Peanut Disease Control Field Trials, 2005: Experimental Fungicide Trials

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Peanut Disease Control Field Trials, 2005

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 2005 production season, at the WREC temperatures were near historical averages (Figure 1) and monthly rainfall totals were near to above historical averages through August, but a late season drought had little impact on disease severity or yield (Figure 2). As a result, increases in leaf spot severity were observed in all trials whereas soil-borne disease incidence was reduced.

At the GCREC, temperatures were near normal throughout the entire growing season and rainfall was at or above historical averages through August. Drought conditions occurred in September and October but disease severity and yield were not negatively impacted. Heavy rains due to Hurricane Dennis on July 10 and Hurricane Katrina on August 29 did not impact yield in any of the tests.

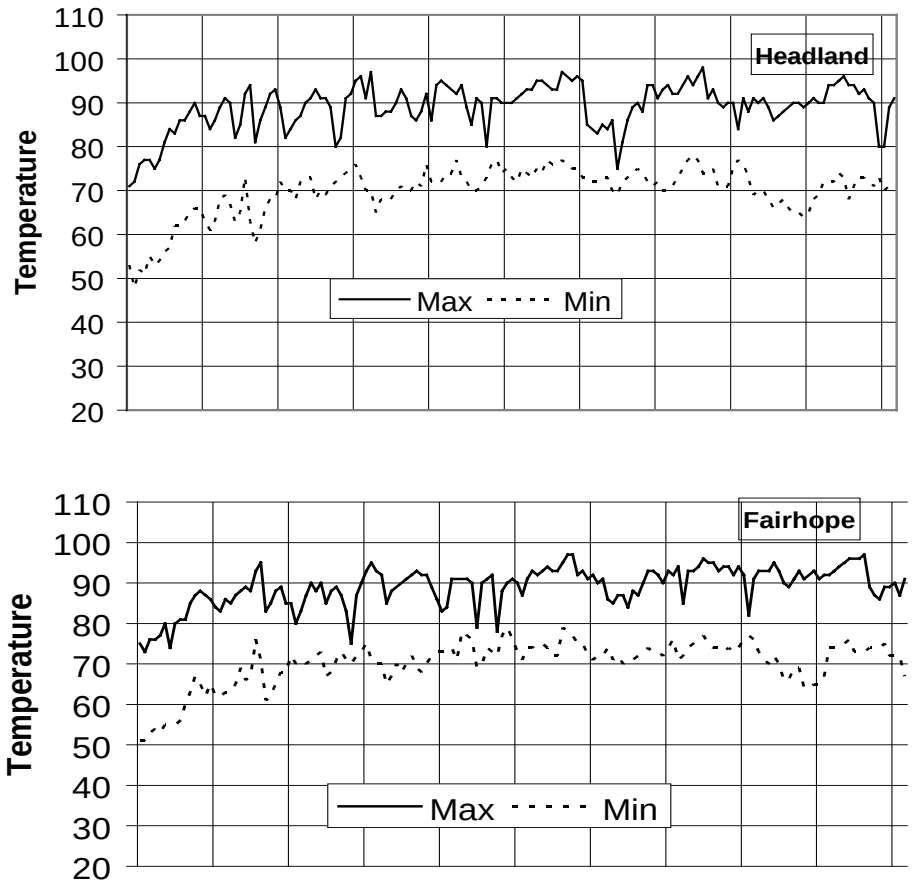
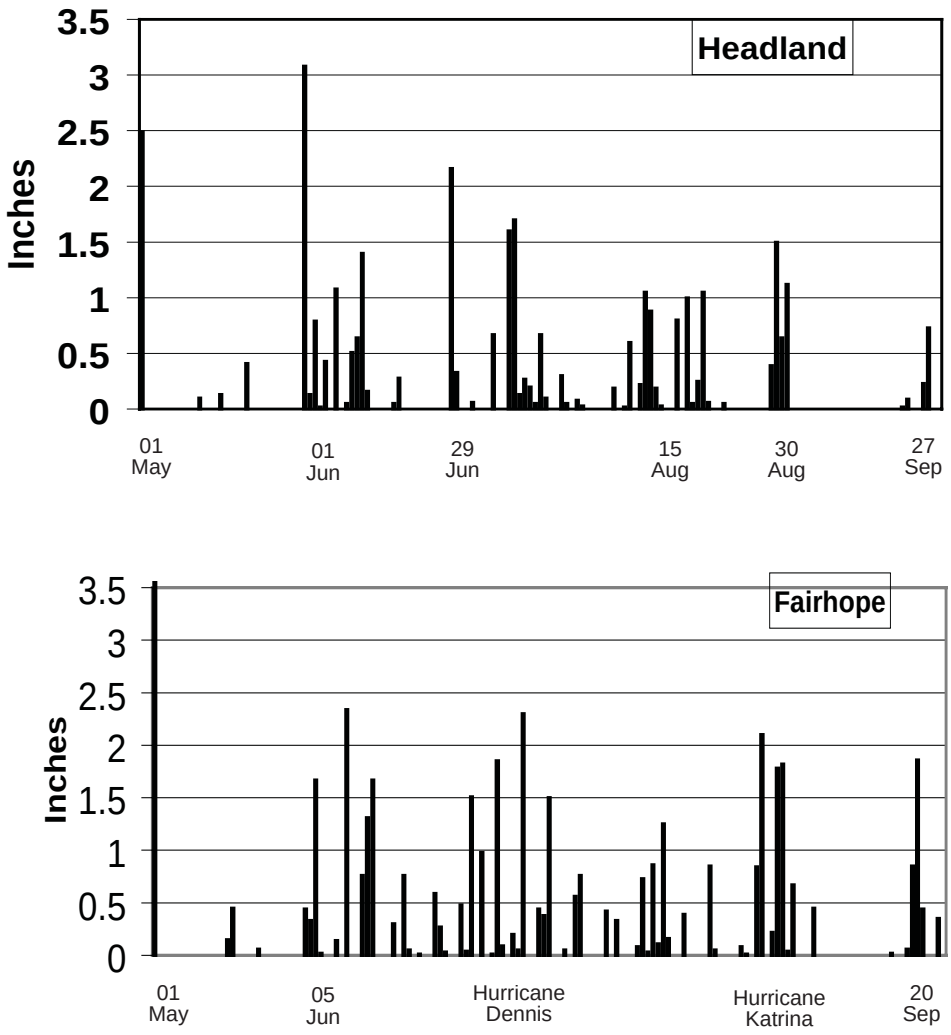


Figure 1. Daily minimum and maximum temperature (ºF), May to October 2005.

Figure 2. Daily precipitation (inches), May to October 2005.



EVALUATION OF NEW AND EXPERIMENTAL FUNGICIDES FOR CONTROL OF LEAF SPOT AND SOUTHERN STEM ROT ON PEANUT IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate new and experimental 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 ANorden was planted at the Wiregrass Research and Extension Center (WREC) in Headland, Alabama, on May 19 in a field with a history of peanut production. The soil type was a Dothan sandy loam (OM < 1 percent). Seed were sown at a rate of approximately five seed per foot of row. 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 as needed.

