Peanut Disease Control Field Trials, 2007: Experimental Fungicide Trials

Entomology and Plant Pathology Departmental Series No. 11A
Alabama Agricultural Experiment Station Auburn University, Auburn, Alabama
Richard Guthrie, Director May 2008

Printed in cooperation with the Alabama Cooperative Extension System
(Alabama A&M University and Auburn University)

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This publication is available on-line at
http://www.ag.auburn.edu/aaes/communications/entplp/entplp11a.pdf

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Peanut Disease Control Field Trials, 2007
Experimental Fungicide Trials

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

INTRODUCTION

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

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

During the 2007 production season, at the WREC, temperatures were at or above historical averages (Figure 1) and monthly rainfall totals were well below historical averages throughout the entire growing season (Figure 2). As a result, leaf spot severity was much below that generally observed in all trials whereas soil-borne disease incidence was reduced and little impact was observed on yield.

At the GCREC, temperatures were at or above historical averages throughout the entire growing season (Figure 1), and rainfall was at or near normal throughout the entire growing season (Figure 2). More consistent rainfall throughout the growing season led to normal leaf spot severity and higher rust severity. Stem rot incidence was lower than had been previously observed resulting in little impact on yield.

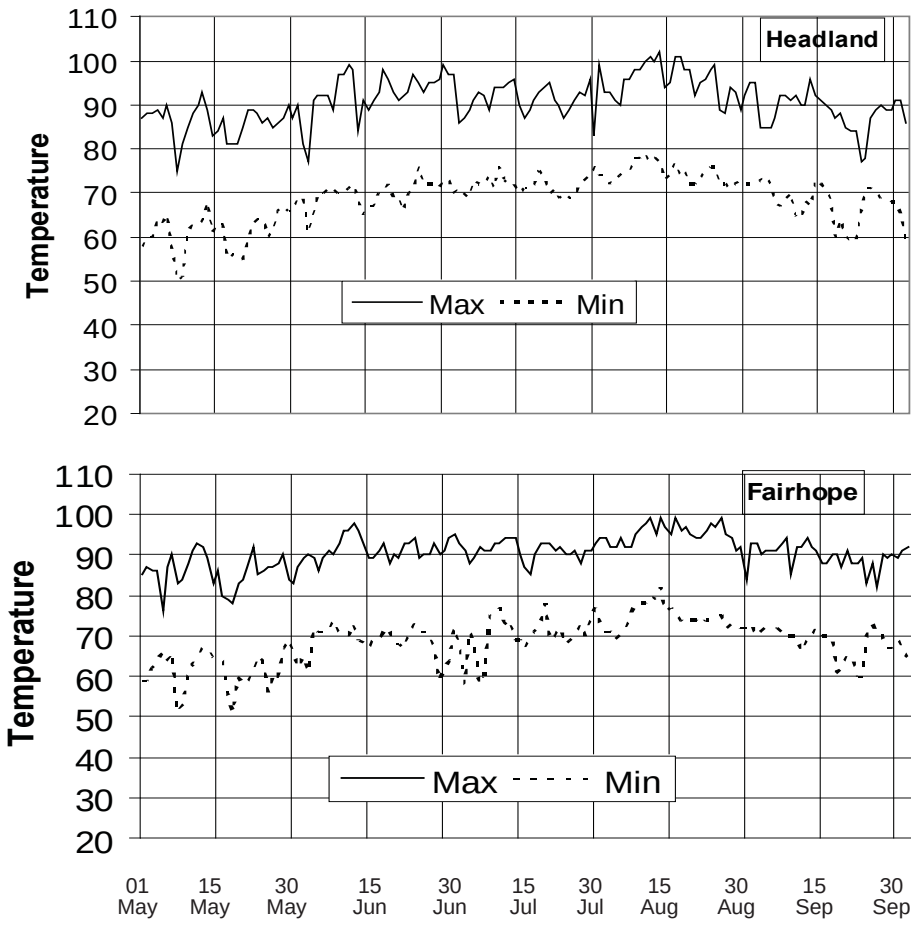

Figure 1. Daily minimum and maximum temperature (°F), May to October 2007.

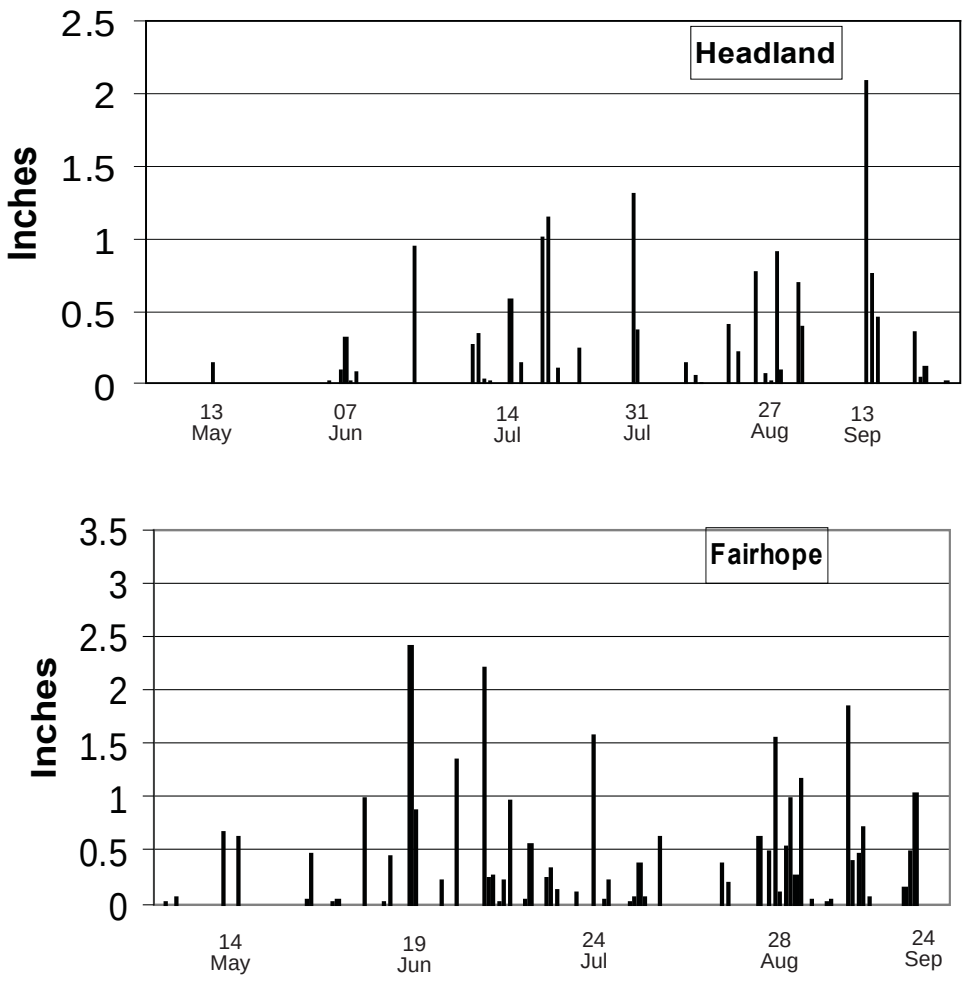

Figure 2. Daily precipitation (inches), May to October 2007.

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

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

Objective: To evaluate experimental fungicides, DPX LEM17 200SC and DPX LEM17 200EC, and compare them with currently registered fungicides for control of early leaf spot and southern stem rot and yield response in an irrigated peanut production system in southeast Alabama.

Methods: Peanut cultivar GA 03L was planted at the Wiregrass Research and Extension Center in Headland, Alabama, on May 24 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. The test area was paratilled and turned on February 27 and March 15, respectively. On April 30, 1 quart per acre of Sonalan + 0.45 pint per acre of Strongarm were applied to the test area for postemergent weed control. Thrips were controlled with an in-furrow application of 6.7 pounds per acre of Temik 15G at planting and an additional application of 10 pounds per acre on July 9.

Plots consisted of four 30-foot rows spaced 3 feet apart arranged in a randomized complete block with six replications. The plots were arranged under a central pivot irrigation system and irrigated on June 7, June 18, June 25, July 5, July 9, July 23, August 30, September 9, and September 23. Fungicides were applied on a 14-day schedule on June 28, July 11, July 26, August 9, August 23, September 5, and September 20 using a four-row, tractor-mounted boom sprayer with TX8 nozzles calibrated to deliver 15 gallons per acre.

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 (≤ 10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤ 25 percent); 6 = lesions numerous with significant defoliation (≤ 50 percent); 7 = lesions numerous with heavy defoliation (≤ 75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (≤ 90 percent); 9 = very few remaining leaves covered with lesions (≤ 95 percent); 10 = completely defoliated or dead plants).

Counts of stem rot (SR) hits (one hit was defined as ≤ 1 foot of consecutive SR-damaged plants) were made on October 16 immediately after plot inversion. Plots were harvested on October 19 and yields were reported at 10.0 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P = 0.05$).

Weather: During the 2007 peanut production season, temperatures were at or above normal and monthly rainfall totals were much below normal throughout the season.

Results: Due to extreme drought, late onset of leaf spot diseases occurred, causing only minor effects on yield. Early leaf spot was observed on untreated control plots late in the season. Best leaf spot control was obtained with the Bravo WS/Abound 2SC program. The worst leaf spot control was observed with the Bravo WS/Folicur 3.6F. All other treatment regimes gave similar levels of leaf spot control compared to the Bravo WS standard. Even though the plots were irrigated and temperatures were high during the season, incidence of southern stem rot (SSR) was lower than had been seen in previous years. Incidence was significantly higher for the Bravo WS standard compared with DPX LEM17 200SC (24.0 fluid ounces), Bravo WS/Folicur 3.6F, Bravo WS/Abound 2SC, Bravo WS/Bravo WS + Moncut 70DF, and Headline 2.09EC/Folicur 3.6F/Headline 2.09EC/Bravo WS. All treatment regimes yielded similarly and no statistical differences were observed among any of the fungicide regimes.

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

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	SSR[3]	Yield *lb/A*
DPX LEM17 200SC 9.56 fl oz	1-7	2.9[4]	3.8	3707
DPX LEM17 200EC 16.8 fl oz	1-7	2.8	3.3	3920
DPX LEM17 200SC 16.8 fl oz	1-7	2.9	3.3	3843
DPX LEM17 200SC 23.9 fl oz	1-7	2.8	2.7	4001
Tilt 3.6EC 2.0 fl oz + Bravo WS 16.0 fl oz	1,2	2.8	3.2	3920
DPX LEM 17 200SC 16.8 fl oz	3,5			
Bravo WS 24.0 fl oz	4,6,7			
DPX LEM 17 20SC 9.6 fl oz + Punch 5.0 fl oz	1-7	2.8	3.2	3924
DPX LEM 17 20SC 9.6 fl oz + Punch 5.0 fl oz	1,2	2.9	4.0	3940
DPX LEM 17 200SC 16.8 fl oz	3,5			
Bravo WS 24.0 fl oz	4,6,7			
Tilt 3.6EC 2.0 fl oz + Bravo WS 16.0 fl oz	1,2	2.8	3.5	4225
DPX LEM 17 200SC 24.0 fl oz	3,5			
Bravo WS 24.0 fl oz	4,6,7			
Tilt 3.6EC 2.0 fl oz + Bravo WS 16.0 fl oz	1,2	2.8	1.5	3985
Abound 2.08SC 18.2 fl oz	3,5			
Bravo WS 24.0 fl oz	4,6,7			
Bravo WS 24.0 fl oz	1,2,7	3.2	2.5	3751
Folicur 3.6F 7.2 fl oz	3,4,5,6			
Bravo WS 24.0 fl oz	1,2,4,6,7	2.5	1.8	4003
Abound 2.08SC 18.5 fl oz	3,5			
Bravo WS 24.0 fl oz	1,2,4,6,7	2.6	2.5	3799
Equus 720 24.0 fl oz + Moncut 70DF 1.1 lb	3,5			
Headline 2.09EC 6.0 fl oz	1,2	2.8	2.2	4023
Folicur 3.6F 7.2 fl oz	3,5			
Headline 2.09EC 9.0 fl oz	4			
Bravo WS 24.0 fl oz	6,7			
Bravo WS 24.0 fl oz	1-7	2.7	4.2	3711
LSD (*P*=0.05)		**0.4**	**1.4**	**576**

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

EVALUATION OF EVITO AND OTHER NEW FUNGICIDES FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

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

Objective: Objective: To evaluate Evito, Tebuzol, and Topsin, and other new fungicides and compare them with currently registered fungicides for control of early leaf spot and southern stem rot and yield response in an irrigated peanut production system in southeast Alabama.

Methods: Peanut cultivar GA 03L was planted at the Wiregrass Research and Extension Center in Headland, Alabama, in a field with a history of peanut production on May 24. 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. The test area was paratilled and turned on February 27 and March 15, respectively. On April 30, 1 quart per acre of Sonalan + 0.45 pint per acre of Strongarm were applied to the test area for postemergent weed control. Thrips were controlled with an in-furrow application of 6.7 pounds per acre of Temik 15G at planting and an additional application of 10 pounds per acre on July 9.

Plots consisted of four 30-foot rows spaced 3 feet apart arranged in a randomized complete block with six replications. The plots were arranged under a central pivot irrigation system and irrigated on June 7, June 18, June 25, July 5, July 9, July 23, August 30, September 9, and September 23. Fungicides were applied on a 14-day schedule on June 28, July 11, July 26, August 9, August 23, September 5, and September 20 using a four-row, tractor-mounted boom sprayer with TX8 nozzles calibrated to deliver 15 gallons per acre.

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 (≤ 10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤ 25 percent); 6 = lesions numerous with significant defoliation (≤ 50 percent); 7 = lesions numerous with heavy defoliation (≤ 75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (≤ 90 percent); 9 = very few remaining leaves covered with lesions (≤ 95 percent); 10 = completely defoliated or dead plants).

Counts of stem rot (SR) hits (one hit was defined as ≤ 1 foot of consecutive SR-damaged plants) were made on October 16 immediately after plot inversion. Plots were harvested on October 26 and yields were reported at 9.8 percent moisture. Significance of treatment effects were tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P = 0.05$).

Weather: During the 2007 peanut production season, temperatures were at or above normal and monthly rainfall totals were below normal throughout the season.

Results: Due to extreme drought, late onset of leaf spot diseases occurred, causing only minor effects on yield. The Echo 720/Echo 720 + Tebuzol 3.6F program gave significantly better leaf spot control than those treatments that included two or four applications of Folicur 3.6F and the Echo 720/Tebuzol treatment, as well as those that included Evito applied twice. Only the Echo 720/Evito + Folicur 3.6F program gave results similar to the standard season-long Echo 720 standard program. Incidence of SR was lower than had been seen in previous years. With the exception of the Echo/Evito (5.7 fluid ounces) and Echo/Evito + Folicur 3.6F programs, none of the remaining treatments provided significantly better SR control than the Echo 720 standard. Yields for Echo/Evito (3.8 fluid ounces) were significantly above those recorded for the Echo 720 standard. Otherwise, yield responses for the remaining fungicide programs and the Echo 720 standard were similar.

