrips damage rating, also had, in contrast, among the highest yields. Although all insecticides suppressed thrips damage, particularly Thimet 20G and Temik 15G soil treatments with equally low TDR ratings, yields were similar across all treatments. Differences in TDR ratings among peanut cultivars did not translate into lower yields.

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

	TDR [1]	TSWV [2]	LS [3]	Rust [4]	Yield (*lb/A*)
Source					
Peanut cultivar	0.0040**	0.0002***	0.0003***	0.0293*	0.0010***
Insecticide	<0.0001***	0.0145*	0.0593	0.2258	0.4751
Cultivar x insecticide	0.1385	0.4484	0.0019**	0.1569	0.5625
Insecticide means					
Temik 15G 6.7 lb/A [5]	2.5 c [6]	1.1 a	2.5 a	2.2 a	5899 a
Thimet 20G 5 lb/A [5]	2.7 c	1.2 a	2.4 a	2.3 a	5804 a
Orthene 97 AG 0.4 lb [5]	3.8 b	1.2 a	2.4 a	2.1 a	5728 a
Non-treated control	5.3 a	1.8 a	2.6 a	2.2 a	5825 a
Cultivar means					
Florida 07	4.3 a	1.1 bc	2.2 b	2.3 a	6469 a
Georgia-02C	4.1 ab	1.8 ab	2.6 ab	2.2 a	5269 c
Georgia-06G	3.3 cd	0.8 c	2.5 ab	2.3 a	5672 b
Georgia-07W	4.1 ab	1.7 abc	2.9 a	2.3 a	6328 a
Georgia Green	2.9 d	2.3 a	2.4 b	2.1 a	5018 c
Georgia Greener	3.1 d	1.1 bc	2.3 b	2.1 a	5915 b
Tifguard	3.8 abc	1.0 bc	2.5 ab	2.3 a	5743 b

[1] 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).
[2] TSWV incidence was expressed as the number of hits per 60 feet of row.
[3] Leaf spot (LS) was rated using the Florida 1 to 10 rating scale.
[4] Rust severity was assessed using the ICRISAT 1 to 9 rating scale.
[5] Significance at the 0.05, 0.01, and 0.001 levels is indicated by *, **, or ***, respectively.
[6] Temik 15G and Thimet 20G were applied as at-plant, in-furrow treatments while Orthene 97AG was applied as an at-cracking foliar treatment.
\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 ($P \leq 0.05$).

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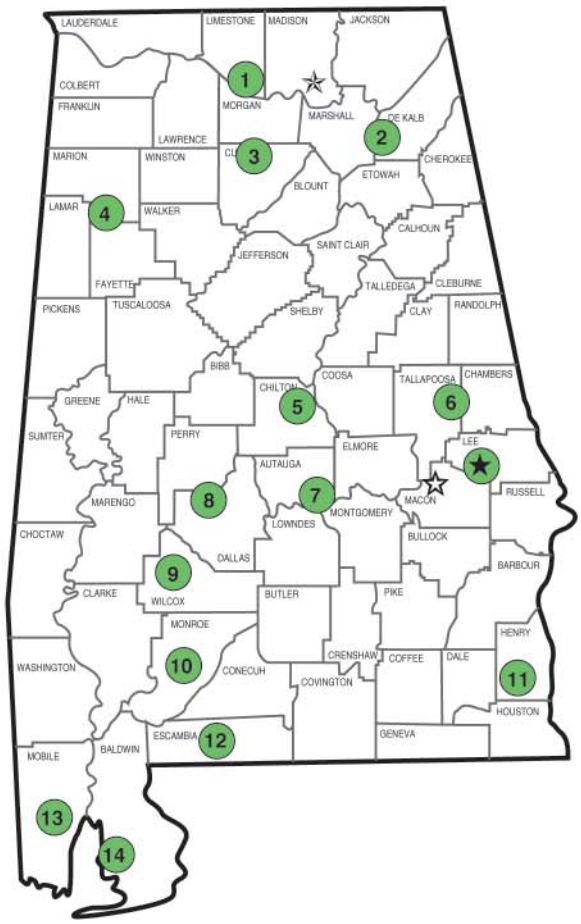

Research Unit Identification

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

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2. Sand Mountain Research and Extension Center, Crossville.
3. North Alabama Horticulture Research Center, Cullman.
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