On March 2, the test area was paratilled and turned and on March 15, 1 ton per acre of lime was incorporated into the soil. On May 16, 1 quart per acre of Sonalan + 0.45 pint per acre of Strongarm were applied for post-emergent mergent weed control. On June 15, 1 ounce per acre of Cadre and 1.5 pints per acre Storm were applied for weed control. Thrips were controlled with an in-furrow application of 6.5 pounds per acre of Temik 15G. Fungicides were applied on a 14- to 21-day schedule on June 20, June 27, July 5, July 18, August 1, August 15, September 6, and September 15 using a four-row, tractor-mounted boom sprayer with TX8 nozzles calibrated to deliver 15 gallons per acre.

Early and late leaf spot were visually rated on September 15 using the Florida leaf spot scoring system where 1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation (≤ 10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤ 25 percent); 6 = lesions numerous with significant defoliation (≤ 50 percent); 7 = lesions numerous with heavy defoliation (≤ 75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (≤ 90 percent); 9 = very few remaining leaves covered with lesions (≤ 95 percent); 10 = completely defoliated or dead plants). Counts of southern stem rot (SSR) hits (one hit was defined as ≤ 1 foot of consecutive SSR-damaged plants) were made on October 6 immediately after plot inversion.

Plots were harvested on October 12 and yields were reported at 10.72 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test (P = 0.05).

Results: During the 2005 peanut production season, temperatures were near normal and monthly rainfall totals were at or above normal through August. Drought conditions occurred in September and October.

While early leaf spot was the most common leaf spot disease observed, some late leaf spot appeared late in the season. Leaf spot control obtained with the Echo 720/Folicur 3.6F + Absolute/Folicur 3.6F + Echo 720 treatment was significantly better than the standard Echo 720, Echo 720/Folicur 3.6F, and Headline 2.09EC(1.5)/Folicur/Headline 2.09EC/Echo programs. All other programs gave similar leaf spot control (see table). The two programs that included applications of Moncut 70DF gave significantly better control of SSR than all programs except for Echo 720 Folicur 3.6F + Absolute/Folicur 3.6F + Echo 720 and Headline 2.09EC(1.5)/Folicur 3.6F/Headline 2.09EC/Echo 720 programs. The recommended Echo 720/Echo 720 + Moncut 70DF program yielded higher than all other programs including the Echo 720/Folicur 3.6F program. Lowest yields were obtained with Echo 720 full season.

EVALUATION OF NEW AND EXPERIMENTAL FUNGICIDES FOR CONTROL OF LEAF SPOT AND SOUTHERN STEM ROT ON PEANUT IN SOUTHEAST ALABAMA, WREC

Treatment and rate/ac	Application timing[1]	——Disease ratings—— LS[2]	SSR[3]	Yield *lb/ac*
Echo 720 1.5 pt	1-7	4.2[4]	7.0	2912
Echo 720 1.5 pt Folicur 3.6F 5.2 fl oz + Absolute 3.5 fl oz Folicur 3.6F 7.2 fl oz	1,2,7 3,5 4,6	3.3	6.8	3106
Echo 720 1.5 pt Folicur 3.6F 5.2 fl oz + Absolute 3.5 fl oz Folicur 3.6F 7.2 fl oz + Echo 720 1 pt	1,2,7 3,5 4,6	3.2	4.3	3211
Absolute 3.5 fl oz + Induce 0.125% v/v Echo 720 1.5 pt	1,3,5,7 2,4,6	3.7	9.2	2952
Echo 720 1.5 pt JAU6476 480SC 2.38 fl oz + Folicur 3.6F 5.3 fl oz	1,2,7 3,4,5,6	3.8	7.3	3090
JAU 6476 5.7 fl oz Echo 720 1.5 pt JAU6476 480SC 2.38 fl oz + Folicur 3.6F 5.3 fl oz	In furrow 1,2,7 3,4,5,6	3.7	7.7	3090
Abound 2.08SC 6.0 fl oz Echo 720 1.5 pt Abound 2.08SC 18.5 fl oz	In furrow 1,2,4,6,7 3,5	3.7	10.7	3130
Moncut 70DF 1.1 lb Echo 720 1.5 pt Echo 720 1.5 pt + Moncut 70DF 1.1 lb	In furrow 1,2,4,6,7 3,5	3.8	3.5	3146
Echo 720 1.5 pt Folicur 3.6F 7.2 fl oz	1,2,7 3,4,5,6	4.6	7.3	3073
Echo 720 1.5 pt Abound 2.08SC 18.5 fl oz	1,2,4,6,7 3,5	3.9	12.8	3162
Echo 720 1.5 pt Echo 720 1.5 pt + Moncut 70DF 1.1 lb	1,2,4,6,7 3,5	3.8	2.7	3452
Headline 2.09EC 9.0 fl oz Folicur 3.6F 7.2 fl oz Headline 2.09EC 12.0 fl oz Echo 720 1.5 pt	1.5 3,5 4 7	4.2	7.8	3025
Echo 720 1.5 pt Headline 2.09EC 6.0 fl oz Headline 2.09EC 9.0 fl oz Folicur 3.6F 7.2 fl oz	1,7 2 4 3,5,6	3.7	5.3	3009
LSD (P = 0.05)		**0.6**	**3.1**	**358**

[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] Southern stem rot incidence was expressed as the number of diseased plants 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 LORSBAN 15G WITH MONCUT 70DF, ABOUND 2.08SC, AND FOLICUR 3.6F FOR CONTROL OF LEAF SPOT AND SOUTHERN STEM ROT OF PEANUT IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate Lorsban 15G applied at peanut pegging and compare it against Moncut 70DF, Abound 2.08SC, and Folicur 3.6F for controlling southern stem rot and leaf spot diseases in peanuts and also to evaluate the effect of these products on yield.

Methods: Peanut cultivar ANorden was planted at the Wiregrass Research and Extension Center (WREC) in Headland, Alabama, on May 19 in a field with a history of peanut production. The soil type was a Dothan sandy loam (OM < 1 percent). Seed were sown at a rate of approximately five seed per foot of row. 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 as needed.

On March 2, the test area was paratilled and turned and on March 15, 1 ton per acre of lime was incorporated into the soil. On May 16, 1 quart per acre of Sonalan + 0.45 pint per acre of Strongarm were applied for postemergent weed control. On June 15, 1 ounce per acre of Cadre and 1.5 pints per acre of Storm were applied for weed control. Thrips were controlled with an in-furrow application of 6.5 pounds per acre of Temik 15G. Fungicides were applied on a 14- to 21-day schedule on June 20, June 27, July 5, July 18, August 1, August 19, September 6, and September 15 using a four-row, tractor-mounted boom sprayer with TX8 nozzles per row calibrated to deliver 15 gallons per acre. When applications of Bravo 720 and Moncut 70DF were scheduled, the two fungicides were applied as a tank mix.

Early and late leaf spot were visually rated on September 15 using the Florida leaf spot scoring system where 1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation (≤ 10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤ 25 percent); 6 = lesions numerous with significant defoliation (≤ 50 percent); 7 = lesions numerous with heavy defoliation (≤ 75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (≤ 90 percent); 9 = very few remaining leaves covered with lesions (≤ 95 percent); 10 = completely defoliated or dead plants). Counts of southern stem rot (SSR) hits (one hit was defined as ≤ 1 foot of consecutive SSR-damaged plants) were made on October 6 immediately after plot inversion.