EVALUATION OF EVITO AND OTHER NEW FUNGICIDES FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	SSR[3]	Yield *lb/A*
Echo 720 24.0 fl oz	1-7	2.5[4]	3.7	3509
Echo 720 24.0 fl oz	1,2,4,6,7	2.6	2.2	3836
Evito 5.7 fl oz	3,5			
Echo 720 24.0 fl oz	1,2,4,6,7	2.9	2.8	3916
Evito 3.8 fl oz	3,5			
Echo 720 24.0 fl oz	1,2,7	2.8	3.0	3848
Evito 3.8 fl oz	3,5			
Folicur 3.6F 7.2 fl oz + Echo 720 16.0 fl oz	4,6			
Echo 720 24.0 fl oz	1,2,4,6,7	2.6	2.2	3509
Folicur 3.6F 7.2 fl oz + Echo 720 16.0 fl oz	3,5			
Echo 720 24.0 fl oz	1,2,4,6,7	2.5	2.8	3618
Abound 2.08SC 18.5 fl oz	3,5			
Echo 720 24.0 fl oz	1,2,4,6,7	2.5	2.7	3736
Abound 12.0 fl oz	3,5			
Echo 720 24.0 fl oz	1,2,4,6,7	2.5	3.0	3848
Echo 720 24.0 fl oz + Moncut 70DF 1.1 lb	3,5			
Headline 2.09EC 6.0 fl oz	1,2	3.0	2.6	3683
Folicur 3.6F 7.2 fl oz	3,5			
Headline 2.09EC 9.0 fl oz	4			
Echo 720 fl oz 24.0 fl oz	6,7			
Echo 720 24.0 fl oz	1,2,7	3.1	3.0	3733
Folicur 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	3.3	3.7	3642
Tebuzol 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.5	3.0	3456
Tebuzol 3.6F 7.2 fl oz + Topsin M 5.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.2	3.5	3480
Echo 720 16.0 fl oz + Tebuzol 3.6F 7.2 fl oz	3,4,5,6			
Microflochlorothalonil 24.0 fl oz	1-7	2.3	3.7	3735
LSD (*P*=0.05)		**0.4**	**1.4**	**400**

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

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

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

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

EVALUATION OF TOPGUARD AND OTHER NEW FUNGICIDES FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

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

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

Methods: Peanut cultivar GA 03L was planted on May 24 in a field with a history of peanut production at the Wiregrass Research and Extension Center in Headland, Alabama. The soil type was a Dothan sandy loam (organic matter < 1 percent). Seed were sown at a rate of approximately five seed per foot of row, and recommendations of the Alabama Cooperative Extension System for tillage, fertility, weed, and nematode control were followed. The test area was paratilled and turned on February 27 and March 15, respectively. On April 30, 1 quart per acre of Sonalan + 0.45 pint per acre of Strongarm were applied to the test area for postemergent weed control. Thrips were controlled with an in-furrow application of 6.7 pounds per acre of Temik 15G at planting and an additional application of 10 pounds per acre on July 9.

Plots consisted of four 30-foot rows spaced 3 feet apart arranged in a randomized complete block with six replications. The plots were arranged under a central pivot irrigation system and irrigated on June 7, June 18, June 25, July 5, July 9, July 23, August 30, September 9, and September 23. Fungicides were applied on a 14-day schedule on June 28, July 11, July 26, August 9, August 23, September 5, and September 24 using a four-row, tractor-mounted boom sprayer with TX8 nozzles calibrated to deliver 15 gallons per acre.

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 (≤ 10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤ 25 percent); 6 = lesions numerous with significant defoliation (≤ 50 percent); 7 = lesions numerous with heavy defoliation (≤ 75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (≤ 90 percent); 9 = very few remaining leaves covered with lesions (≤ 95 percent); 10 = completely defoliated or dead plants).

Counts of stem rot (SR) hits (one hit was defined as ≤ 1 foot of consecutive SR-damaged plants) were made on October 16 immediately after plot inversion. Plots were harvested on October 26 and yields were reported at 10.2 percent moisture. Significance of treatment effects were tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P = 0.05$).

Weather: During the 2007 peanut production season, temperatures were at or above normal and monthly rainfall totals were below normal throughout the growing season.

Results: Despite regular irrigation, leaf spot severity was less than expected. Early leaf spot was the primary leaf spot disease observed. The level of leaf spot control obtained with the standard season-long Echo 720 program was significantly better than programs that included three applications of Topguard or four applications of Folicur 3.6 F. All other treatments gave the same level of leaf spot control as the standard Echo 720 program. Poorest leaf spot control was observed with the standard Echo/Folicur 3.6F program. Incidence of SR was lower than was seen in previous years. Disease ratings for all fungicide programs for control of SR were similar. Highest yield was recorded for the SA-010903 program. With the exception of the Echo 720/Topguard (10 and 28 fluid ounces) and the Echo 720/Folicur 3.6F program, yields for all fungicide treatment programs were similar.

EVALUATION OF TOPGUARD AND OTHER NEW FUNGICIDES FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	SSR[3]	Yield *lb/A*
Echo 720 24.0 fl oz	1,2,6,7	3.0[4]	2.8	3890
Topguard 7.0 fl oz	3,4,5			
Echo 720 24.0 fl oz	1,2,6,7	3.0	2.5	3659
Topguard 10.0 fl oz	3,4,5			
Echo 720 24.0 fl oz	1,2,6,7	2.9	2.7	3799
Topguard 14.0 fl oz	3,4,5			
Echo 720 24.0 fl oz	1,2,6,7	3.0	2.0	3596
Topguard 28.0 fl oz	3,4,5			
Echo 720 24.0 fl oz	1,2,7	3.1	2.8	3654
Folicur 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,4,6,7	2.6	2.2	4022
Abound 2.08SC 18.5 fl oz	3,5			
Echo 720 24.0 fl oz	1,2,4,6,7	2.8	3.0	3882
Echo 720 24.0 fl oz + Moncut 70DF 1.1 lb	3,5			
Headline 2.09EC 6.0 fl oz	1,2	2.8	2.5	3872
Folicur 3.6F 7.2 fl oz	3,5			
Headline 2.09EC 9.0 fl oz	4			
Echo 720 24.0 fl oz	6,7			
Echo 720 24.0 fl oz + Eminent 125SL 7.2 fl oz	1-7	2.6	3.0	3835
Echo 720 16.0 fl oz + Eminent 125SL 7.2 fl oz	1,2,7	2.6	2.2	3916
Echo 720 16.0 fl oz + Muscle 3.6F 7.2 fl oz	3,4,5,6			
SA-010903 24.0 fl oz	1-7	2.5	3.2	4032
Echo 720 24.0 fl oz	1-7	2.4	2.2	4017
LSD (*P*=0.05)		**0.4**	**NS**	**307**

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

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

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

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

EVALUATION OF V-10116 FOR CONTROL OF PEANUT DISEASES IN SOUTHEAST ALABAMA, WREC

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

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

Methods: Peanut cultivar GA 03L was planted on May 24 in a field with a history of peanut production at the Wiregrass Research and Extension Center in Headland, Alabama. The soil type was a Dothan sandy loam (organic matter < 1 percent). Seed were sown at a rate of approximately five seed per foot of row, and recommendations of the Alabama Cooperative Extension System for tillage, fertility, weed, and nematode control were followed. The test area was paratilled and turned on February 27 and March 15, respectively. On April 30, 1 quart per acre of Sonalan + 0.45 pint per acre of Strongarm were applied to the test area for postemergent weed control. Thrips were controlled with an in-furrow application of 6.7 pounds per acre of Temik 15G at planting and an additional application of 10 pounds per acre on July 9.

Plots consisted of four 30-foot rows spaced 3 feet apart arranged in a randomized complete block with six replications. The plots were arranged under a central pivot irrigation system and irrigated on June 7, June 18, June 25, July 5, July 9, July 23, August 30, September 9, and September 23. Fungicides were applied on a 14-day schedule on June 29, July 13, July 27, August 10, August 24, September 6, and September 20 using a four-row, tractor-mounted boom sprayer with TX8 nozzles calibrated to deliver 15 gallons per acre.

Disease Assessment: Early and late leaf spot were visually rated on October 2 using the Florida leaf spot scoring system [1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation (≤ 10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤ 25 percent); 6 = lesions numerous with significant defoliation (≤ 50 percent); 7 = lesions numerous with heavy defoliation (≤ 75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (≤ 90 percent); 9 = very few remaining leaves covered with lesions (≤ 95 percent); 10 = completely defoliated or dead plants).

Counts of stem rot (SR) hits (one hit was defined as ≤ 1 foot of consecutive SR-damaged plants) were made on October 16 immediately after plot inversion. Plots were harvested on October 26 and yields were reported at 10.1 percent moisture. Significance of treatment effects were tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P = 0.05$).

Weather: During the 2007 peanut production season, temperatures were at or above normal and monthly rainfall totals were below normal throughout the growing season.

Results: Despite regular irrigation, leaf spot severity was less than expected. Early leaf spot was the primary leaf spot disease observed. The worst leaf spot control was obtained with the treatment regime that included Headline 2.09EC/Folicur 3.6F/Headline 2.09EC/Bravo 720. All other treatments gave similar levels of leaf spot control as the standard Bravo 720 program. Incidence of SR was lower than was seen in previous years. Disease ratings for all fungicide programs for control of SR were similar; however, the lowest incidence of SR was observed with the Headline 2.09EC/Folicur 3.6F/Headline 2.09EC/Bravo 720 program. Highest yield was recorded for the Bravo 720/V-10116/Headline 2.9EC program. With the exception of the Bravo 720/Folicur 3.6F program, yields for all fungicide treatment programs were similar.

EVALUATION OF V-10116 FOR CONTROL OF PEANUT DISEASES IN SOUTHEAST ALABAMA, WREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	SSR[3]	Yield *lb/A*
Bravo 720 24.0 fl oz	1,7	2.8[4]	5.7	4525
V-10116 1.75 fl oz	2,4,6			
Headline 2.09EC 9.0 fl oz	3,5			
Bravo 720 24.0 fl oz	1,7	2.6	3.0	4404
V-10116 2.5 fl oz	2,4,6			
Headline 2.09EC 9.0 fl oz	3,5			
Bravo 720 24.0 fl oz	1,7	2.8	2.5	4900
V-10116 3.5 fl oz	2,4,6			
Headline 2.09EC 9.0 fl oz	3,5			
Bravo 720 24.0 fl oz	1,7	2.7	3.3	4908
V-10116 DC 4.0 oz	2,4,6			
Headline 2.09EC 9.0 fl oz	3,5			
Bravo 720 24.0 fl oz	1,7	2.7	2.7	4788
Folicur 3.6F	2,4,6			
Headline 2.09EC 9.0 fl oz	3,5			
Bravo 720 24.0 fl oz	1,2,7	2.9	4.5	4259
Folicur 3.6F 7.2 fl oz	3,4,5,6			
Bravo 720 24.0 fl oz	1,2,4,6,7	2.5	2.0	4554
Abound 2.08SC 18.5 fl oz	3,5			
Bravo 720 24.0 fl oz	1,2,4,6,7	2.5	3.7	4771
Bravo 720 24.0 fl oz + Moncut 70DF 1.1 lb	3,5			
Headline 2.09EC 6.0 fl oz	1,2	3.0	1.8	4759
Folicur 3.6F 7.2 fl oz	3,5			
Headline 2.09EC 9.0 fl oz	4			
Bravo 720 24.0 fl oz	6,7			
Bravo 720 24.0 fl oz	1-7	2.6	2.2	4578
LSD (*P* = 0.05)		**0.3**	**1.9**	**458**

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

EVALUATION OF MONCUT 70DF AND HEADLINE 2.09EC FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate fungicides, Moncut 70DF and Headline 2.09EC and compare them with currently registered fungicides for control of early leaf spot and southern stem rot and yield response in an irrigated peanut production system in southeast Alabama.

Methods: Peanut cultivar GA 03L was planted at the Wiregrass Research and Extension Center in Headland, Alabama, on May 24 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. The test area was paratilled and turned on February 27 and March 15, respectively. On April 30, 1 quart per acre of Sonalan + 0.45 pint per acre of Strongarm were applied to the test area for postemergent weed control. Thrips were controlled with an in-furrow application of 6.7 pounds per acre of Temik 15G at planting and an additional application of 10 pounds per acre on July 9.

Plots consisted of four 30-foot rows spaced 3 feet apart arranged in a randomized complete block with six replications. The plots were arranged under a central pivot irrigation system and irrigated on June 7, June 18, June 25, July 5, July 9, July 23, August 30, September 9, and September 23. Fungicides were applied on a 14 to 21-day schedule on June 28, July 6, July 13, July 27, August 10, August 24, September 7, and September 24 using a four-row, tractor-mounted boom sprayer with TX8 nozzles calibrated to deliver 15 gallons per acre.

Disease Assessment: Early and late leaf spot were visually rated on October 2 using the Florida leaf spot scoring system [1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation (≤ 10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤ 25 percent); 6 = lesions numerous with significant defoliation (≤ 50 percent); 7 = lesions numerous with heavy defoliation (≤ 75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (≤ 90 percent); 9 = very few remaining leaves covered with lesions (≤ 95 percent); 10 = completely defoliated or dead plants).

Counts of stem rot (SR) hits (one hit was defined as ≤ 1 foot of consecutive SR-damaged plants) were made on October 16 immediately after plot inversion. Plots were harvested on October 19 and yields were reported at 10.0 percent moisture. Significance of treatment effects were tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P = 0.05$).

Weather: During the 2007 peanut production season, temperatures were at or above normal and monthly rainfall totals were much below normal throughout the season.

Results: Due to extreme drought, late onset of leaf spot diseases occurred, causing only minor effects on yield. Early leaf spot was observed on untreated control plots late in the season. Best leaf spot control was obtained with the Bravo WS full-season and Bavo WS/Abound 2.08SC/Bravo WS + Moncut 70DF (0.36 pound) programs. The worst leaf spot control was observed with the Bravo WS/Folicur 3.6F program. All other treatment regimes contolled leaf spot at a level similar to the Bravo WS standard. Even though the plots were irrigated and temperatures were high during the season, incidence of southern stem rot (SR) was lower than had been seen in previous years. Incidence was significantly higher for the Bravo WS/Bravo WS + Moncut 70DF (0.54 pound) program; however, it was not significantly different compared with the Bravo WS full season standard. The lowest incidence occurred with the Bravo WS/Folicur 3.6 treatment regime. All treatment programs yielded similarly; however, the Bravo WS/Abound 2.08SC program yielded significantly higher than the Bravo WS full season standard.