Plots were harvested on October 12 and yields were reported at 10.31 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test (P = 0.05).

Results: During the 2005 peanut production season, temperatures were near normal and monthly rainfall totals were at or above normal through August. Rainfall totals for September and October were below normal.

Early leaf spot was the most common leaf spot disease observed. The level of leaf spot control was similar for the majority of the fungicide programs. However, the level of disease control obtained with the standard Bravo 720/Bravo 720 + Moncut 70DF program was significantly poorer than all other programs except for the standard full season Bravo 720 program. All fungicide programs that included Moncut 70DF gave better SSR control than other programs. Highest SSR incidence was recorded for the standard full season Bravo 720 program. Highest yield response was in the Bravo 720/Folicur 3.6F(7.2)/Lorsban 15G program. Yield response with the recommended Folicur 3.6F and Abound 2SC programs as well as those including the 0.54 pounds per acre rate of Moncut 70DF were similar.

COMPARISON OF LORSBAN 15G WITH MONCUT 70DF, ABOUND 2.08SC, AND FOLICUR 3.6F FOR CONTROL OF LEAF SPOT AND SOUTHERN STEM ROT OF PEANUT IN SOUTHEAST ALABAMA, WREC

Treatment and rate/ac	Application timing[1]	——Disease ratings—— LS[2]	SSR[3]	Yield *lb/ac*
Bravo 720 1.5 pt	1-7	4.1[4]	11.0	3574
Bravo 7201.5 pt Lorsban 15G 13.3 lb	1-7 Pegging	3.6	8.8	3775
Headline 2.09EC 6.0 fl oz Bravo 720 1.5 pt + Moncut 70DF 1.1 lb Headline 2.09EC 9.0 fl oz Bravo 720 1.5 pt	1,2 3,5 4 6,7	3.5	3.5	3904
Headline 2.09EC 9.0 fl oz Bravo 720 1.5 pt + Moncut 70DF 1.1 lb Headline 2.09EC 6.0 fl oz Bravo 720 1.5 pt	1.5 3,5 4 6,7	3.9	4.0	3662
Bravo 720 1.5 pt Bravo 720 1.5 pt + Moncut 70DF 1.1 lb	1,2,4,6,7 3,5	3.9	3.2	3654
Bravo 720 1.5 pt Bravo 720 1.5 pt + Moncut 70DF 0.54 lb	1,2,7 3,4,5,6	4.4	3.3	3928
Bravo 720 1.5 pt Folicur 3.6F 7.2 fl oz Bravo 720 1.5 pt + Moncut 70DF 0.54 lb	1,2,7 3,5 4,6	3.7	3.7	3751
Bravo 720 1.5 pt Artisan 3.6SE 32.0 fl oz	1,2,4,6,7 3,5	3.7	4.7	3888
Bravo 720 1.5 pt Sparta 7.2 fl oz	1,2,7 3,4,5,6	3.5	6.2	3727
Bravo 720 1.5 pt Abound 2.08SC 18.5 fl oz	1,2,4,6,7 3,5	3.3	5.2	3783
Bravo 720 1.5 pt Folicur 3.6F 7.2 fl oz	1,2,7 3,4,5,6	3.8	8.5	3735
Bravo 720 1.5 pt Folicur 3.6F 7.2 fl oz Lorsban 15G 13.3 lb	1,2,7 3,4,5,6 Pegging	3.8	5.7	3953
Bravo 720 1.5 pt Folicur 3.6F 3.6 fl oz	1,2,7 3,4,5,6	3.3	6.5	3791
Bravo 720 1.5 pt Folicur 3.6F 3.6 fl oz Lorsban 15G 13.3 lb	1,2,7 3,4,5,6 Pegging	3.6	4.7	3719
LSD (P = 0.05)		**0.4**	**2.8**	**358**

[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] Southern stem rot incidence was expressed as the number of diseased plants 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 ABOUND 2.08SC AND EXPERIMENTAL FUNGICIDES FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES ON PEANUT IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate A13817 and other new fungicides and compare them against currently registered products for their efficacy in controlling leaf spot diseases and southern stem rot of peanut in an irrigated peanut production system in southeast Alabama.

Methods: Peanut cultivar ANorden was planted at the Wiregrass Research and Extension Center (WREC) in Headland, Alabama, on May 19 in a field with a history of peanut production. The soil type was a Dothan sandy loam (OM < 1 percent). Seed were sown at a rate of approximately five seed per foot of row. 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 with 0.75 inch of water on July 28.

On March 2, the test area was paratilled and turned and on March 15, 1 ton per acre of lime was incorporated into the soil. On May 16, 1 quart per acre of Sonalan + 0.45 pint per acre of Strongarm were applied for postemergent weed control. On June 15, 1 ounce per acre of Cadre and 1.5 pints per acre of Storm were applied for weed control. Thrips were controlled with an in-furrow application of 6.5 pounds per acre of Temik 15G. Fungicides were applied on a varied schedule on June 21, June 28, July 7, July 18, July 25, August 2, August 9, August 15, August 22, September 2, and September 12 using a four-row, tractor-mounted boom sprayer with TX8 nozzles calibrated to deliver 15 gallons per acre.

Early and late leaf spot were visually rated on September 15 using the Florida leaf spot scoring system where 1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation (≤ 10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤ 25 percent); 6 = lesions numerous with significant defoliation (≤ 50 percent); 7 = lesions numerous with heavy defoliation (≤ 75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (≤ 90 percent); 9 = very few remaining leaves covered with lesions (≤ 95 percent); 10 = completely defoliated or dead plants). Counts of southern stem rot (SSR) hits (one hit was defined as ≤ 1 foot of consecutive SSR-damaged plants) were made on October 6 immediately after plot inversion.

Plots were harvested on October 12 and yields were reported at 10.31 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test (P = 0.05).

Results: During the 2005 peanut production season, temperatures were near normal and monthly rainfall totals were at or above normal in June, July, and August. However, rainfall totals in September and October were well below normal.

Leaf spot control varied among the treatment programs. The A13817(1,2)/Abound 2SC(3,5)/Bravo 720(4,6,7) program gave significantly better leaf spot control than all treatment regimes except for the A13817(1,2)/Abound 2SC(3,5)/Bravo 720(6,7), Bravo 720/Abound 2SC, and Tilt 3.6EC+ Bravo 720Amistar/Bravo 720 programs. All fungicide treatment programs except for the Abound 2SC/Abound 2SC +Tilt 3.6EC/A13817/Bravo 720, and Headline 2.09EC+ Moncut 70DF(3,5.5)/Bravo 720(4.5,7) gave significantly better control of SSR than the Bravo 720 full season standard. The best SSR control was observed in the standard Bravo 720/Bravo 720 + Moncut 70DF program. The A13817(1,2)/Abound 2SC(3,5)/Bravo 720(4,6,7) program yielded significantly higher than all other programs except the A13817(2,4)/Abound 2SC(3,5)/Bravo 720(6,7), Abound 2SC + Tilt 3.6EC/A13817/Bravo 720, Tilt 3.6EC + Bravo 720/Amistar + NIS/Bravo 720, and Bravo 720/Moncut 70DF programs. Yields of none of the remaining fungicide programs were significantly higher than those for the Bravo 720 full season standard.