EVALUATION OF MONCUT 70DF AND HEADLINE 2.09EC FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHEAST ALABAMA, WREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	SSR[3]	Yield *lb/A*
Bravo WS 24.0 fl oz	1-7	2.4[4]	3.2	4226
Bravo WS 24.0 fl oz	1,2,6,7	2.6	3.7	4085
Bravo WS + Moncut 70DF 0.36 lb	3,4,5			
Bravo WS 24.0 fl oz	1,6,7	2.5	3.5	4227
Bravo WS + Moncut 70DF 0.36 lb	2,3,4,5			
Bravo WS 24.0 fl oz	1,2,4,6,7	2.5	4.0	4138
Bravo WS + Moncut 70DF 0.54 lb	3,5			
Bravo WS 24.0 fl oz	1,2,4,6,7	2.6	3.7	4069
Bravo WS + Moncut 70DF 1.1 lb	3,5			
Bravo WS 24.0 fl oz	1,2,7	2.4	2.2	4429
Abound 2.08SC 18.5 fl oz	3,6			
Bravo WS 24.0 fl oz + Moncut 70DF 0.36 lb	4,5			
Bravo WS 24.0 fl oz	1,6,7	2.5	2.7	4183
Bravo WS 24.0 fl oz + Moncut 70DF 0.26 lb	2,3,4,5			
Headline 2.09EC 9.0 fl oz	1.5	2.7	3.5	4399
Bravo WS 24.0 fl oz + Moncut 70DF	3.5			
Headline 2.09EC 6.0 fl oz	4			
Bravo WS 24.0 fl oz	6,7			
Headline 2.09EC 9.0 fl oz	1.5	2.7	2.3	4339
Provost 433SC 8.0 fl oz	3.5,6			
Headline 2.09EC 12.0 fl oz	4			
Tilt/Bravo 24.0 fl oz	7			
Tilt/Bravo 24.0 fl oz	1,2	2.8	3.3	4288
Provost 433SC 8.0 fl oz	3,4,5,6			
Tilt/Bravo 24.0 fl oz	7			
Bravo 24.0 fl oz	1,2,7	2.8	1.8	4438
Folicur 3.6F 7.2 fl oz	3,4,5,6			
Bravo WS 24.0 fl oz	1,2,4,6,7	2.5	2.0	4771
Abound 2.08SC 18.5 fl oz	3,5			
LSD (*P* = 0.05)		**0.4**	**1.6**	**534**

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

COMPARISON OF NEW AND EXISTING CHLROTHALONIL FUNGICIDES FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate new and existing chlorothalonil fungicides and compare them for control of leaf spot diseases and southern stem rot and yield response in an irrigated peanut production system in southeast Alabama.

Methods: Peanut cultivar GA 03L was planted on May 24 in a field with a history of peanut production at the Wiregrass Research and Extension Center in Headland, Alabama. Seed were sown at a rate of approximately five seed per foot of row, 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). The test area was paratilled and turned on February 27 and March 15, respectively. On April 30, 1 quart per acre of Sonalan + 0.45 pint per acre of Strongarm were applied to the test area for postemergent weed control. Thrips were controlled with an in-furrow application of 6.7 pounds per acre of Temik 15G at planting and an additional application of 10 pounds per acre on July 9.

Plots consisted of four 30-foot rows spaced 3 feet apart arranged in a randomized complete block with six replications. The plots were arranged under a central pivot irrigation system and irrigated on June 7, June 18, June 25, July 5, July 9, July 23, August 30, September 9, and September 23. Fungicides were applied on a 14 to 21-day schedule on June 28, July 6, July 13, July 27, August 10, August 24, September 7, and September 24 using a four-row, tractor-mounted boom sprayer with TX8 nozzles calibrated to deliver 15 gallons per acre.

Disease Assessment: Early and late leaf spot were visually rated on October 2 using the Florida leaf spot scoring system [1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation (≤ 10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤ 25 percent); 6 = lesions numerous with significant defoliation (≤ 50 percent); 7 = lesions numerous with heavy defoliation (≤ 75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (≤ 90 percent); 9 = very few remaining leaves covered with lesions (≤ 95 percent); 10 = completely defoliated or dead plants).

Counts of stem rot (SR) hits (one hit was defined as ≤ 1 foot of consecutive SR-damaged plants) were made on October 16 immediately after plot inversion. Plots were harvested on October 26 and yields were reported at 10.0 percent moisture. Significance of treatment effects were tested by analysis of variance and Fisher's protected least significant difference (LSD) test (P = 0.05).

Weather: During the 2007 peanut production season, temperatures were at or above normal and monthly rainfall totals were below normal throughout the growing season.

Results: Despite frequent irrigation throughout the growing season, leaf spot severity was below what was usually observed. While early leaf spot was the primary leaf spot disease observed, some late leaf spot was seen late in the season. All chlorothalonil fungicide programs gave similar levels of leaf spot control. Incidence of SR was also similar across all fungicide programs. No significant differences in yield were observed among any of the fungicides.

COMPARISON OF NEW AND EXISTING CHLROTHALONIL FUNGICIDES FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	SSR[3]	Yield *lb/A*
Bravo WS 16.0 fl oz	1-7	2.5[4]	3.7	4579
Equus 720 SST 16.0 fl oz	1-7	2.6	3.8	4651
Echo 720 16.0 fl oz	1-7	2.8	2.5	4206
Equus 82.5 WDG 1.0 lb	1-7	2.6	3.0	4598
Bravo Ultrex 1.0 lb	1-7	2.7	3.2	4408
LSD (*P* = 0.05)		**NS**	**NS**	**NS**

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

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

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

Objective: To evaluate new fungicides Provost 433SC and Proline 480SC and compare them with other new fungicides and currently existing fungicides for control of leaf spot diseases and southern stem rot and yield response in an irrigated peanut production system in southeast Alabama.

Methods: Peanut cultivar GA 03L was planted on May 24 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. The test area was paratilled and turned on February 27 and March 20, respectively. On April 30, 1 quart per acre of Sonalan + 0.45 pint per acre of Strongarm were applied to the test area for postemergent weed control and on June 12 0.72 ounces per acre of Cadre was applied for postemergent weed control. Thrips were controlled with an in-furrow application of 6.7 pounds per acre of Temik 15G at planting and an additional application of 10 pounds per acre on July 9.

Plots consisted of four 30-foot rows spaced 3 feet apart arranged in a randomized complete block with six replications. The plots were arranged under a central pivot irrigation system and irrigated on May 30, June 18, June 26, July 25, August 16, and August 23. Fungicides were applied on a 14 to 21-day schedule on June 29, July 9, July 16, July 30, August 13, August 30, September 10, and September 25 using a four-row, tractor-mounted boom sprayer with TX8 nozzles calibrated to deliver 15 gallons per acre.

Disease Assessment: Early and late leaf spot were visually rated on October 2 using the Florida leaf spot scoring system [1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation (≤ 10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤ 25 percent); 6 = lesions numerous with significant defoliation (≤ 50 percent); 7 = lesions numerous with heavy defoliation (≤ 75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (≤ 90 percent); 9 = very few remaining leaves covered with lesions (≤ 95 percent); 10 = completely defoliated or dead plants).

Counts of stem rot (SR) hits (one hit was defined as ≤ 1 foot of consecutive SR-damaged plants) were made on October 11 immediately after plot inversion. Plots were harvested on October 15 and yields were reported at 9.85 percent moisture. Significance of treatment effects were tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P = 0.05$).

Results: During the 2007 peanut production season, temperatures were at or above normal and monthly rainfall totals were below normal throughout the growing season. Some rainfall in September resulted in the late onset of leaf spot diseases. Early leaf spot was the primary leaf spot disease observed but appeared to have little effect on yield. The Echo 720/Folicur 3.6F program was significantly less effective in controlling leaf spot diseases than all other treatments. The remaining fungicide programs gave similar leaf spot control. Incidence of stem rot was lower than had been seen in previous years. However, the best SR control was observed with programs that included an in-furrow application of Proline 480SC as well as the Echo 720/Abound 2.08SC/Echo 720 + Artisan 3.6E and Echo 720/Abound 2.08SC programs. The best yield response was recorded with the Proline (IF)/Echo 720/Provost 480SC program. Lowest yields were noted for the Echo 720 full-season and Echo 720/Echo 720 + Folicur 3.6F programs.

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

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	SSR[3]	Yield *lb/A*
Echo 720 24.0 fl oz	1-7	3.0[4]	5.2	4755
Echo 720 24.0 fl oz	1,2,7	3.0	3.3	5106
Echo 720 16.0 fl oz + Muscle 7.2 3.6F fl oz	3,4,5,6			
Proline 480SC 5.7 fl oz	In-furrow	2.8	2.8	5106
Echo 720 24.0 fl oz	1,2,7			
Echo 720 16.0 fl oz + Muscle 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	3.2	3.5	4933
Echo 720 16.0 fl oz + Folicur 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	3.3	4.0	5038
Muscle 3.6F 7.2 fl oz	3,4,5,6			
Headline 2.09EC 9.0 fl oz	1.5	3.0	3.5	5086
Echo 720 16.0 fl oz + Artisan 13.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	7			
Echo 720 24.0 fl oz	1,2,5,6,7	2.8	3.2	5050
Artisan 32.0 fl oz	3,4			
Echo 720 24.0 fl oz	1,7	3.0	2.5	5223
Abound 2.08SC 12.3 fl oz	2			
Echo 720 16.0 fl oz + Artisan 13.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.8	3.3	5058
NAI-3402 8.5 fl oz + Echo 720 24.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	2.8	3.2	5030
Provost 433SC 8.0 fl oz	3,4,5,6			
Proline 480SC 5.7 fl oz	In-furrow	2.7	2.8	5537
Echo 720 24.0 fl oz	1,2,7			
Provost 480SC 8.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,4,6,7	2.8	3.3	5493
Echo 720 24.0 fl oz + Moncut 70DF 1.1 lb	3,5			
Echo 720 24.0 fl oz	1,2,7	3.8	3.0	5300
Folicur 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,4,6,7	2.8	1.7	5324
Abound 2.08SC 18.5 fl oz	3,5			
LSD (*P* = 0.05)		**0.5**	**2.3**	**523**

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

EVALUATION OF DPX LEM 17 200SC AND DPX LEM 17 200EC FOR PEANUT DISEASE CONTROL IN SOUTHWEST ALABAMA, GCREC

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

Objective: To evaluate experimental fungicides DPX LEM 17 200SC and DPX LEM 17 200EC and compare them with currently registered fungicides at 14-day application intervals for their efficacy in controlling leaf spot diseases and stem rot of peanut in a dryland production system in southwest Alabama.

Methods: Peanut cultivar GA 03L was planted on May 21 at a rate of five seed per foot of row at the Gulf Coast Research and Extension Center near Fairhope, Alabama, in raised beds with bed knockers. Rhizobium inoculant was applied in-furrow at planting at a rate of 10 pounds per acre. 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 June 8, 8 ounces per acre of Gramoxone Inteon + 1 pint per acre of Storm + 1 pint per acre of Butoxone 175 (2,4-DB) + 1 pint per 25 gallons of LI700 was made for postemergent weed control. On June 27, 2 ounces per acre of Cadre + 0.225 ounce per acre of Strongarm + 1 pint per 25 gallons of LI700 was applied for weed control. On August 21, 2.0 ounces per acre of Tracer + 2.0 ounces per acre of Karate were applied for insect control. Thrips were controlled at planting with an in-furrow application of 6 to 7 pounds per acre of Temik 15G.

Plots consisted of four 30-foot rows spaced 38 inches apart arranged in a randomized complete block with six replications. Fungicides were applied at 14-day intervals as a full canopy spray using a four-row, ATV-mounted CO_2 sprayer with three TX8 nozzles per row calibrated to deliver 15 gallons per acre on June 28, July 12, July 25, August 9, August 23, September 6, and September 19.

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 (≤ 10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤ 25 percent); 6 = lesions numerous with significant defoliation (≤ 50 percent); 7 = lesions numerous with heavy defoliation (≤ 75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (≤ 90 percent); 9 = very few remaining leaves covered with lesions (≤ 95 percent); 10 = completely defoliated or dead plants). Rust was also rated on September 24 using the ICRISAT rust rating scale (1 = no disease, 2 = 10 percent leaves affected, 3 = 20 percent leaves affected, 4 = 30 percent leaves affected, 5 = 40 percent leaves affected, 6 = 50 percent leaves affected, 7 = 60 percent leaves affected, 8 = 70 percent leaves affected, 9 = plants severely affected, 80-100 percent leaves withering).

Counts of stem rot (SR) hits (one hit was defined as ≤ 1 foot of consecutive SR-damaged plants) were made on October 4 immediately after plot inversion. Plots were harvested on October 8 and yields were reported at 10.0 percent moisture. Significance of treatment effects were tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P = 0.05$).

Weather: During the 2007 peanut production season, temperatures were at or above normal and monthly rainfall totals were near normal throughout the growing season, resulting in increased foliar disease severity.

Results: The primary leaf spot disease observed was late leaf spot. All treatment programs gave similar levels of leaf spot control. However, the treatment regime that contained Bravo WS/Abound 2.08SC gave significantly worse control than all other programs. Rust appeared in late August and progressively intensified through September. All fungicide programs controlled late leaf spot at levels similar to their control of rust. The best rust control was obtained with the full-season Bravo WS program. The worst control was with the Bravo WS/Abound 2.08SC program. SR severity was lower than had been previously observed. Incidence of SR was significantly higher for Bravo WS/Abound 2.08SC program than all programs except the Bravo WS full-season and DPX LEM 17 200SC (9.6 fluid ounces) programs. All other programs were statistically similar. No significant differences in yield were observed among any of the treatment programs.