EVALUATION OF ABOUND 2.08SC AND EXPERIMENTAL FUNGICIDES FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES ON PEANUT IN SOUTHEAST ALABAMA, WREC

Treatment and rate/ac	Application timing[1]	——Disease ratings—— LS[2]	SSR[3]	Yield *lb/ac*
A13817 24.0 fl oz Abound 2.08SC 18.5 fl oz Bravo 720 24.0 fl oz	1,2,4 3,5 6,7	3.3[4]	8.3	3315
A13817 24.0 fl oz Abound 2.08SC 18.5 fl oz Bravo 720 24.0 fl oz	2,4 3,5 6,7	3.6	6.0	3687
A13817 24.0 fl oz Abound 2.08SC 18.5 fl oz Bravo 720 24.0 fl oz	1,2 3,5 4,6,7	3.1	6.7	3477
Headline 2.09EC 6.0 fl oz Folicur 3.6F 7.2 fl oz Headline 12.0 fl oz Bravo 720 24.0 fl oz	2 3,5,6 4,5 7	3.5	8.2	3017
Headline 2.09EC 6.0 fl oz Folicur 3.6F 7.2 fl oz	3,5.5 4.5,7	4.1	9.0	2848
Abound 2.08SC 6.0 fl oz Abound 2.08SC 18.5 fl oz + Tilt 3.6EC 4.0 fl oz A13817 24.0 fl oz Bravo 720 24.0 fl oz	In furrow 3,5.5 4.5 7	3.8	10.0	3315
Headline 2.09EC 6.0 fl oz + Moncut 70DF 1.1 lb Bravo 720 24.0 fl oz	3.5,5 4.5,7	4.1	9.3	3025
Abound 2.08SC 18.5 fl oz + Tilt 3.6EC 4.0 fl oz A13817 24.0 fl oz Bravo 720 24.0 fl oz	3,5 4 6,7	3.5	6.5	3445
Bravo 720 24.0 fl oz Abound 2.08SC 18.5 fl oz	1,2,4,6,7 3,5	3.3	8.0	3170
Bravo 720 24.0 fl oz Folicur 3.6F 7.2 fl oz	1,2,7 3,4,5,6	4.1	6.2	2912
Tilt 3.6EC 2.0 fl oz + Bravo 720 16.0 fl oz Amistar 6.0 oz Bravo 720 24.0 fl oz	1,2,4 3,5 6,7	3.3	7.3	3477
Tilt 3.6EC 2.0 fl oz + Bravo 720 24.0 fl oz Amistar 6.0 fl oz + NIS 0.25% v/v Bravo 720 24.0 fl oz	1,2,4 3,5 6,7	3.7	6.2	3219
Moncut 70DF 1.1 lb Bravo 720 24.0 fl oz Bravo 720 24.0 fl oz + Moncut 70DF 1.1 lb	In furrow 1,2,4,6,7 3,5	3.8	4.3	3476
Bravo 720 24.0 fl oz	1-7	4.2	12.7	2468
LSD (P = 0.05)		**0.4**	**3.5**	**368**

[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] Southern stem rot incidence was expressed as the number of diseased plants 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 EXPERIMENTAL FUNGICIDES FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES ON PEANUT IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate V-10116 applied at various rates and compare it against currently registered products for controlling leaf spot diseases and southern stem rot of peanut in an irrigated peanut production system in southeast Alabama.

Methods: Peanut cultivar Carver was planted at the Wiregrass Research and Extension Center in Headland, Alabama, on May 19 in a field with a history of peanut production. The soil type was a Dothan sandy loam (OM < 1 percent). Seed were sown at a rate of approximately five seed per foot of row. Plots consisted of six 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 with 0.6 inch of water on August 1 and 0.75 inch on September 13.

On March 3, the test area was paratilled and turned. On May 16, 1 quart per acre of Sonalan + 0.45 pint per acre of Strongarm were applied for postemergent weed control. On June 15, 1 ounce per acre of Cadre and 1.5 pints per acre of Storm were applied for weed control. Thrips were controlled with an in-furrow application of 6.5 pounds per acre of Temik 15G. Fungicides were applied on a 14-day schedule on June 20, July 6, July 19, August 3, August 19, September 2, and September 15 using a six-row, tractor-mounted boom sprayer with TX8 nozzles calibrated to deliver 15 gallons per acre.

Early and late leaf spot were visually rated on September 30 using the Florida leaf spot scoring system where 1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation (≤ 10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤ 25 percent); 6 = lesions numerous with significant defoliation (≤ 50 percent); 7 = lesions numerous with heavy defoliation (≤ 75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (≤ 90 percent); 9 = very few remaining leaves covered with lesions (≤ 95 percent); 10 = completely defoliated or dead plants). Counts of southern stem rot (SSR) hits (one hit was defined as ≤ 1 foot of consecutive SSR-damaged plants) were made on October 3 immediately after plot inversion.

Plots were harvested on October 6 and yields were reported at 9.69 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test (P = 0.05).

Results: During the 2005 peanut production season, temperatures were near normal and monthly rainfall totals were at or above normal for much of the production season. However, rainfall totals in September and October were well below normal.

Leaf spot control varied among the treatment programs. Best control was obtained with Bravo 720 and Moncut 70DF. Only the Bravo 720 (full season), Bravo 720/V-10116 (4.0 fluid ounces) + NIS, Bravo 720/Abound 2SC, and Bravo 720/Headline 2.09EC/Headline 2.09EC/Folicur 3.6Fprograms gave similar control of these diseases. Few differences were observed for SSR control among the fungicide programs. Bravo 720/Bravo 720 + Moncut 70DF provided significantly better SSR control than the Bravo 720/Folicur 3.6F +NIS, Bravo 720/V-10116 (3.42 fluid ounces), and Bravo 720/V-10116 (4.0 fluid ounces) programs. Highest yields were recorded for the Bravo 720/V-10116 (4.0 fluid ounces) + NIS program. However, yield response obtained with this program was not significantly better than the full season Bravo 720 or the Bravo 720/Bravo 720 + Moncut 70DF standards. Yields of the remaining treatment regimes did not differ significantly from those of the Bravo 720 full season standard.