EVALUATION OF DPX LEM 17 200SC AND DPX LEM 17 200EC FOR PEANUT DISEASE CONTROL IN SOUTWEST ALABAMA, GCREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	Rust[3]	SSR[4]	Yield *lb/A*
DPX LEM 17 200SC 9.6 fl oz	1-7	2.8[5]	3.7	2.2	5613
DPX LEM 17 200SC 16.8 fl oz	1-7	2.8	4.2	1.3	
DPX LEM 17 200EC 16.8 fl oz	1-7	2.8	4.2	1.0	5322
DPX LEM 17 200SC 24.0 fl oz	1-7	2.8	3.8	0.5	5376
Tilt 3.6EC 2.0 fl oz + Bravo WS 16.0 fl oz	1,2	2.7	3.8	1.3	5521
DPX LEM 17 200EC 16.8 fl oz	3,5				
Bravo WS 24.0 fl oz	4,6,7				
DPX LEM 17 200EC 9.56 fl oz + Punch 5.0 fl oz	1-7	2.8	4.3	1.3	5620
DPX LEM 17 200EC 9.56 fl oz + Punch 5.0 fl oz	1,2	2.8	4.2	0.8	5613
DPX LEM 17 200EC 16.8 fl oz	3,5				
Bravo WS 24.0 fl oz	4,6,7				
Tilt 3.6EC 2.0 fl oz + Bravo WS 16.0 fl oz	1,2	2.7	4.2	1.3	5483
DPX LEM 17 200EC 24.0 fl oz	3,5				
Bravo WS 24.0 fl oz	4,6,7				
Tilt 3.6EC 2.0 fl oz + Bravo WS 16.0 fl oz	1,2	2.8	3.5	1.3	5597
Abound 18.5 fl oz	3,5				
Bravo WS 24.0 fl oz	4,6,7				
Bravo WS 24.0 fl oz	1,2,7	2.9	4.2	1.7	5498
Folicur 3.6F 7.2 fl oz	3,4,5,6				
Bravo WS 24.0 fl oz	1,2,4,6,7	3.4	5.5	3.2	5405
Abound 2.08SC 18.5 fl oz	3,5				
Bravo WS 24.0 fl oz	1,2,4,6,7	2.8	3.8	1.5	5559
Bravo WS 24.0 fl oz + 1.1 lb	3,5				
Headline 2.09EC 6.0 fl oz	1,2	2.7	3.8	0.8	5582
Folicur 3.6F	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	2.7	3.2	2.2	5490
LSD (*P* = 0.05)		**0.3**	**0.9**	**1.2**	**334**

[1] Fungicide applications were made at 14-day intervals unless otherwise indicated.
[2] Early and late leaf spot were assessed using the Florida leaf spot scoring system (1 = no disease;… 10 = completely dead plants).
[3] Rust rated using the ICRISAT 1-9 rating scale (1 = no disease, ... 9 = plants severely affected, 80-100 percent leaves withering).
[4] Stem rot incidence (SR) is expressed as the number of disease hits per 60 feet of row.
[5] Mean separation within columns was according to Fisher's protected least significant difference (LSD) test (*P* = 0.05).

EVALUATION OF EVITO AND OTHER NEW FUNGICIDES FOR PEANUT DISEASE CONTROL IN SOUTHWEST ALABAMA, GCREC

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

Objective: To evaluate new fungicides Evito and Tebuzol 3.6F and compare them with currently registered fungicides at 14-day application intervals for their efficacy in controlling leaf spot diseases and stem rot of peanut in a dryland production system in southwest Alabama.

Methods: Peanut cultivar GA 03L was planted on May 21 at a rate of five seed per foot of row at the Gulf Coast Research and Extension Center near Fairhope, Alabama, in raised beds with bed knockers. Rhizobium inoculant was applied in-furrow at planting at a rate of 10 pounds per acre. 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 April 13, 171 pounds per acre of 0-23-23 fertilizer and 10 pounds per acre of Boron was applied to the test area. On April 16, 2 pints per acre of Prowl were incorporated into the test area and the test area was bedded. On June 8, 8 ounces per acre of Gramoxone Inteon + 1 pint per acre of Storm + 1 pint per acre of Butoxone 175 (2,4-DB) + 1 pint per 25 gallons of LI700 was made for postemergent weed control. On June 27, 2 ounces per acre of Cadre + 0.225 ounce per acre of Strongarm + 1 pint per 25 gallons of LI700 was applied for weed control. On July 31, 1 pint per acre of Poast + 1 quart per acre of crop oil was made for weed control. On August 21, 2.0 ounces per acre of Tracer + 2.0 ounces per acre of Karate were applied for insect control. Thrips were controlled at planting with an in-furrow application of 6 to 7 pounds per acre of Temik 15G.

Plots consisted of four 30-foot rows spaced 38 inches apart arranged in a randomized complete block with six replications. Fungicides were applied at 14-day intervals as a full canopy spray using a four-row, ATV-mounted CO_2 sprayer with three TX8 nozzles per row calibrated to deliver 15 gallons per acre on June 28, July 12, July 25, August 9, August 23, September 6, and September 19.

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 (≤ 10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤ 25 percent); 6 = lesions numerous with significant defoliation (≤ 50 percent); 7 = lesions numerous with heavy defoliation (≤ 75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (≤ 90 percent); 9 = very few remaining leaves covered with lesions (≤ 95 percent); 10 = completely defoliated or dead plants). Rust was also rated on September 24 using the ICRISAT rust rating scale (1 = no disease, 2 = 10 percent leaves affected, 3 = 20 percent leaves affected, 4 = 30 percent leaves affected, 5 = 40 percent leaves affected, 6 = 50 percent leaves affected, 7 = 60 percent leaves affected, 8 = 70 percent leaves affected, 9 = plants severely affected, 80-100 percent leaves withering).

Counts of stem rot (SR) hits (one hit was defined as ≤ 1 foot of consecutive SR-damaged plants) were made on October 4 immediately after plot inversion. Plots were harvested on October 8 and yields were reported at 10.0 percent moisture. Significance of treatment effects were tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P = 0.05$).

Weather: During the 2007 peanut production season, temperatures were at or above normal and monthly rainfall totals were near normal throughout the growing season resulting in increased foliar disease severity.

Results: The primary leaf spot disease observed was late leaf spot. All treatment programs gave similar levels of leaf spot control and there were no significant differences among any of the treatment regimes. Rust appeared in late August and progressively intensified through September. The best rust control was obtained with the Echo 720/Echo 720 + Moncut 70DF program. However, it was only significantly better than the Echo 720/Abound 2.08SC and Headline 2.09EC/Folicur 3.6F/Headline 2.09EC/Echo 720 programs. All other treatment programs gave similar levels of rust control. SR severity was lower than had been previously observed. All programs gave similar levels of SR control. However, the highest incidence of SR was observed with the Echo 720/Evito (3.8

fluid ounces) program and the lowest incidence was with the Echo 720/Evito + Folicur 3.6F program. Very little differences in yield were observed among any of the treatment programs. The highest yield was obtained with the Echo 720 full-season program and the lowest was with the Echo 720/Abound 2.08SC program.

EVALUATION OF EVITO AND OTHER NEW FUNGICIDES FOR PEANUT DISEASE CONTROL IN SOUTHWEST ALABAMA, GCREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	Rust[3]	SSR[4]	Yield *lb/A*
Echo 720 24.0 fl oz	1-7	2.9[5]	4.8	2.3	5496
Echo 720 24.0 fl oz	1,2,4,6,7	2.8	4.3	1.5	5184
Evito 5.7 fl oz	3,5				
Echo 720 24.0 fl oz	1,2,4,6,7	3.1	5.0	3.0	5313
Evito 3.8 fl oz	3,5				
Echo 720 24.0 fl oz	1,2,7	3.1	4.2	1.7	5199
Evito 3.8 fl oz	3,5				
Folicur 3.6F + Echo 720 7.2 fl oz + 16.0 fl oz	4,6				
Echo 720 24.0 fl oz	1,2,4,6,7	2.9	4.5	1.0	5253
Evito 3.8 fl oz + Folicur 3.6F 6.0 fl oz	3,5				
Echo 720 24.0 fl oz	1,2,4,6,7	3.0	5.3	1.7	5046
Abound 2.08SC 18.5 fl oz	3,5				
Echo 720 24.0 fl oz	1,2,4,6,7	2.8	5.2	2.2	5069
Abound 12.3 fl oz	3,5				
Echo 720 24.0 fl oz	1,2,4,6,7	2.8	4.0	1.8	5337
Echo 720 24.0 fl oz + Moncut 70DF	3,5				
Headline 2.09EC 6.0 fl oz	1,2	3.1	5.7	2.0	5212
Folicur 3.6F 7.2 fl oz	3,5				
Headline 2.09EC 9.0 fl oz	4				
Echo 720 24.0 fl oz	6,7				
Echo 720 24.0 fl oz	1,2,7	3.2	4.2	2.3	5383
Folicur 3.6F 7.2 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,7	3.2	4.2	1.7	5299
Tebuzol 3.6F 7.2 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,7	3.0	5.0	1.5	5337
Tebuzol 3.6F 7.2 fl oz + Topsin M 5.0 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,7	3.1	5.0	2.0	5192
Echo 720 16.0 fl oz + Tebuzol 3.6F 7.2 fl oz	3,4,5,6				
LSD (*P* = 0.05)		**0.3**	**1.3**	**1.3**	**439**

[1] Fungicide applications were made at 14-day intervals unless otherwise indicated.
[2] Early and late leaf spot were assessed using the Florida leaf spot scoring system (1 = no disease;… 10 = completely dead plants).
[3] Rust rated using the ICRISAT 1-9 rating scale (1 = no disease, ... 9 = plants severely affected, 80-100 percent leaves withering).
[4] Stem rot incidence (SR) is expressed as the number of disease hits per 60 feet of row.
[5] Mean separation within columns was according to Fisher's protected least significant difference (LSD) test (*P* = 0.05).

EVALUATION OF TOPGUARD, EMINENT 125SL, MUSCLE 3.6F, AND OTHER NEW FUNGICIDES FOR PEANUT DISEASE CONTROL IN SOUTHWEST ALABAMA, GCREC

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

Objective: To evaluate new fungicides, Topguard, Eminent 125SL, and Muscle 3.6F, and compare them with currently registered fungicides at 14-day application intervals for their efficacy in controlling leaf spot diseases and stem rot of peanut in a dryland production system in southwest Alabama.

Methods: Peanut cultivar GA 03L was planted at the Gulf Coast Research and Extension Center near Fairhope, Alabama, in raised beds with bed knockers on May 21 at a rate of five seed per foot of row. Rhizobium inoculant was applied in-furrow at planting at a rate of 10 pounds per acre. 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 April 16, 2 pints per acre of Prowl were incorporated into the test area and the test area was bedded. On June 8, 8 ounces per acre of Gramoxone Inteon + 1 pint per acre of Storm + 1 pint per acre of Butoxone 175 (2,4-DB) + 1 pint per 25 gallons of LI700 was made for postemergent weed control. On June 27, 2 ounces per acre of Cadre + 0.225 ounce per acre of Strongarm + 1 pint per 25 gallons of LI700 was applied for weed control. On August 21, 2.0 ounces per acre of Tracer + 2.0 ounces per acre of Karate were applied for insect control. Thrips were controlled at planting with an in-furrow application of 6 to 7 pounds per acre of Temik 15G.

Plots consisted of four 30-foot rows spaced 38 inches apart arranged in a randomized complete block with six replications. Fungicides were applied at 14-day intervals as a full canopy spray using a four-row, ATV-mounted CO_2 sprayer with three TX8 nozzles per row calibrated to deliver 15 gallons per acre on June 28, July 12, July 25, August 9, August 23, September 6, and September 19.

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 (≤ 10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤ 25 percent); 6 = lesions numerous with significant defoliation (≤ 50 percent); 7 = lesions numerous with heavy defoliation (≤ 75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (≤ 90 percent); 9 = very few remaining leaves covered with lesions (≤ 95 percent); 10 = completely defoliated or dead plants). Rust was also rated on September 24 using the ICRISAT rust rating scale (1 = no disease, 2 = 10 percent leaves affected, 3 = 20 percent leaves affected, 4 = 30 percent leaves affected, 5 = 40 percent leaves affected, 6 = 50 percent leaves affected, 7 = 60 percent leaves affected, 8 = 70 percent leaves affected, 9 = plants severely affected, 80-100 percent leaves withering).

Counts of stem rot (SR) hits (one hit was defined as ≤ 1 foot of consecutive SR-damaged plants) were made on October 4 immediately after plot inversion. Plots were harvested on October 8 and yields were reported at 10.0 percent moisture. Significance of treatment effects were tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P = 0.05$).

Weather: During the 2007 peanut production season, temperatures were at or above normal and monthly rainfall totals were near normal throughout the growing season, resulting in increased foliar disease severity.

Results: The primary leaf spot disease observed was late leaf spot. All treatment programs gave similar levels of leaf spot control and there were no significant differences among any of the treatment regimes. Rust appeared in late August and progressively intensified through September. The best rust control was obtained with the Echo 720/Topguard (10. fluid ounces) and Echo 720 full-season programs. However, there were no significant differences for rust control among any of the treatment programs. SR severity was lower than had been previously observed. All programs gave similar levels of SR control and there were no significant differences among any of the treatment regimes. Very little differences in yield were observed among any of the treatment programs. The highest yield was obtained with the Echo 720 + Eminent 125SL/Echo 720 + Muscle 3.6F program and the lowest was with the Echo 720/Topguard (7.0 fluid ounces) program.

EVALUATION OF TOPGUARD, EMINENT 125SL, MUSCLE 3.6F, AND OTHER NEW FUNGICIDES FOR PEANUT DISEASE CONTROL IN SOUTWEST ALABAMA, GCREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	Rust[3]	SSR[4]	Yield *lb/A*
Echo 720 24.0 fl oz	1,2,7	2.9[5]	4.2	1.5	5230
Topguard 7.0 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,7	2.8	3.5	1.7	5459
Topguard 10.0 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,7	2.9	3.7	1.8	5399
Topguard 14.0 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,7	2.9	4.3	1.2	5368
Topguard 28.0 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,7	2.9	4.0	1.0	5452
Folicur 3.6F 7.2 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,4,6,7	2.8	4.3	1.0	5307
Abound 2.08SC 18.5 fl oz	3,5				
Echo 720 24.0 fl oz	1,2,4,6,7	2.8	3.8	1.3	5506
Echo 720 24.0 fl oz + Moncut 70DF 1.1 lb	3,5				
Headline 2.09EC 6.0 fl oz	1,2	3.0	4.3	1.0	5391
Folicur 3.6F 7.2 fl oz	3,5				
Headline 2.09EC 9.0 fl oz	4				
Echo 720 24.0 fl oz	6,7				
Echo 720 16.0 fl oz + Eminent 125SL 7.2 fl oz	1-7	2.8	4.0	1.5	5360
Echo 720 16.0 fl oz + Eminent 125SL 7.2 fl oz	1,2,7	2.8	3.7	1.0	5513
Echo 720 16.0 fl oz + Muscle 3.6F 7.2 fl oz	3,4,5,6				
SA-010903 24.0 fl oz	1-7	2.7	3.8	2.0	5383
Echo 720 24.0 fl oz	1-7	2.7	3.5	1.5	5506
LSD (*P* = 0.05)		**0.3**	**1.0**	**1.3**	**295**

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

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

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

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

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

EVALUATION OF EXPERIMENTAL FUNGICIDES V-10116WG AND V-10116DC FOR PEANUT DISEASE CONTROL IN SOUTHWEST ALABAMA, GCREC

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

Objective: To evaluate experimental fungicides V-10116WG and V-10116DC and compare them with currently registered fungicides at 14-day application intervals for their efficacy in controlling leaf spot diseases and stem rot of peanut in a dryland production system in southwest Alabama.

Methods: Peanut cultivar GA 03L was planted on May 23 at the Gulf Coast Research and Extension Center near Fairhope, Alabama, in raised beds with bed knockers at a rate of five seed per foot of row. Recommendations of the Alabama Cooperative Extension System for fertility and weed control were followed. Rhizobium inoculant was applied in-furrow at planting at a rate of 10 pounds per acre. The soil type was a Malbis fine sandy loam (organic matter < 1 percent). On April 16, 2 pints per acre of Prowl were incorporated into the test area and the test area was bedded. On June 8, 8 ounces per acre of Gramoxone Inteon + 1 pint per acre of Storm + 1 pint per acre of Butoxone 175 (2,4-DB) + 1 pint per 25 gallons of LI700 was made for postemergent weed control. On June 21 1.5 pints per acre Butoxone 175 + 1 pint per 25 gallons was applied to the test area for morning glory control. On June 27, 2 ounces per acre of Cadre + 0.225 ounce per acre of Strongarm + 1 pint per 25 gallons of LI700 was applied for weed control. On August 22, 2.0 ounces per acre of Tracer + 2.0 ounces per acre of Karate were applied for insect control. Thrips were controlled at planting with an in-furrow application of 6 to 7 pounds per acre of Temik 15G.

Plots consisted of four 30-foot rows spaced 38 inches apart arranged in a randomized complete block with six replications. Fungicides were applied at 14-day intervals as a full canopy spray using a four-row, ATV-mounted CO_2 sprayer with three TX8 nozzles per row calibrated to deliver 15 gallons per acre on July 2, July 17, July 30, August 14, August 30, September 10, and September 25.

Disease Assessment: Early and late leaf spot were visually rated on October 3 using the Florida leaf spot scoring system [1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation (≤ 10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤ 25 percent); 6 = lesions numerous with significant defoliation (≤ 50 percent); 7 = lesions numerous with heavy defoliation (≤ 75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (≤ 90 percent); 9 = very few remaining leaves covered with lesions (≤ 95 percent); 10 = completely defoliated or dead plants). Rust was also rated on October 3 using the ICRISAT rust rating scale (1 = no disease, 2 = 10 percent leaves affected, 3 = 20 percent leaves affected, 4 = 30 percent leaves affected, 5 = 40 percent leaves affected, 6 = 50 percent leaves affected, 7 = 60 percent leaves affected, 8 = 70 percent leaves affected, 9 = plants severely affected, 80-100 percent leaves withering).

Counts of stem rot (SR) hits (one hit was defined as ≤ 1 foot of consecutive SR-damaged plants) were made on October 9 immediately after plot inversion. Plots were harvested on October 12 and yields were reported at 10.0 percent moisture. Significance of treatment effects were tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P = 0.05$).

Weather: During the 2007 peanut production season, temperatures were at or above normal and monthly rainfall totals were near normal throughout the growing season, resulting in increased foliar disease severity.

Results: The primary leaf spot disease observed was late leaf spot. The best leaf spot control was obtained with the full-season Bravo 720 program and was significantly better than all other programs except the Bravo 720/V-10116WG (4 ounces)/Headline 2.09EC, Bravo 720/Abound 2.08SC, and Bravo 720/Bravo 720 + Moncut 70DF regimes. All other treatment programs gave similar levels of leaf spot control. Rust appeared in late August and progressively intensified through September. The best rust control was obtained with the Bravo 720 full-season program and the worst was with the Headline 2.09EC/Folicur 3.6F/Headline 2.09EC/Bravo 720 program. All other treatment programs gave similar levels of rust control. SR incidence was lower than had been previously

observed. The lowest incidence of SSR was with the Bravo 720 full-season program and the highest incidence was with the Bravo 720/V-10116DC/Headline 2.09EC program. All other programs gave similar levels of SR control. Little differences in yield were observed among any of the treatment programs. However, the highest yield was obtained with the Bravo 720 full-season program and the lowest was with the Bravo 720/V-10116 (1.75 oz)/ Headline 2.09EC program.

EVALUATION OF EXPERIMENTAL FUNGICIDES V-10116WG AND V-10116DC FOR PEANUT DISEASE CONTROL IN SOUTHWEST ALABAMA, GCREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	Rust[3]	SSR[4]	Yield *lb/A*
Bravo 720 24.0 fl oz	1,7	3.3[5]	5.5	1.8	5069
V-10116 1.75 oz	2,4,6				
Headline 2.09EC 9.0 fl oz	3,5				
Bravo 720 24.0 fl oz	1,7	3.5	5.0	2.3	5425
V-10116 2.5 oz	2,4,6				
Headline 2.09EC 9.0 fl oz	3,5				
Bravo 720 24.0 fl oz	1,7	3.5	5.6	2.8	5515
V-10116 3.5 oz	2,4,6				
Headline 2.09EC 9.0 fl oz	3,5				
Bravo 720 24.0 fl oz	1,7	3.2	5.4	2.0	5607
V-10116 4.0 oz	2,4,6				
Headline 2.09EC 9.0 fl oz	3,5				
Bravo 720 24.0 fl oz	1,7	3.4	5.6	1.8	5448
Folicur 3.6F 7.2 fl oz	2,4,6				
Headline 2.09EC 9.0 fl oz	3,5				
Bravo 720 24.0 fl oz	1,2,7	3.4	5.0	1.5	5513
Folicur 3.6F 7.2 fl oz	3,4,5,6				
Bravo 720 24.0 fl oz	1,2,4,6,7	2.8	4.0	1.8	5383
Abound 2.08SC 18.5 fl oz	3,5				
Bravo 720 24.0 fl oz	1,2,4,6,7	2.7	4.3	1.5	5330
Bravo 720 + Moncut 70DF 1.1 lb	3,5				
Headline 2.09EC 6.0 fl oz	1,2	3.4	5.8	1.6	5322
Folicur 3.6F 7.2 fl oz	3,5				
Headline 2.09EC 9.0 fl oz	4				
Bravo 720 24.0 fl oz	6,7				
Bravo 720 24.0 fl oz	1-7	2.6	4.2	1.2	5625
LSD (*P* = 0.05)		**0.6**	**1.0**	**1.5**	**432**

[1] Fungicide applications were made at 14-day intervals unless otherwise indicated.
[2] Early and late leaf spot were assessed using the Florida leaf spot scoring system (1 = no disease;… 10 = completely dead plants).
[3] Rust rated using the ICRISAT 1-9 rating scale (1 = no disease, ... 9 = plants severely affected, 80-100 percent leaves withering).
[4] Stem rot incidence (SR) is expressed as the number of disease hits per 60 feet of row.
[5] Mean separation within columns was according to Fisher's protected least significant difference (LSD) test (*P* = 0.05).

EVALUATION OF MONCUT 70DF AND HEADLINE 2.09EC FOR PEANUT DISEASE CONTROL IN SOUTHWEST ALABAMA, GCREC

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

Objective: To evaluate Moncut 70DF and Headline 2.09EC and compare them at 14- to 21-day application intervals for their efficacy in controlling leaf spot diseases and southern stem rot of peanut in a dryland peanut production system in southwest Alabama.

Methods: Peanut cultivar GA 03L was planted on May 23 at a rate of five seed per foot of row at the Gulf Coast Research and Extension Center near Fairhope, Alabama, in raised beds with bed knockers. Rhizobium inoculant was applied in-furrow at planting at a rate of 10 pounds per acre. 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 June 8, 8 ounces per acre of Gramoxone Inteon + 1 pint per acre of Storm + 1 pint per acre of Butoxone 175 (2,4-DB) + 1 pint per 25 gallons of LI700 was made for postemergent weed control. On June 21, 1.5 pints per acre of Butoxone 175 (2,4-DB) + 1 pint per 25 gallons of LI700 was applied for morning glory control. On June 27, 2 ounces per acre of Cadre + 0.225 ounce per acre of Strongarm + 1 pint per 25 gallons of LI700 was applied for weed control. On August 22, 2.0 ounces per acre of Tracer + 2.0 ounces per acre of Karate were applied for insect control. Thrips were controlled at planting with an in-furrow application of 6 to 7 pounds per acre of Temik 15G.

Plots consisted of four 30-foot rows spaced 38 inches apart arranged in a randomized complete block with six replications. Fungicides were applied at 14-day intervals as a full canopy spray using a four-row, ATV-mounted CO_2 sprayer with three TX8 nozzles per row calibrated to deliver 15 gallons per acre on July 2, July 9, July 17, August 30, August 14, August 30, September 10, and September 25.

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 (≤ 10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤ 25 percent); 6 = lesions numerous with significant defoliation (≤ 50 percent); 7 = lesions numerous with heavy defoliation (≤ 75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (≤ 90 percent); 9 = very few remaining leaves covered with lesions (≤ 95 percent); 10 = completely defoliated or dead plants). Rust was also rated on September 24 using the ICRISAT rust rating scale (1 = no disease, 2 = 10 percent leaves affected, 3 = 20 percent leaves affected, 4 = 30 percent leaves affected, 5 = 40 percent leaves affected, 6 = 50 percent leaves affected, 7 = 60 percent leaves affected, 8 = 70 percent leaves affected, 9 = plants severely affected, 80-100 percent leaves withering).

Counts of southern stem rot (SSR) hits (one hit was defined as ≤ 1 foot of consecutive SSR-damaged plants) were made on October 4 immediately after plot inversion. Plots were harvested on October 8 and yields were reported at 10.0 percent moisture. Significance of treatment effects were tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P = 0.05$).

Weather: During the 2007 peanut production season, temperatures were at or above normal, and monthly rainfall totals were near normal throughout the growing season, resulting in increased foliar disease severity.

Results: The BravoWS/Folicur 3.6F program provided less leaf spot control than all of the other fungicide programs except Headline 2.09EC/Provost 433SC/Headline 2.09EC/Bravo WS, Tilt-Bravo/Provost 433SC/Tilt-Bravo, and Bravo WS/Abound 2SC. All other programs had similar leaf spot ratings. Rust appeared in late August and progressively intensified through September. All fungicide programs gave similar levels of rust control. SR severity was lower than had been previously observed. Incidence of SR was significantly higher for Bravo WS full-season than all programs except Bravo WS [1,6,7]/Bravo WS + Moncut 70DF (0.36 pound)[2,3,4,5], Bravo WS/Bravo WS + Moncut 70DF (1.1 pounds), Headline 2.09EC/Bravo WS + Moncut 70DF/Headline 2.09EC/Bravo WS, and Bravo WS/Folicur 3.6F programs. The Bravo WS/Bravo WS + Moncut 70DF (1.1 pounds) treatment program yielded higher but was statistically similar to most other programs.

EVALUATION OF MONCUT 70DF AND HEADLINE 2.09EC FOR PEANUT DISEASE CONTROL IN SOUTHWEST ALABAMA, GCREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	Rust[3]	SSR[4]	Yield *lb/A*
Bravo WS 24.0 fl oz	1-7	2.9[5]	5.5	2.8	4935
Bravo WS 24.0 fl oz	1,2,6,7	2.8	4.7	1.7	4772
Bravo WS 24.0 fl oz + Moncut 70DF 0.36 lb	3,4,5				
Bravo WS 24.0 fl oz	1,6,7	2.9	5.7	1.3	4802
Bravo WS 24.0 fl oz + Moncut 70DF 0.36 lb	2,3,4,5				
Bravo WS 24.0 fl oz	1,2,4,6,7	3.0	5.2	1.5	4967
Bravo WS 24.0 fl oz + Moncut 70DF 0.54 lb	3,5				
Bravo WS 24.0 fl oz	1,2,4,6,7	2.8	4.5	1.0	5504
Bravo WS 24.0 fl oz + Moncut 70DF 1.1 lb	3,5				
Bravo WS 24.0 fl oz	1,2,7	2.8	4.8	2.0	4944
Abound 2.08SC 18.5 fl oz	3,6				
Bravo WS 24.0 fl oz + Moncut 70DF 0.36 lb	4,5				
Bravo WS 24.0 fl oz	1,6,7	3.0	5.3	1.7	4423
Bravo WS 24.0 fl oz + Moncut 70DF 0.26 lb	2,3,4,5				
Headline 2.09EC 9.0 fl oz	1.5	2.9	5.7	1.3	4955
Bravo WS 24.0 fl oz + Moncut 70DF 1.1 lb	3,5				
Headline 2.09EC 6.0 fl oz	4				
Bravo WS 24.0 fl oz	6,7				
Headline 2.09EC 9.0 fl oz	1.5	3.3	5.5	2.2	5024
Provost 433SC 8.0 floz	3,5,6				
Headline 2.09EC 12.0 fl oz	4				
Tilt-Bravo 24.0 fl oz	7				
Tilt-Bravo 24.0 fl oz	1,2	3.1	5.2	1.7	4964
Provost 433SC 8.0 fl oz	3,4,5,6				
Tilt-Bravo 24.0 fl oz	7				
Bravo WS 24.0 fl oz	1,2,7	3.4	5.5	1.2	5047
Folicur 3.6F 7.2 fl oz	3,4,5,6				
Bravo WS 24.0 fl oz	1,2,4,6,7	3.3	5.5	2.0	5120
Abound 2.08SC 18.5 fl oz	3,5				
LSD (*P* = 0.05)		**0.4**	**0.5**	**1.5**	**578**

[1] Fungicide applications were made at 14-day intervals unless otherwise indicated.
[2] Early and late leaf spot were assessed using the Florida leaf spot scoring system (1 = no disease;… 10 = completely dead plants).
[3] Rust rated using the ICRISAT 1-9 rating scale (1 = no disease, ... 9 = plants severely affected, 80-100 percent leaves withering).
[4] Stem rot incidence (SR) is expressed as the number of disease hits per 60 feet of row.
[5] Mean separation within columns was according to Fisher's protected least significant difference (LSD) test (*P* = 0.05).

EVALUATION OF CHLOROTHALONIL FUNGICIDES FOR PEANUT DISEASE CONTROL IN SOUTHWEST ALABAMA, GCREC

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

Objective: To evaluate new and existing chlorothalonil fungicides applied at 14-day intervals and compare them for their efficacy in controlling leaf spot diseases and southern stem rot of peanut in a dryland peanut production system in southwest Alabama.