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

Treatment and rate/ac	Application timing[1]	——Disease ratings—— LS[2]	SSR[3]	Yield *lb/ac*
Bravo 720 24.0 fl oz	1-7	4.9[4]	6.5	3251
Bravo 720 24.0 fl oz V-10116 2.56 fl oz	1,2,7 3,4,5,6	6.7	8.8	2686
Bravo 720 24.0 fl oz V-10116 2.56 fl oz + NIS 125% v/v	1,2,7 3,4,5,6	6.2	8.2	3283
Bravo 720 24.0 fl oz V-10116 3.42 fl oz	1,2,7 3,4,5,6	6.6	10.2	2598
Bravo 720 24.0 fl oz V-10116 3.42 fl oz + NIS .125% v/v	1,2,7 3,4,5,6	6.1	9.0	2976
Bravo 720 24.0 fl oz V-10116 4.0 fl oz	1,2,7 3,4,5,6	6.6	9.7	2622
Bravo 720 24.0 fl oz V-10116 4.0 fl oz + NIS .125% v/v	1,2,7 3,4,5,6	5.3	5.3	3888
Bravo 720 24.0 fl oz V-10116 5.0 fl oz	1,2,7 3,4,5,6	6.2	7.2	2856
Bravo 720 24.0 fl oz V-10116 5.0 fl oz + NIS .125% v/v	1,2,7 3,4,5,6	5.5	8.8	3203
Bravo 720 24.0 fl oz Folicur 3.6F 7.2 fl oz	1,2,7 3,4,5,6	6.5	8.8	2815
Bravo 720 24.0 fl oz Folicur 3.6F + NIS .125% v/v	1,2,7 3,4,5,6	6.5	10.7	2735
Bravo 720 24.0 fl oz Abound 2.08SC 18.5 fl oz	1,2,4,6,7 3,5	4.9	8.0	3465
Bravo 720 24.0 fl oz Bravo 720 24.0 fl oz + Moncut 70DF 1.1 lb	1,2,4,6,7 3,5	4.6	5.2	3436
Bravo 720 24.0 fl oz Headline 2.09EC 6.0 fl oz Headline 2.09EC 9.0 fl oz Folicur 3.6F 7.2 fl oz	1,7 2 4 3,5,6	5.3	7.8	3001
LSD (P = 0.05)		**0.9**	**4.2**	**659**

[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] Southern stem rot incidence was expressed as the number of diseased plants 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 SERENADE ASO AND BALLAD FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES ON PEANUT IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate the biological fungicides Serenade ASO and Ballad in tank mix with Kocide and other fungicides and compare them against currently registered product for their efficacy in controlling leaf spot diseases and southern stem rot of peanut in an irrigated peanut production system in southeast Alabama.

Methods: Peanut cultivar Carver was planted at the Wiregrass Research and Extension Center (WREC) in Headland, Alabama, on May 19 in a field with a history of peanut production. The soil type was a Dothan sandy loam (OM < 1 percent). Seed were sown at a rate of approximately five seed per foot of row. Plots consisted of six 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 with 0.6 inch of water on August 1 and 0.75 inch on September 13.

On March 3, the test area was paratilled and turned. On May 16, 1 quart per acre of Sonalan + 0.45 pint per acre of Strongarm were applied for postemergent weed control. On June 15, 1 ounce per acre of Cadre and 1.5 pints per acre of Storm were applied for weed control. Thrips were controlled with an in-furrow application of 6.5 pounds per acre of Temik 15G. Fungicides were applied on a 14-day schedule on June 21, July 8, July 19, August 2, August 18, September 7, and September 21 using a six-row, tractor-mounted boom sprayer with TX8 nozzles calibrated to deliver 15 gallons per acre.

Early and late leaf spot were visually rated on September 30 using the Florida leaf spot scoring system where 1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation (≤ 10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤ 25 percent); 6 = lesions numerous with significant defoliation (≤ 50 percent); 7 = lesions numerous with heavy defoliation (≤ 75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (≤ 90 percent); 9 = very few remaining leaves covered with lesions (≤ 95 percent); 10 = completely defoliated or dead plants). Counts of southern stem rot (SSR) hits (one hit was defined as ≤ 1 foot of consecutive SSR-damaged plants) were made on October 3 immediately after plot inversion.

Plots were harvested on October 6 and yields were reported at 10.47 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test (P = 0.05).

Results: During the 2005 peanut production season, temperatures were near normal and monthly rainfall totals were at or above normal except for the unusually dry weather in September and October.

Leaf spot control varied among the treatment programs with the best control observed in the treatment program Bravo 720/Moncut 70DF and the full season Bravo 720 programs. No significant difference in leaf spot control was noted between these and the Echo 720/Headline 2.09EC program. The remaining programs failed to control leaf spot as effectively as the full season Echo 720 program. Incidence of SSR was similar across all fungicide programs. With the exception of poor yield response obtained with the Echo 720/Folicur 3.6F program, the yields of the remaining fungicide programs were statistically similar.

EVALUATION OF SERENADE ASO AND BALLAD FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES ON PEANUT IN SOUTHEAST ALABAMA, WREC

Treatment and rate/ac	Application timing[1]	–Disease ratings– LS[2]	SSR[3]	Yield *lb/ac*
Echo 720 24.0 fl oz	1-7	4.6[4]	8.3	3598
Serenade ASO 64.0 fl oz + Biotune 0.15% v/v + Kocide 4.5 LF 2.0 lb	1-7	5.6	8.5	2928
Ballad 64.0 fl oz + Biotune 0.15% v/v + Kocide 4.5 LF 2.0 lb	1-7	5.7	7.3	3509
Serenade ASO 64.0 fl oz + Biotune 0.15% v/v + Echo 720 16.0 fl oz Serenade 64.0 fl oz + Biotune 0.15% v/v + Abound 2.08SC 9.25 fl oz	1,2,4,6,7 3,5	5.7	7.7	3106
Echo 720 24.0 fl oz Folicur 3.6F 7.2 fl oz	1,2,7 3,4,5,6	6.2	9.0	2372
Echo 720 24.0 fl oz Abound 2.08SC 18.5 fl oz	1,2,4,6,7 3,5	5.3	6.2	3372
Echo 720 24.0 fl oz Echo 720 24.0 fl oz + Moncut 70DF 1.1 lb	1,2,4,6,7 3,5	4.7	7.7	3646
Echo 720 24.0 fl oz Headline 2.09EC 6.0 fl oz Headline 2.09EC 9.0 fl oz Folicur 3.6F 7.2 fl oz	1,7 2 4 3,5,6	4.7	7.7	3646
LSD (P = 0.05)		**0.7**	**4.1**	**747**

[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] Southern stem rot incidence was expressed as the number of diseased plants 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 ARTISAN 3.6SE, HEADLINE 2.09EC, AND EXPERIMENTAL FUNGICIDES FOR CONTROL OF LEAF SPOT DISEASES AND SOUTHERN STEM ROT OF PEANUT IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate Artisan 3.6SE, Headline 2.09EC, and experimental fungicides and compare them against currently registered products for their efficacy in controlling leaf spot diseases and southern stem rot of peanut in an irrigated peanut production system in southeast Alabama.

Methods: Peanut cultivar ANorden was planted on May 19 at the Wiregrass Research and Extension Center (WREC) in Headland, Alabama, in a field with a history of peanut production. The soil type was a Dothan sandy loam (OM < 1 percent) and seed were sown at a rate of approximately five seed per foot of row. 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 with 0.75 inch of water on August 28.

On March 2, the test area was paratilled and turned. On May 16, 1 quart per acre of Sonalan + 0.45 pint per acre of Strongarm were applied for postemergent weed control. On June 15, 1 ounce per acre of Cadre and 1.5 pints per acre of Storm were applied for weed control. Thrips were controlled at planting with an in-furrow application of 6.5 pounds per acre of Temik 15G. Fungicides were applied on a 14- to 21-day schedule on June 21, June 28, July 6, July 19, August 2, August 15, September 2, and September 12 using a four-row, tractor-mounted boom sprayer with TX8 nozzles calibrated to deliver 15 gallons per acre.