Methods: Peanut cultivar GA 03L was planted at the Gulf Coast Research and Extension Center near Fairhope, Alabama, on May 23 at a rate of five seed per foot of row in a field without a prior history of 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. Rhizobium inoculant was applied in-furrow at planting at a rate of 10 pounds per acre. On June 8, 8 ounces per acre of Gramoxone Inteon + 1 pint per acre of Storm + 1 pint per acre of Butoxone 175 (2,4-DB) + 1 pint per 25 gallons of LI700 was made for postemergent weed control. On June 21, 1.5 pints per acre of Butoxone 175 (2,4-DB) + 1 pint per 25 gallons of LI700 was applied for morning glory control. On June 27, 2 ounces per acre of Cadre + 0.225 ounce per acre of Strongarm + 1 pint per 25 gallons of LI700 was applied for weed control. On August 22, 2.0 ounces per acre of Tracer + 2.0 ounces per acre of Karate were applied for insect control. Thrips were controlled at planting with an in-furrow application of 6 to 7 pounds per acre of Temik 15G.

Plots consisted of four 30-foot rows spaced 38 inches apart arranged in a randomized complete block with six replications. In-furrow fungicides were applied at planting with a tractor-mounted drop sprayer calibrated to deliver 15 gallons per acre. Foliar fungicides were applied at 14-day intervals as a full canopy spray using a four-row, ATV-mounted CO_2 sprayer with three TX8 nozzles per row calibrated to deliver 15 gallons per acre on July 2, July 17, July 30, August 14, August 30, September 10, and September 25.

Disease Assessment: Early and late leaf spot were visually rated on October 3 using the Florida leaf spot scoring system [1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation (≤ 10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤ 25 percent); 6 = lesions numerous with significant defoliation (≤ 50 percent); 7 = lesions numerous with heavy defoliation (≤ 75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (≤ 90 percent); 9 = very few remaining leaves covered with lesions (≤ 95 percent); 10 = completely defoliated or dead plants). Rust was also rated on October 3 using the ICRISAT rust rating scale (1 = no disease, 2 = 10 percent leaves affected, 3 = 20 percent leaves affected, 4 = 30 percent leaves affected, 5 = 40 percent leaves affected, 6 = 50 percent leaves affected, 7 = 60 percent leaves affected, 8 = 70 percent leaves affected, 9 = plants severely affected, 80-100 percent leaves withering).

Counts of southern stem rot (SSR) hits (one hit was defined as ≤ 1 foot of consecutive SSR-damaged plants) were made on October 9 immediately after plot inversion. Plots were harvested on October 12 and yields were reported at 10.0 percent moisture. Significance of treatment effects were tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P = 0.05$).

Weather: During the 2007 peanut production season, temperatures were at or above normal. Monthly rainfall totals were near normal throughout the growing season, resulting in a late season increase in foliar disease severity.

Results: All programs gave similar levels of both leaf spot and rust control. SR incidence was lower than had been observed in previous years. Incidence of SR was generally similar for all programs. However, the Equus 82.5WDG treatment program had fewer SR hits than all other programs. There were no significant differences in yield among any of the fungicides tested.

EVALUATION OF CHLOROTHALONIL FUNGICIDES FOR PEANUT DISEASE CONTROL IN SOUTWEST ALABAMA, GCREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	Rust[3]	SSR[4]	Yield *lb/A*
Bravo Weather Stik 16.0 fl oz	1-7	2.8[5]	5.2	2.3	5123
Equus 720 SST 16.0 fl oz	1-7	3.0	5.2	2.5	5054
Echo 720 16.0 fl oz	1-7	2.8	4.8	1.8	5177
Equus 82.5 WDG 1.0 lb	1-7	2.8	4.5	1.3	5169
Bravo Ultrex 1.0 lb	1-7	2.7	4.5	2.7	5276
LSD (*P* = 0.05)		**0.2**	**1.0**	**1.2**	**339**

[1] Fungicide applications were made at 14-day intervals unless otherwise indicated.
[2] Early and late leaf spot were assessed using the Florida leaf spot scoring system (1 = no disease;… 10 = completely dead plants).
[3] Rust rated using the ICRISAT 1-9 rating scale (1 = no disease, ... 9 = plants severely affected, 80-100 percent leaves withering).
[4] Stem rot incidence (SR) is expressed as the number of disease hits per 60 feet of row.
[5] Mean separation within columns was according to Fisher's protected least significant difference (LSD) test (*P* = 0.05).

EVALUATION OF PROVOST 433SC, PROLINE 480SC, AND OTHER NEW AND EXISTING FUNGICIDES FOR PEANUT DISEASE CONTROL IN SOUTHWEST ALABAMA, GCREC

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

Objective: To evaluate Provost 433SC and Proline 480SC and compare them with other new and currently registered fungicides at 14- to 21-day application intervals for their efficacy in controlling leaf spot diseases and southern stem rot of peanut in a dryland peanut production system in southwest Alabama.

Methods: Peanut cultivar GA 03L was planted at the Gulf Coast Research and Extension Center near Fairhope, Alabama, in raised beds with bed knockers on May 23 at a rate of five seed per foot of row. Rhizobium inoculant was applied in-furrow at planting at a rate of 10 pounds per acre. 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 June 8, 8 ounces per acre of Gramoxone Inteon + 1 pint per acre of Storm + 1 pint per acre of Butoxone 175 (2,4-DB) + 1 pint per 25 gallons of LI700 was made for postemergent weed control. On June 21, 1.5 pints per acre of Butoxone 175 (2,4-DB) + 1 pint per 25 gallons of LI700 was applied for morning glory control. On June 27, 2 ounces per acre of Cadre + 0.225 ounce per acre of Strongarm + 1 pint per 25 gallons of LI700 was applied for weed control. On August 22, 2.0 ounces per acre of Tracer + 2.0 ounces per acre of Karate were applied for insect control. Thrips were controlled at planting with an in-furrow application of 6 to 7 pounds per acre of Temik 15G.

Plots consisted of four 30-foot rows spaced 38 inches apart arranged in a randomized complete block with six replications. In-furrow fungicides were applied at planting with a tractor-mounted drop sprayer calibrated to deliver 15 gallons per acre. Foliar fungicides were applied at 14- to 21-day intervals as a full canopy spray using a four-row, ATV-mounted CO_2 sprayer with three TX8 nozzles per row calibrated to deliver 15 gallons per acre on June 28, July 9, July 12, July 25, August 9, August 23, September 6, and September 19.

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 (≤ 10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤ 25 percent); 6 = lesions numerous with significant defoliation (≤ 50 percent); 7 = lesions numerous with heavy defoliation (≤ 75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (≤ 90 percent); 9 = very few remaining leaves covered with lesions (≤ 95 percent); 10 = completely defoliated or dead plants). Rust was also rated on September 27 using the ICRISAT rust rating scale (1 = no disease, 2 = 10 percent leaves affected, 3 = 20 percent leaves affected, 4 = 30 percent leaves affected, 5 = 40 percent leaves affected, 6 = 50 percent leaves affected, 7 = 60 percent leaves affected, 8 = 70 percent leaves affected, 9 = plants severely affected, 80-100 percent leaves withering).

Counts of stem rot (SR) hits (one hit was defined as ≤ 1 foot of consecutive SR-damaged plants) were made on October 2 immediately after plot inversion. Plots were harvested on October 5 and yields were reported at 10.0 percent moisture. Significance of treatment effects were tested by analysis of variance and Fisher's protected least significant difference (LSD) test (P = 0.05).

Weather: During the 2007 peanut production season, temperatures were at or above normal and monthly rainfall totals were below normal throughout the growing season.

Results: Foliar disease severity increased throughout the growing season with primarily late leaf spot and rust being observed. Poorest leaf spot control was observed with the recommended Echo 720/Folicur 3.6F program, while the best leaf spot control was obtained with the Proline 480SC (IF)/Echo 720/Echo 720 + Muscle 3.6F and Echo 720/Echo 720 + Moncut 70DF programs. Rust appeared in late August and progressively intensified through September. The best rust control was observed with the Echo 720/Echo 720 + Moncut 70DF program. Poorest rust control was obtained with the Echo 720/Artisan 3.6E, Echo 720/Muscle 3.6F, and Echo 720/Folicur 3.6F programs. Stem rot (SR) severity was lower than had been observed in previous years and all treatment programs gave

similar levels of control. However, the Echo 720/Abound 2SC/Echo 720 + Artisan 3.6E had significantly lower SR hit counts than did the season-long Echo 720 program. Highest yields were recorded with the Echo 720/Echo 720 + Folicur 3.6F, Headline 2.09EC/Echo 720 + Artisan 3.6E/Echo 720, and Echo 720/Abound 2SC programs. All other programs had similar yields.

EVALUATION OF PROVOST 433SC, PROLINE 480SC, AND OTHER NEW AND EXISTING FUNGICIDES FOR PEANUT DISEASE CONTROL IN SOUTWEST ALABAMA, GCREC

Treatment and rate/A	Application timing[1]	–Disease ratings– LS[2]	Rust[3]	SSR[4]	Yield *lb/A*
Echo 720 24.0 fl oz	1-7	2.6[5]	4.0	2.2	5292
Echo 720 24.0 fl oz	1,2,7	2.8	4.5	1.7	5559
Echo 720 16.0 fl oz + Muscle 3.6F 7.2 fl oz	3,4,5,6				
Proline 480SC 5.7 fl oz	In-furrow	2.5	4.0	1.2	5452
Echo 720 24.0 fl oz	1,2,7				
Echo 720 16.0 fl oz + Muscle 3.6F 7.2 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,7	2.6	4.3	1.5	5773
Echo 720 24.0 fl oz + Muscle 3.6F 7.2 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,7	2.9	5.0	1.8	5460
Muscle 3.6F 7.2 fl oz	3,4,5,6				
Headline 2.09EC 9.0 fl oz	1.5	2.7	4.3	1.5	5666
Echo 720 16.0 fl oz + Artisan 3.6E 13.0 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	7				
Echo 720 24.0 fl oz	1,2,5,6,7	2.9	5.2	1.5	5422
Artisan 3.6E 32.0 fl oz	3,4				
Echo 720 24.0 fl oz	1,7	2.8	4.7	0.7	5536
Abound 2.08SC 12.3 fl oz	2,3,4,5,6				
Echo 720 16.0 fl oz + Artisan 3.6E 13.0 fl oz					
Echo 720 24.0 fl oz	1,2,7	2.7	4.7	2.5	5414
Provost 433SC 8.0 fl oz	3,4,5,6				
Headline 2.09EC 6.0 fl oz	1.5	2.8	4.2	1.7	5368
Echo 720 24.0 fl oz + 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				
Proline 480SC 5.7 fl oz	In-furrow	2.7	4.7	1.7	5521
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	1,2,4,6,7	2.9	4.5	1.0	5689
Echo 720 24.0 fl oz + Moncut 70DF 1.1 lb	3,5				
Echo 720 24.0 fl oz	1,2,7	3.0	5.0	2.3	5483
Folicur 3.6F 7.2 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,4,6,7	2.9	4.5	1.0	5689
Abound 2.08SC 18.5 fl oz	3,5				
LSD (*P* = 0.05)		**0.2**	**1.0**	**1.2**	**339**

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

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

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

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

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

EVALUATION OF COMMERCIAL RUNNER PEANUT CULTIVARS FOR SUITABILITY IN A PEST MANAGEMENT SYSTEM IN SOUTHEAST ALABAMA, WREC

H.L. Campbell, J.R. Weeks, A.K. Hagan, and L. W. Wells

Objective: To evaluate eight peanut cultivars with varying maturity intervals for insect resistance and disease control in a pest management system in southeast Alabama and to compare yields.

Methods: Eight peanut cultivars were planted at the Wiregrass Research and Extension Center in Headland, Alabama, on May 24 in a field with a prior history of peanut production. The soil was a Dothan sandy loam (organic matter < 1 percent). On March 7, the soil was para-tilled and turned. On April 30, 1 quart per acre of Sonalan + 0.45 ounce per acre Strongarm were incorporated into the soil for weed control. Seed were sown at a rate of approximately five seed per foot of row. Treatments included Temik 15G and Thimet 20G applied in-furrow at planting on all cultivars. An untreated plot was also maintained for comparison.

Plots consisted of four 40-foot rows spaced 36 inches apart arranged in a randomized complete block design with six replications. Plots were arranged under a central pivot irrigation system and were irrigated on May 25, June 13, June 26, July 9, August 17, September 10, and October 8. Fungicides were applied on to all plots on June 11 (Bravo 720 1.5 pint per acre), June 26 (Bravo 720 1.5 pint per acre), July 10 (Bravo 720 1 pint per acre + Folicur 3.6F 7.0 fluid ounces per acre), July 23 (Abound 2.08SC 20.0 fluid ounces per acre), August 6 (Bravo 720 1 pint per acre + Folicur 3.6F 7.0 fluid ounces per acre), August 21 (Abound 2.08SC 20.0 fluid ounces per acre), September 5 (Bravo 720 1.5 pints per acre), and September 21 (Bravo 720 1.5 pints per acre) using a tractor-mounted boom sprayer with TX8 nozzles calibrated to deliver 15 gallons per acre.

Disease Assessment: Stand counts were made on June 12 and thrips damage ratings (TDR) were made on July 30 from all plots. Tomato spotted wilt virus (TSWV) ratings were made on August 2, August 30, and September 27 by counting the number of row feet of peanut plants that were severely affected. Early leaf spot was visually rated on October 11 from the mid-maturing varieties and October 24 from the late-maturing varieties using the Florida 1-10 leaf spot scoring system where 1 = no disease, 2 = very few lesions in canopy, 3 = few lesions in lower and upper leaf canopy, 4 = some lesions in lower and upper canopy with light defoliation (≤10 percent), 5 = lesions noticeable in upper canopy with some defoliation (≤25 percent), 6 = lesions numerous with significant defoliation (≤50 percent), 7 = lesions numerous with heavy defoliation (≤75 percent), 8 = numerous lesions on few remaining leaves with severe defoliation (≤90 percent), 9 = very few remaining leaves covered with lesions and severe defoliation (≤95 percent), and 10 = plants defoliation or dead.

Counts of stem rot (SR) hits (one hit was defined as ≤ 1 foot of consecutive SR-damaged plants) were made on October 12 and October 25, respectively, immediately after plot inversion. Plots were harvested on October 15 and October 29 and yields were reported at 9.81 percent moisture. Results were pooled and analyzed across treatment and cultivars. Significance of treatment effects were tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P = 0.05$).

Weather: During the 2007 peanut production season, temperatures were at or above normal and monthly rainfall totals were well below what is normally observed throughout the entire growing season. Drought conditions were especially severe in May, June, July, and August.