Early and late leaf spot were visually rated on September 30 using the Florida leaf spot scoring system where 1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation (≤ 10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤ 25 percent); 6 = lesions numerous with significant defoliation (≤ 50 percent); 7 = lesions numerous with heavy defoliation (≤ 75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (≤ 90 percent); 9 = very few remaining leaves covered with lesions (≤ 95 percent); 10 = completely defoliated or dead plants). Counts of southern stem rot (SSR) hits (one hit was defined as ≤ 1 foot of consecutive SSR-damaged plants) were made on October 3 immediately after plot inversion.

Plots were harvested on October 6 and yields were reported at 9.69 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test (P = 0.05).

Results: During the 2005 peanut production season, temperatures were near normal and monthly rainfall totals were at or above normal except for unusually dry weather patterns in September and October.

Leaf spot ratings for the full season Echo 720 and the Echo 720/Echo 720 + Moncut 70DF programs were significantly higher than those of the remaining fungicide programs. Among the remaining programs, the best leaf spot control was given by the Echo 720 + SA-12301 and Echo 720 + PropiMax/Abound 2SC/Echo 720 programs. The best yield response was obtained in the Echo 720/Echo 720 + Moncut 70DF treatment regime. Yields from all of the fungicide treatments except for Echo 720/Echo 720 + SA-12301 and Headline 2.09 EC (1.5)/Folicur 3.6F/Headline 2.09EC/Echo 720 were significantly higher than the full-season Echo 720 standard.

COMPARISON OF ARTISAN 3.6SE, HEADLINE 2.09EC, AND EXPERIMENTAL FUNGICIDES FOR CONTROL OF LEAF SPOT DISEASES AND SOUTHERN STEM ROT OF PEANUT IN SOUTHEAST ALABAMA, WREC

Treatment and rate/ac	Application timing[1]	—Disease ratings— LS[2]	SSR[3]	Yield *lb/ac*
Echo 720 24.0 fl oz	1-7	4.8[4]	12.0	3162
Echo 720 24.0 fl oz	1,2,7	3.5	7.7	3227
Echo 720 16.0 fl oz + SA-120301 7.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	1,2,7	4.2	6.3	3549
Folicur 3.6F 7.2 fl oz	3,4,5,6			
Echo 720 16.0 fl oz + PropiMax 2.0 fl oz	1,2,4	3.6	8.2	3606
Abound 2.08SC 18.5 fl oz	3,5			
Echo 720 24.0 fl oz	6,7			
Echo 720 24.0 fl oz	1,2,4,6,7	3.8	8.2	3826
Abound 2.08 SC 18.5 fl oz	3,5			
Echo 720 24.0 fl oz	1,2,4,6,7	4.6	3.7	3864
Echo 720 24.0 fl oz + Moncut 70DF 1.1 lb	3,5			
Headline 2.09EC 9.0 fl oz	1.5	3.9	8.3	3477
Folicur 3.6F 7.2 fl oz	3,5,6			
Headline 2.09EC 12.0 fl oz	4			
Echo 720 24.0 fl oz	7			
Headline 2.09EC 9.0 fl oz	1.5	4.1	5.0	3703
Artisan 3.6SE 13.0 fl oz + Echo 720 16.0 fl oz	3,4,5,6			
Echo 720 24.0 fl oz	7			
Echo 720 24.0 fl oz	1,2	4.4	4.3	3775
Artisan 3.6SE 32.0 fl oz	3,4			
Echo 720 24.0 fl oz	5,6,7			
Echo 720 24.0 fl oz	1,2	4.3	3.2	3678
Artisan 3.6SE 26.0 fl oz	3,4,5			
Echo 720 24.0 fl oz	6,7			
Echo 720 24.0 fl oz	1	4.3	5.7	3654
Abound 2.08SC 12 fl oz	2			
Artisan 3.6SE 13.0 fl oz + Echo 720 16.0 fl oz	7			
LSD (P = 0.05)		**0.3**	**3.1**	**354**

[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] Southern stem rot incidence was expressed as the number of diseased plants 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 EXPERIMENTAL FUNGICIDES FOR CONTROL OF LEAF SPOT DISEASES AND SOUTHERN STEM ROT OF PEANUT IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate TM-473 480SC and compare it against currently registered products for controlling leaf spot diseases and southern stem rot of peanut in a dryland peanut production system in southeast Alabama.

Methods: Peanut cultivar ANorden was planted on June 8 at the Wiregrass Research and Extension Center (WREC) in Headland, Alabama, in a field with a history of peanut production. The soil type was a Dothan sandy loam (OM < 1 percent) and seed were sown at a rate of approximately five seed per foot of row. 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 with 0.75 inch of water on August 28.

On March 2, the test area was paratilled and turned. On May 26, 3 pints per acre of Prowl were applied for postemergent weed control. On June 15, 1 ounce per acre of Cadre and 1.5 pints per acre of Storm were applied for weed control. Thrips were controlled at planting with an in-furrow application of 6.5 pounds per acre of Temik 15G. Fungicides were applied on a 14- to 21-day schedule on July 25, August 8, August 22, September 8, September 19, September 30, and October 12 using a four-row, tractor-mounted boom sprayer with TX8 nozzles calibrated to deliver 15 gallons per acre.

Early and late leaf spot were visually rated on October 13 using the Florida leaf spot scoring system where 1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation (≤ 10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤ 25 percent); 6 = lesions numerous with significant defoliation (≤ 50 percent); 7 = lesions numerous with heavy defoliation (≤ 75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (≤ 90 percent); 9 = very few remaining leaves covered with lesions (≤ 95 percent); 10 = completely defoliated or dead plants). Counts of southern stem rot (SSR) hits (one hit was defined as ≤ 1 foot of consecutive SSR-damaged plants) were made on October 24 immediately after plot inversion.

Plots were harvested on October 27 and yields were reported at 10.2 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test (P = 0.05).

Results: During the 2005 peanut production season, temperatures were near normal and monthly rainfall totals were at or above normal. However, rainfall totals for September and October were well below normal.

Significant differences in the level of leaf spot control were noted between fungicide programs. The best control was obtained with programs that included applications of Absolute. Highest leaf spot ratings were noted for the TM-473/Bravo 720 and Bravo 720/TM-473 + Folicur 3.6F programs. All treatment regimes with the exception of the TM-473/Bravo 720 and Bravo 720/TM-473 + Folicur 3.6F gave significantly better control of SSR than the full season Bravo 720 program. No significant differences in SSR control were noted between the remaining programs. Yields were severely impacted by the late season drought and high root knot nematode populations.

EVALUATION OF EXPERIMENTAL FUNGICIDES FOR CONTROL OF LEAF SPOT DISEASES AND SOUTHERN STEM ROT OF PEANUT IN SOUTHEAST ALABAMA, WREC

Treatment and rate/ac	Application timing[1]	—Disease ratings— LS[2]	SSR[3]	Yield *lb/ac*
Bravo 720 24.0 fl oz	1-7	4.1[4]	6.2	1767
Bravo 720 24.0 fl oz TM-473 480SC 3.5 fl oz + Folicur 3.6F 3.9 fl oz	1,2,4,6,7 3,5	4.5	4.0	1896
TM-473 480SC 3.5 fl oz Bravo 720 24.0 fl oz	1,3,5,7 2,4,6	4.8	4.5	1668
Bravo 720 24.0 fl oz TM-473 480SC 2.1 fl oz + Folicur 3.6F 3.1 fl oz	1,2,7 3,4,5,6	4.7	4.3	1823
Bravo 720 24.0 fl oz TM-473 1.8 fl oz + Folicur 3.6F 3.9 fl oz	1,2,7 3,4,5,6	4.4	4.0	1920
Bravo 720 24.0 fl oz Folicur 3.6F 5.2 fl oz + Absolute 3.5 fl oz	1,2,4,6,7 3,5	3.9	3.5	1855
Absolute 3.5 fl oz Bravo 720 24.0 fl oz	1,3,5,7 2,4,6	4.0	3.8	2009
Bravo 720 24.0 fl oz Bravo 720 24.0 fl oz + Moncut 70DF 1.1 lb	1,2,4,6,7 3,5	4.5	4.0	1920
Bravo 720 24.0 fl oz Abound 2.08SC 18.5 fl oz	1,2,4,6,7 3,5	4.4	3.5	2105
Bravo 720 24.0 fl oz Folicur 3.6F 7.2 fl oz	1,2,7 3,4,5,6	4.3	2.8	1984
LSD (P = 0.05)		**0.6**	**1.9**	**351**

[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] Southern stem rot incidence was expressed as the number of diseased plants 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 FUNGICIDE SEED TREATMENTS AND ABOUND 2.08SC APPLIED IN-FURROW AT PLANTING AND THEIR EFFECTS ON STAND, TOMATO SPOTTED WILT VIRUS, SOIL-BORNE DISEASE CONTROL, AND YIELD ON PEANUT, WREC

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

Objective: To compare new fungicide seed treatments with currently registered seed treatments and the effect of Abound 2.08SC in-furrow on peanut seed germination, stand, tomato spotted wilt virus, and southern stem rot of peanut in southeast Alabama.

Methods: On May 10 peanut cultivars AP-3 (Test 1) and Georgia Green (Test 2) were planted at the Wiregrass Research and Extension Center (WREC) in Headland, Alabama, in a field with a prior history of peanut production. The soil type was a Dothan sandy loam (OM < 1 percent). Seed were sown at a rate of approximately five and one-half seed per foot of row. Plots consisted of four 30-foot rows spaced 3 feet apart and were arranged in a randomized complete block design with six replications. Plots were not irrigated.

On March 3, the test area was sub-soiled and turned. On April 20, 1 quart per acre of Sonalan + 0.45 pint per acre of Strongarm were applied for postemergent weed control. Thrips were controlled with an in-furrow application of 6.5 pounds per acre of Temik 15G. Abound 2.08SC was applied in-furrow at planting using a tractor-mounted CO_2 sprayer with 8001 nozzles calibrated to deliver 5 gallons per acre with a nozzle placed over the open seed furrow. Stand counts were made on May 23, May 30, and June 14 at approximately 7, 14, and 28 days after emergence. Foliar fungicide treatments were made on test 1 following the recommended Echo 720/Moncut 70DF program [Echo 720 (1,2,4,6,7) and Echo 720 + Moncut 70DF (3,5)] and on test 2 following the recommended Bravo 720/Abound 2.08SC program [Tilt 3.6EC + Bravo 720 (1,2,4), Abound 2.08SC (3,5), and Bravo 720 (6,7)]. All foliar fungicides were applied at two-week intervals using a four-row tractor mounted boom sprayer with TX8 nozzles calibrated to deliver 15 gallons per acre.

Tomato spotted wilt virus (TSWV) was assessed on September 20. Counts of southern stem rot (SSR) hits (one hit was defined as $\leq$ 1 foot of consecutive SSR-damaged plants) were made on September 23 immediately after plot inversion.

Plots were harvested on September 29 and yields were reported at 10.72 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P = 0.05$).

Results: During the 2005 peanut production season, temperatures were near normal and monthly rainfall totals were at or above normal through August. Drought conditions occurred in September and October.

Early leaf spot severity was high in all the plots and defoliation was occurring in all plots at the time of harvest. In test 1, stand counts for all of the seed treatments were similar. The counts in the seed treated with Allegiance were significantly lower than those of any of the other seed treatments and were no better than that observed in the untreated seeds (Table 1). Seed treatment had very little impact on the incidence of TSWV and all treatments were similar. SSR control was similar among all treatments; however, the seed treatment KNF 2830 (3 ounces per cwt) showed significantly lower SSR hits than did all other seed treatments and the untreated control. There was no significance of treatment effects among any of the treatments; however, the seed treated with KNF 2830 yielded highest.

In test 2, lowest stand counts were observed with the untreated seeds. All other seed treatments gave similar stand count numbers and were significantly higher than the untreated control (Table 2). TSWV ratings were similar among all seed treatments; however, the highest numbers were in the untreated control seed and were significantly higher than all of the seed treatments. No differences in SSR control were observed among the treatments. Yield response to the seed treatments was similar and only the Dynasty PD seed treatment yielded significantly higher than the untreated seed.

TABLE 1. PEANUT SEED TREATMENT TEST 1

Treatment and rate/ac	Application timing[1]	Stand counts[2] May 23	Stand counts[2] May 30	Stand counts[2] June 14	Disease ratings TSWV[3]	Disease ratings SSR[4]	Yield *lb/ac*
Untreated Control		45.2[5]	50.3	51.8	2.2	3.2	3727
Echo 720 1.5 pt	1,2,4,6,7						
Echo 720 1.5 pt + Moncut 70DF 1.1 lb	3,5						
Vitavax PC	Seed treatment	68.7	72.3	78.3	2.3	3.8	3941
Echo 720 1.5 pt	1,2,4,6,7						
Echo 720 1.5 pt + Moncut 70DF 1.1 lb	3,5						
Allegiance		51.8	56.0	58.2	2.0	3.0	3763
Echo 720 1.5 pt	1,2,4,6,7						
Echo 720 1.5 pt + Moncut 70DF 1.1 lb	3,5						
Dynasty		69.2	76.0	78.0	1.7	3.2	3759
Echo 720 1.5 pt	1,2,4,6,7						
Echo 720 1.5 pt + Moncut 70DF 1.1 lb	3,5						
KNF 2830 (3 oz)		66.7	75.8	78.2	1.3	1.5	4174
Echo 720 1.5 pt	1,2,4,6,7						
Echo 720 1.5 pt + Moncut 70DF 1.1 lb	3,5						
KNF 2830 (4 oz)		72.7	77.0	83.2	1.3	3.3	3808
Echo 720 1.5 pt	1,2,4,6,7						
Echo 720 1.5 pt + Moncut 70DF 1.1 lb	3,5						
LSD (P = 0.05)		**6.8**	**6.8**	**6.3**	**1.5**	**1.6**	**498**

[1] Fungicide applications were made at 14-day intervals unless otherwise indicated.
[2] Stand counts were made at 7, 14, and 28 days after emergence.
[3] TSWV ratings were based on number of infected plants per 60 feet of row.
[4] Southern stem rot incidence was expressed as the number of diseased plants per 60 feet of row.
[5] Mean separation within columns was according to Fisher's protected least significant difference (LSD) test (P = 0.05).