Results: When cultivars were evaluated, Georgia Green had the highest emergent rate and York had the lowest (Table 1). All others had varying degrees of emergence. When in-furrow treatments were compared, neither Temik nor Thimet affected stand more than the untreated control (Table 2). TDR damage was highest on the cultivars York and McCloud. Georgia Green had the lowest thrips damage and was significantly lower than all others except AP-3. Among the treatments, Temik had the best thrips control, and both Temik and Thimet gave significantly better control than did those plots not treated with any in-furrow insecticide. Due to the drought, TSWV virus severity increased throughout the season. Highest incidence of TSWV was observed in Georgia Green and this was consistent throughout the season at all three rating dates. Lowest TSWV incidence was consistently observed in

AP-3. Among the treatments, the peanuts treated with Temik 15G at planting had the lowest incidence of TSWV throughout the season. While early leaf spot was the most common leaf spot disease observed, some late leaf spot appeared late in the season. The worst leaf spot severity occurred in FL 07; the severity level was significantly higher than all other cultivars tested. AP-3 had the lowest severity among the cultivars tested. All other cultivars had similar levels of leaf spot severity. The lowest incidence of SR was observed in the cultivar York; this level was significantly lower than any of the other cultivars. The highest incidence of SR was observed in the cultivar AT3085RO, which had significantly higher hits than did all other cultivars. In-furrow insecticide treatments had little effect on SR severity. The best yield response was obtained with the cultivar York and the lowest was with McCloud; however, there were no significant differences in yields among any of the cultivars. There was little difference in yield among the two in-furrow insecticide treatments.

The in-furrow applications of Temik 15G and Thimet 20G reduced the incidence of TSWV within all cultivars when compared with the untreated control (Table 3). The in-furrow treatments had little effect on the incidence and severity of early leaf spot and stem rot.

TABLE 1. COMPARISON OF SELECTED PEANUT LINES FOR INSECT AND DISEASE CONTROL IN AN IRRIGATED PEANUT PRODUCTION SYSTEM IN SOUTHEAST ALABAMA, WREC

			Disease Ratings					
Cultivar	Stand	TDR	TSWV[1] 1	TSWV 2	TSWV 3	LS[2]	SR[3]	Yield *lb/A*
Maturity group 4 (mature 130-145 DAP)								
Ga. Green	91.7[4]	4.2	10.1	22.5	44.0	5.2	8.2	3229
GA -03L	90.2	4.8	10.4	18.8	29.6	4.3	6.7	4378
AP-3	93.6	4.6	7.2	9.7	20.0	5.7	4.8	4066
AT3081R	92.2	4.6	7.3	15.0	26.1	4.4	10.9	3600
AT3085A	93.9	4.5	4.4	8.4	12.6	3.6	5.1	4846
McCloud	87.5	4.9	6.2	10.8	20.0	4.1	4.3	4152
Maturity group 5 (mature 140-165 DAP)								
FL 07	92.5	4.4	5.6	10.3	16.7	4.6	6.2	4604
York	94.8	4.9	4.6	7.0	15.1	4.9	6.0	4249
LSD (*P* = 0.05)	**4.2**	**0.4**	**1.9**	**2.9**	**5.2**	**0.3**	**1.8**	**405**

[1] TSWV assessed as the number of row feet of infected plants.
[2] Leaf spot rated using the Florida 1-10 leaf spot scoring system.
[3] SSR incidence is expressed as the number of hits per 80 feet.
[5] Mean separation within columns was according to Fisher's protected least significant difference (LSD) test (*P* = 0.05).

TABLE 2. EVALUATION OF IN-FURROW TREATMENTS FOR THEIR EFFECT ON STAND, THRIPS, TSWV, AND OTHER DISEASES OF PEANUT IN SOUTHEAST ALABAMA AND THEIR EFFECT ON YIELD, WREC

			Disease Ratings					
Treatment	Stand	TDR	TSWV[1] 1	TSWV 2	TSWV 3	LS[2]	SR[3]	Yield *lb/A*
Temik 15G	92.6[4]	2.5	5.1	9.9	19.5	4.6	7.4	4380
Thimet 20G	90.8	4.0	6.7	12.4	21.9	4.5	6.1	4192
UTC	92.7	7.2	9.1	16.1	27.6	4.6	6.1	3849
LSD (*P* = 0.05)	**2.6**	**0.2**	**1.2**	**1.9**	**3.2**	**0.2**	**1.1**	**248**

[1] TSWV assessed as the number of row feet of infected plants.
[2] Leaf spot rated using the Florida 1-10 leaf spot scoring system.
[3] SSR incidence is expressed as the number of hits per 80 feet.
[5] Mean separation within columns was according to Fisher's protected least significant difference (LSD) test (*P* = 0.05).

TABLE 3. IMPACT OF SOIL INSECTICIDE TREATMENTS ON STAND, THRIPS, TSWV, AND OTHER DISEASES OF PEANUT IN SOUTHEAST ALABAMA AS WELL AS YIELD OF INDIVIDUAL PEANUT CULTIVARS

			Disease Ratings					
Insecticide and rate/A	Stand	TDR	TSWV[1] 1	TSWV 2	TSWV 3	LS[2]	SSR[3]	Yield *lb/A*
Georgia Green								
Temik 15G 6.5 lb	112.8[4]	2.3	3.7	8.0	8.2	2.6	13.0	4922
Thimet 20G 5 lb	119.5	4.3	6.3	10.3	11.3	3.1	14.2	4885
Non-treated	117.8	3.8	7.7	15.5	15.8	2.7	19.0	5100
GA-03L								
Temik 15G 6.5 lb	111.3	2.2	1.7	1.0	3.3	2.8	13.2	4501
Thimet 20G 5 lb	112.67	4.7	1.8	1.2	3.5	2.9	8.5	4686
Non-treated	98.5	5.0	5.8	4.8	5.8	2.9	8.2	5279
AP-3								
Temik 15G 6.5 lb	92.0	3.4	3.3	1.5	4.7	2.5	5.8	4559
Thimet 20G 5 lb	118.7	5.4	3.8	4.7	6.2	2.4	8.7	4228
Non-treated	118.2	5.8	4.0	3.7	7.8	2.4	7.5	5091
AT 3081R								
Temik 15G 6.5 lb	116.3	2.9	4.7	4.5	6.5	3.1	12.8	4774
Thimet 20G 5 lb	114.2	5.9	5.2	3.8	6.2	3.2	9.8	4616
Non-treated	111.7	6.1	7.5	7.3	9.0	3.1	8.8	4904
AT 3085A								
Temik 15G 6.5 lb	109.3	3.0	2.8	1.8	4.3	2.8	18.7	4667
Thimet 20G 5 lb	113.0	5.9	6.2	3.8	5.8	3.3	17.7	4931
Non-treated	122.3	7.0	3.2	1.3	3.3	2.9	15.7	5387
FL 07								
Temik 15G 6.5 lb	85.7	3.0	3.8	1.3	3.3	3.5	12.4	4755
Thimet 20G 5 lb	115.3	3.8	5.5	5.3	6.5	3.2	13.8	4964
Non-treated	89.5	6.8	8.5	5.8	6.7	3.6	10.5	4882
York								
Temik 15G 6.5 lb	62.0	3.5	6.5	3.3	4.3	2.9	3.0	5157
Thimet 20G 5 lb	70.7	6.2	10.5	6.0	4.3	3.0	4.2	5182
Non-treated	59.0	6.5	8.0	5.7	6.2	3.3	3.7	4904
McCloud								
Temik 15G 6.5 lb	80.5	3.9	6.8	5.5	7.3	3.0	9.2	4707
Thimet 20G 5 lb	101.5	6.3	9.3	7.2	9.2	3.2	9.0	4432
Non-treated	91.3	6.6	12.2	8.2	11.5	3.0	13.2	5016
LSD (*P* ≤ 0.05)	**11.6**	**0.9**	**3.8**	**4.7**	**4.5**	**0.5**	**5.3**	**773**

[1] TSWV assessed as the number of row feet of infected plants.
[2] Leaf spot rated using the Florida 1-10 leaf spot scoring system.
[3] SSR incidence is expressed as the number of hits per 80 feet.
[5] Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P = 0.05$).

REACTION OF COMMERCIAL RUNNER PEANUT CULTIVARS TO DISEASES IN SOUTHWEST ALABAMA, GCREC

A. K. Hagan, J. R. Weeks, H. L. Campbell, and M. Pegues

Objective: To assess the impact of selected soil insecticide treatments on the incidence of TSWV and other diseases on commercial runner peanut cultivars in southwest Alabama.

Materials and Methods: On May 21, eight 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 in Fairhope, Alabama. On April 25, 171 pounds per acre of 0-23-23 fertilizer + 10 pounds per acre of sulfur + 0.5 pound per acre of boron along with 2 pints per acre of Prowl herbicide were incorporated with a disk harrow. An early-post broadcast application of the herbicides Gramoxone Inteon at 8 fluid ounces per acre + Storm at 1.0 pint per acre + Butoxone 175 at 1 pint per acre was made on June 6. An additional application of Butoxone 175 at 1.5 pints per acre was made on June 21 to control morning glory. A tank-mixture of Cadre at 2 ounces per acre + Strongarm at 0.225 ounce per acre was made on June 27. The test area was not irrigated. A split plot design with cultivars as whole plots and at-plant soil insecticide treatment as sub-plots was used. Whole plots were randomized in four complete blocks. Individual sub-plots consisted of four 30-foot rows spaced 3.2 feet apart. Full canopy sprays of Tilt 3.6E at 4 fluid ounces per acre + Bravo Weather Stik 6F at 1 pint per acre on July 6 and July 17 were followed by applications of Abound 2SC at 18 fluid ounces per acre on July 30, Bravo Weather Stik 6F at 1.5 pints per acre on August 14, Abound 2SC at 18 fluid ounces per acre on August 30, and Bravo Weather Stik 6F at 1.5 pints per acre on September 10 and September 25. Fungicides were applied with an ATV-mounted boom sprayer with 3 TX-8 nozzles per row at 10 gallons per acre of spray volume at 45 psi.

Disease Assessment: Final TSWV hit counts (one hit was defined as ≤ 1 foot of consecutive severely TSWV-damaged plants per row) were made on September 25. Early and late leaf spot (LS) were rated together for the maturity group 5 cultivars using the 1-10 Florida peanut leaf spot scoring system where 1 = no disease, 2 = very few lesions in canopy, 3 = few lesions noticed in lower and upper canopy, 4 = some leaf spotting and ≤ 10 percent defoliation, 5 = lesions noticeable and ≤ 25 percent defoliation, 6 = lesions numerous and ≤ 50 percent defoliation, 7 = lesions very numerous and ≤ 75 percent defoliation, 8 = numerous lesions on few remaining leaves and ≤90 percent defoliation, 9 = very few remaining leaves covered with lesions and ≤ 95 percent defoliation, and 10 = plants defoliated or dead. Rust severity was assessed using the ICRISAT 1-9 rating scale where 1 = no disease and 9 = 80 to 100 percent of leaves withered. Leaf spot and rust ratings were taken for the maturity group 4 cultivars on September 25 and maturity group 5 cultivars on October 9. Stem rot hit counts (one hit was defined as ≤ 1 foot of consecutive stem rot damaged plants per row) were made immediately after plot inversion on the maturity group 4 cultivars on October 4 and on the maturity group 5 cultivars on October 29. Yields are reported at 10 percent moisture. Significance of treatment effects were tested by analysis of variance and Fisher's protected least significant difference (LSD) test (P=0.05). Data presented in table for each cultivar were averaged across soil insecticide treatments.

Weather: Rainfall totals for May and October were below the average but were average to above average for June, July, August, and September.

Results: Significant differences in the severity of TSWV, leaf spot diseases, rust, and stem rot were noted between the commercial runner peanut cultivars. Lowest TSWV ratings were recorded for AP-3 and GA03L. Severity of TSWV was higher on AT3081R, Carver, C-99R, and GA02C than on the current industry standard Georgia Green. Late leaf spot was much more common than early leaf spot. The least leaf spotting along with minimal premature leaf loss was noted on AP-3 and GA03L. Highest leaf spot ratings were recorded for AT3085A, AT3081R, and C-99R. Considerable rust pressure was noted in 2007. The cultivars AT3085A, C-99R, and to a lesser extent AT3081R, Carver, and GA03L proved vulnerable to this disease. The least rust damage was seen on AP-3, Georgia

Green, and GA02C. While overall stem rot pressure was moderate, lowest hit counts were recorded for GA03L and GA02C. When compared with the Georgia Green standard, only AT3085A suffered heavier stem rot damage. All diseases appeared to influence yield. The cultivar AP-3—which had among the lowest ratings for TSWV, leaf spot diseases, rust, and stem rot—had higher yields than the five of the remaining seven cultivars. Lowest yields were recorded for AT3085A and C-99R, which had high ratings for three of four and all four diseases, respectively.

Incidence of TSWV was significantly lower for the Thimet 15G- than the Temik 15G-treated peanuts and the non-treated controls (Table 2). When compared with the non-treated control, a reduction in TSWV incidence was also obtained for the Temik 15G-treated peanuts. Surprisingly, incidence of stem rot was higher on the Temik15G- than the Thimet 15G-treated peanuts as well as non-treated control, which had similar stem rot hit counts. Due to the significant reduction in TSWV incidence, the Thimet 15G-treated peanuts yielded significantly higher than the non-treated peanuts. Yield for the Temik 15G-treated peanuts was intermediate between those recorded for the latter treatments.

With the exception of the TSWV-resistant cultivar GA03L, one or both insecticide treatments reduced the incidence of TSWV (Table 3). When compared with the non-treated control, reductions in TSWV incidence were obtained with Thimet 15G on AP-3, AT3081R, AT3085RO, GA02C, C-99R, and Carver as well as with Temik 15G on Georgia Green, AP-3, AT3085RO, C-99R, and Carver. An increase in stem rot incidence in the Temik 15G-treated plots when compared with the non-treated control was noted on Georgia Green and AT3081R.

On individual peanut cultivars, significant yield gains were seen with Thimet 15G over the non-treated controls were seen on only GA03L and C-99R. Otherwise, yields were similar across all treatments on the remaining peanut cultivars.

Summary: Across all peanut cultivars, significant reductions in the incidence of TSWV as well as significant yield gains were obtained with the at-plant application of Thimet 15G. The magnitude of the reduction of this disease and yield gains was surprising, given the relatively low TSWV pressure. While a similar but not as large a reduction in TSWV incidence was obtained with Temik 15G, yield response for this treatment and the non-treated control was similar. Surprisingly, an increase in stem rot incidence was associated with the use of Temik 15G. The reduction in TSWV on six cultivars was reflected in higher yields only on C-99R. When compared with the non-treated control, yield gains with Thimet 15G were also seen on GA03L, a cultivar on which TSWV was not influenced by application of this insecticide. A yield gain and reduction in TSWV incidence were obtained with Temik 15G on C-99R.

TABLE 1. DISEASE RATINGS AND YIELD RESPONSE BY PEANUT CULTIVAR

	TSWV hits/60 ft[1]	Leaf spot rating[2]	Rust rating[3]	Stem rot hits/60 ft[1]	Yield *lb/A*
Maturity group 4 (mature 130-145 DAP)					
AP-3	3.7[4]	3.3	3.7	2.7	4853
AT3081R	9.0	4.3	5.2	3.7	4448
AT3085A	5.0	4.6	6.0	5.4	3805
Carver	8.5	4.1	5.3	4.1	4035
GA03L	3.3	3.1	5.1	1.1	4389
Georgia Green	6.4	3.4	4.4	4.3	3962
Maturity group 5 (mature 140-165 DAP)					
C-99R	10.4	4.4	5.8	4.7	3150
GA02C	8.9	3.7	4.6	2.2	4145
LSD (*P*=0.05)	**1.9**	**0.4**	**0.7**	**1.1**	**344**

[1] Stem rot and TSWV severity is expressed as the number of hits per 60 feet of row.
[2] Leaf spot was rated using the Florida 1 to 10 rating scale.
[3] Rust severity was assessed using the ICRISAT 1 to 9 rating scale.
[4] Mean separation in each column was according to analysis of variance and Fisher's protected least significant difference (LSD) test (*P*=0.05).

TABLE 2. AVERAGE TSWV INCIDENCE AND PEANUT YIELD AS INFLUENCED BY AT-PLANT INSECTICIDES

Insecticide and rate/A	TSWV hits/60 ft[1]	Stem rot hits/60 ft[1]	Yield *lb/A*
Temik 15G 6.5 lb	6.5 b[2]	4.0 a	4057 ab
Thimet 20G 5 lb	4.9 c	3.3 b	4237 a
Non-treated	9.4 a	3.3 b	3898 b

[1] Stem rot and TSWV severity is expressed as the number of hits per 60 feet of row.
[2] Mean separation in each column was according to analysis of variance and Fisher's protected least significant difference (LSD) test (*P*=0.05).

TABLE 3. IMPACT OF SOIL INSECTICIDE TREATMENTS ON THE INCIDENCE OF TSWV AND STEM ROT AS WELL AS YIELD OF INDIVIDUAL PEANUT CULTIVARS

Insecticide and rate/A	TSWV[1] hits/60 ft	Stem rot hits/60 ft	Yield *lb/A*
Georgia Green			
Temik 15G 6.5 lb	4.3 b[2]	6.0 a	3918 a
Thimet 20G 5 lb	5.5 ab	3.8 ab	3976 a
Non-treated	9.5 a	3.0 b	3984 a
GA03L			
Temik 15G 6.5 lb	3.0 a	1.2 a	4305 ab
Thimet 20G 5 lb	2.8 a	0.8 a	4756 a
Non-treated	4.2 a	1.2 a	4106 b
AP-3			
Temik 15G 6.5 lb	2.8 b	2.7 a	4542 a
Thimet 20G 5 lb	2.8 b	2.7 a	4565 a
Non-treated	5.5 a	2.8 a	4642 a
AT3081R			
Temik 15G 6.5 lb	10.7 a	5.2 a	4259 a
Thimet 20G 5 lb	5.5 b	2.7 b	4665 a
Non-treated	10.8 a	3.2 b	4420 a
AT3085RO			
Temik 15G 6.5 lb	3.8 b	5.3 a	3969 a
Thimet 20G 5 lb	3.8 b	6.3 a	3693 a
Non-treated	7.3 a	4.7 a	3755 a
GA02C			
Temik 15G 6.5 lb	10.3 a	4.8 a	3953 a
Thimet 20G 5 lb	5.8 a	3.8 a	4190 a
Non-treated	10.7 a	5.0 a	4322 a
C-99R			
Temik 15G 6.5 lb	9.0 b	5.0 ab	3349 a
Thimet 20G 5 lb	7.5 b	3.7 b	3701 a
Non-treated	14.7 a	5.3 a	2401 b
Carver			
Temik 15G 6.5 lb	7.7 b	4.7 a	4137 a
Thimet 20G 5 lb	5.5 b	3.7 a	4351 a
Non-treated	12.3 a	3.8 a	3617 a

[1] Stem rot and TSWV severity is expressed as the number of hits per 60 feet of row.
[2] Means followed by the same letter do not differ significantly according to analysis of variance and Fisher's protected least significant (LSD) test (*P* = 0.05).

DISEASE REACTION AND YIELD RESPONSE OF EXPERIMENTAL VIRGINIA AND RUNNER PEANUT LINES COMPARED WITH COMMERCIAL RUNNER PEANUT CULTIVARS IN THE WIREGRASS REGION OF ALABAMA

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Objective: To assess the reaction of experimental Virginia- and runner-peanut breeding lines to tomato spotted wilt virus, leaf spot and soil-borne diseases as well as their yield response in an irrigated production system.

Materials and Methods: On May 11, commercial and experimental peanut lines were planted at a rate of approximately six seed per foot of row in a field that was cropped to peanut after 2 years of cotton using conventional tillage practices in a fine Dothan sandy loam (organic matter < 1 percent). Gypsum at a rate of 600 pounds per treated acre was applied on a 14-inch band over the row middle on July 9. On April 25, Sonalan at 1.0 quart per acre + Strongarm at 0.45 ounce per acre were applied for preplant weed control. Escaped grass weeds were killed with an application of Poast Plus at 1.5 pints per acre + COC at 1 quart per acre + Windcheck at 0.25 percent v/v on July 24 or were pulled by hand. Disease control was maintained with an applications of Equus 720 6F at 1.5 pints per acre on June 14, Bravo Weather Stik at 1.5 pints per acre on July 2, Abound 2SC at 18.3 fluid ounces per acre + Solubor at 0.5 pound per acre on July 11, Chloronil 720 at 1.5 pints per acre + Solubor at 1.0 pound per acre on July 27, Abound 2SC at 18.3 fluid ounces per acre + Solubor at 0.5 pound per acre on August 15, and Chloronil 720 at 1.5 pints per acre on August 30 and September 11. Temik 15G at 6.5 pounds per acre was applied in-furrow for thrips control. The test area received a total of 8.5 acre inches of water in 10 irrigation events scheduled between May 17 and October 9, 2007. Plots that consisted of two 20-foot rows spaced 3 feet apart were arranged in a randomized complete block.

Disease Assessment: Final TSWV hit counts (one hit was defined as ≤ 1 foot of consecutive severely TSWV-damaged plants per row) were made on September 7, September 15, September 26, and October 9 for the maturity group 3, 4, 4.5, and 5 peanut cultivars, respectively. Early and late leaf spot (LS) were rated together on September 15, September 21, October 1, and October 16 on the maturity group 3, 4, 4.5, and 5 cultivars, respectively, using the 1-10 Florida peanut leaf spot scoring system where 1 = no disease, 2 = very few lesions in canopy, 3 = few lesions noticed in lower and upper canopy, 4 = some leaf spotting and ≤ 10 percent defoliation, 5 = lesions noticeable and ≤ 25 percent defoliation, 6 = lesions numerous and ≤ 50 percent defoliation, 7 = lesions very numerous and ≤ 75 percent defoliation, 8 = numerous lesions on few remaining leaves and ≤90 percent defoliation, 9 = very few remaining leaves covered with lesions and ≤ 95 percent defoliation, and 10 = plants defoliated or dead. Soil disease hit counts (one hit was defined as ≤ 1 foot of consecutive diseased plants per row) were made immediately after plot inversion on the group 4 cultivars on September 19, October 1, October 11, and October 19 on the maturity group 3,4,4.5, and 5 cultivars, respectively. Yields are reported at 7 percent moisture. Significance of treatment effects were tested by analysis of variance and Fisher's protected least significant difference (LSD) test (P=0.05).

Weather: Rainfall totals for May, June, July, and August were below to well below the historical average for this location, while temperatures during this same time period were normal to above normal.

Results: Significant differences in the incidence of TSWV were noted between peanut experimental breeding lines and commercial standards (Table 1). The virus-susceptible runner standard Florunner had higher TSWV hit counts than all of the experimental and commercial runner peanuts except for ARSOK-R1. Of the other commercial runner peanut cultivars, TSWV incidence was lower on Florida 07 compared with GA02C but not AP-3. Among the experimental runner peanut lines, UF07303, UF07304, and UF07305 as well as nearly released C-724-19-15 (Tifguard) demonstrated a high level of TSWV resistance. The Virginia-type breeding line VT003069 had TSWV hit counts that were similar to those of the virus-susceptible standard NC-7. High TSWV infection levels were also recorded for Virginia-type experimental breeding lines N99103o1 and N02020J. In contrast to the other Virginia-type peanuts, N03091T suffered as little TSWV damage as the most virus-resistant runner peanut breeding lines

and commercial cultivars. As a result of the relatively hot and dry weather patterns, early and late leaf spot ratings were much lower than anticipated. On the majority of runner and Virginia peanut experimental lines and commercial cultivars, disease-related symptoms were limited to light spotting in the lower and mid-canopy with little or no premature defoliation. Highest leaf spot ratings were recorded for the runner commercial cultivars GA02C, C-724-19-15 (Tifguard), and the experimental line UF07304. The soil diseases identified in this location were Diplodia collar rot and stem rot. While Diplodia collar rot damaged the Virginia peanut NC-7, this disease was not found on any other peanut cultivar. Although significant differences in soil disease (stem rot) hit counts were noted between experimental lines and commercial cultivars, overall disease pressure was relatively low. Among the remaining peanuts, Florunner had the highest soil disease hit count. Sizable differences in yield were noted. Among the runner peanuts, the experimental lines UF07303, UF07305, GA032803, GA032902, GA032913, and C-724-19-15 (Tifguard) yielded significantly higher than the partially disease-resistant commercial cultivars AP-3, GA02C, and Florida 07 as well as the TSWV-susceptible standard Florunner. The virus-resistant Virginia experimental line N03091T had higher yields compared with all the other Virginia type peanuts.

Summary: The experimental runner peanut lines UF07303, UF07304, and UF07305 as well as nearly released C-724-19-15 (Tifguard) are not only as resistant to TSWV as the best available commercial runner cultivars but also had superior yield response. While not quite as virus resistant as the above peanut lines, GA032803, GA032902, GA032913 also had higher yields than the commercial runner peanut standards AP-3, GA02C, and Florida 07. The experimental line N03091T demonstrated better TSWV resistance and higher yields than any other Virginia market type experimental line or commercial cultivar.

DISEASE AND YIELD RESPONSE OF EXPERIMENTAL RUNNER AND VIRGINIA MARKET TYPE PEANUT LINES COMPARED WITH THAT OF COMMERCIAL STANDARDS

Peanut breeding line or cultivar	Market type	Maturity group	TSWV hits/40 ft[1]	Leaf spot rating[2]	Soil disease hits/40 ft	Yield *lb/A*
NC-7	V	3	21.3 ab[3]	1.5 f	6.0 a	3204 h
Florunner	R	4	23.0 a	2.5 bc	3.8 ab	3394 gh
UF07303	R	4.5	2.5 i	2.6 b	1.3 b-e	6108 ab
UF07304	R	4	3.8 hi	3.4 a	0.0 e	5200bcde
UF07305	R	3	4.3 ghi	1.8 def	0.3 de	5953 ab
GA032803	R	4	7.3 d-h	2.6 b	2.5 bcd	5926 abc
GA032902	R	4	10.5 cd	2.4 bc	2.0 b-e	6325 a
GA032913	R	4	9.8 cde	2.4 bc	1.0 cde	6135 ab
N99103o1	V	3	17.5 b	2.0 c-f	3.8 ab	4801 def
N02020J	V	4	18.0 b	2.1 b-e	2.0 b-e	4991 cdef
N03091T	V	4	5.0 f-i	1.8 def	0.8 cde	5944 ab
VT003069	V	3	22.8 a	1.6 ef	3.0 bc	4574 ef
CRSP648	R	5	4.8 f-i	2.0 c-f	0.8 cde	4665 ef
CRSP702	R	5	8.5 c-g	2.3 bcd	0.5 de	4982 def
C-724-19-15 (Tifguard)	R	4	3.3 hi	3.4 a	1.3 cde	5953 ab
C-724-19-25	R	4	9.0 cdef	2.6 b	0.3 de	5672abcd
ARSOK-R1	R	4	20.0 ab	2.3 bcd	3.0 bc	4656 ef
AP-3	R	5	8.8 c-g	1.8 def	0.8 cde	4259 fg
GA02C	R	5	12.9 c	3.4 a	0.0 e	4964 def
Florida 07	R	5	5.3 e-i	2.0 c-f	1.0 cde	4947 def

[1] TSWV severity is expressed as the number of disease hits per 40 feet of row.

[2] Leaf spot was rated using the Florida 1 to 10 rating scale.

[3] Means in each column that are followed by the same letter are significantly different according to Fisher's protected least significant difference (LSD) test (P=0.05).

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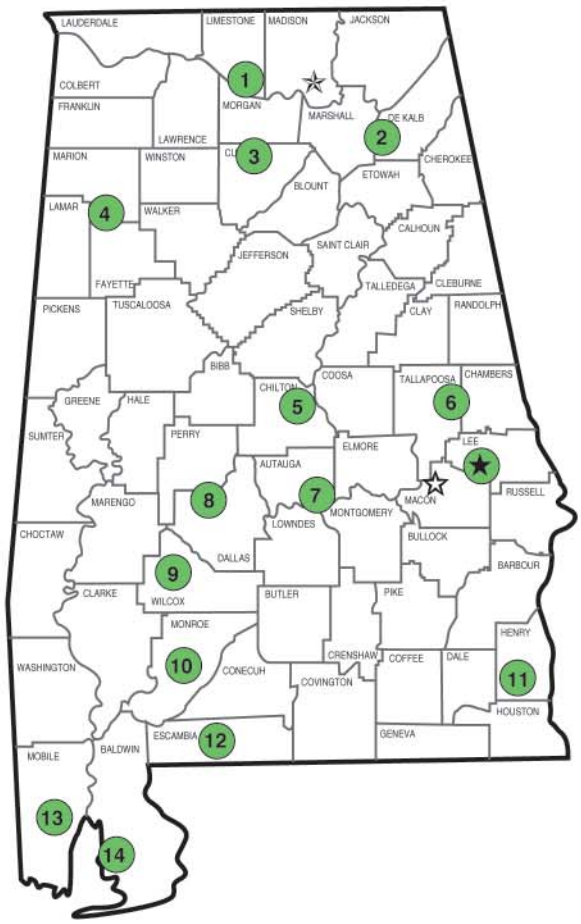

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