TABLE 2. PEANUT SEED TREATMENT TEST 2

Treatment and rate/ac	Application timing[1]	Stand counts[2] May 23	Stand counts[2] May 30	Stand counts[2] June 14	Disease ratings TSWV[3]	Disease ratings SSR[4]	Yield *lb/ac*
Untreated Control		56.8[5]	61.0	62.5	10.7	5.5	2638
Tilt 3.6EC 2 fl oz + Bravo 720 1.5 pt	1,2,4						
Abound 2SC 18.5 fl oz Bravo 720 1.5 pt	3,5 6,7						
Dynasty PD	Seed treatment	72.5	81.8	83.3	5.5	5.8	3461
Tilt 3.6EC 2 fl oz + Bravo 720 1.5 pt	1,2,4						
Abound 2SC 18.5 fl oz Bravo 720 1.5 pt	3,5 6,7						
Dynasty PD Abound 2SC	Seed treatment In furrow	73.0	81.0	83.3	6.3	5.7	3158
Tilt 3.6EC 2 fl oz + Bravo 720 1.5 pt	1,2,4						
Abound 2SC 18.5 fl oz Bravo 720 1.5 pt	3,5 6,7						
Vitavax PC	Seed treatment	71.3	84.3	88.2	4.3	6.7	2983
Tilt 3.6EC 2 fl oz + Bravo 720 1.5 pt	1,2,4						
Abound 2SC 18.5 fl oz Bravo 720 1.5 pt	3,5 6,7						
Vitavax PC Abound 2SC	Seed treatment In furrow	72.7	83.3	85.8	6.0	5.2	3186
Tilt 3.6EC 2 fl oz + Bravo 720 1.5 pt	1,2,4						
Abound 2SC 18.5 fl oz Bravo 720 1.5 pt	3,5 6,7						
LSD (P = 0.05)		**4.8**	**5.6**	**5.4**	**2.6**	**3.9**	**642**

[1] Fungicide applications were made at 14-day intervals unless otherwise indicated.
[2] Stand counts were made at 7, 14, and 28 days after emergence.
[3] TSWV ratings were based on number of infected plants per 60 feet of row.
[4] Southern stem rot incidence was expressed as the number of diseased plants 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 NEW AND EXPERIMENTAL FUNGICIDES FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES ON PEANUT IN SOUTHWEST ALABAMA, GCREC

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

Objective: To evaluate Absolute and JAU 6476 and compare them against currently registered products 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 Georgia Green was planted on May 18 at the Gulf Coast Research and Extension Center (GCREC) near Fairhope, Alabama, in a field with a history of peanut production. The soil type was a Malbis fine sandy loam (OM < 1 percent) and seed were sown at a rate of approximately five seed per foot of row in raised beds with bed knockers. Plots consisted of four 30-foot rows spaced 38 inches apart arranged in a randomized complete block with six replications.

On April 21, the test area was disked, ripped, and bedded. On June 6, 6 ounces per acre of Gramoxone + 1 pint per acre Storm + 1 pint per acre Butyrac 1.75 + 1 pint per 25 gallons Induce was applied for postemergent weed control. On June 27, 1.1 ounces per acre of Cadre and 0.3 ounce per acre of Strongarm were applied for weed control. On August 2, 1.5 ounces per acre of Karate + 1 pint per 50 gallons was applied for leafhopper control. Thrips were controlled at planting with an in-furrow application of 6.5 pounds per acre of Temik 15G. Fungicides were applied on a 14- to 21-day schedule on June 30, July 5, July 12, July 25, August 9, August 22, September 6, and September 19 using a four-row, ATV-mounted CO_2 sprayer with TX8 nozzles calibrated to deliver 15 gallons per acre.

Early and late leaf spot were visually rated on September 29 using the Florida leaf spot scoring system where 1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation (≤ 10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤ 25 percent); 6 = lesions numerous with significant defoliation (≤ 50 percent); 7 = lesions numerous with heavy defoliation (≤ 75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (≤ 90 percent); 9 = very few remaining leaves covered with lesions (≤ 95 percent); 10 = completely defoliated or dead plants). Rust was also rated on September 29 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 10 immediately after plot inversion.

Plots were harvested on October 13 and yields were reported at 10.15 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test (P = 0.05).

Results: During the 2005 peanut production season, temperatures were near normal and monthly rainfall totals were at or above normal through August. A late season drought in September and October had little impact on disease severity or yield.

Late leaf spot was the most common leaf spot disease observed. The best leaf spot control was obtained in the Echo 720/JAU-6476 + Echo 720 program regime that included JAU 6476 applied in-furrow. Effectiveness of this program against both leaf spot diseases was significantly better than all other programs except for Echo 720 (full season), Echo 720/JAU 6476 + Folicur 3.6F, and Echo 720/Headline 2.09EC/Headline 2.09EC/Folicur 3.6F. The Echo 720/Folicur 3.6F program was less effective in controlling both leaf spot diseases than nearly all other fungicide programs. Rust incidence and severity was lower than in previous years. The Headline 2.09EC/Folicur 3.6F/Headline 2.09EC/Echo 720 program gave better rust control than the Echo 720/Folicur 3.6F + Absolute/Folicur 3.6F + Echo 720 program. SSR severity was low and there were no significant differences among any of the treatment regimes. The Echo 720/JAU 6476 + Echo 720 program with JAU 6476 applied in-furrow and the Echo 720/Folicur 3.6F + Absolute/Folicur 3.6F yielded higher than all other fungicide programs. Poorest yield response was obtained with Absolute + Induce/Echo 720.

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

Treatment and rate/ac	Application timing[1]	——Disease ratings—— LS[2]	Rust[3]	SSR[4]	Yield *lb/ac*
Echo 720 24.0 fl oz	1-7	3.4[5]	3.5	4.0	6194
Echo 720 24.0 fl oz	1,2,7	3.7	3.7	2.5	6699
Folicur 3.6F 5.2 fl oz + Absolute 3.5 fl oz	3,5				
Folicur 3.6F 7.2 fl oz	4,6				
Echo 720 24.0 fl oz	1,2,7	3.5	4.0	4.0	6079
Folicur 3.6F 5.2 fl oz + Absolute 3.5 fl oz	3,5				
Folicur 3.6F 7.2 fl oz + Echo 720 1 pt	4,6				
Absolute 3.5 fl oz + Induce 0.125% v/v	1,3,5,7	3.6	3.0	3.7	5873
Echo 720 24.0 fl oz	2,4,6				
Echo 720 24.0 fl oz	1,2,7	3.2	3.2	3.2	6347
JAU6476 480SC 2.38 fl oz + Folicur 3.6F 5.3 fl oz	3,4,5,6				
JAU 6476 5.7 fl oz	In furrow	3.0	3.3	3.2	6691
Echo 720 24.0 fl oz	1,2,7				
JAU6476 480SC 2.38 fl oz + Folicur 3.6F 5.3 fl oz	3,4,5,6				
Abound 2.08SC 6.0 fl oz	In furrow	3.5	3.3	3.3	6293
Echo 720 24.0 fl oz	1,2,4,6,7				
Abound 2.08SC 18.5 fl oz	3,5				
Moncut 70DF 1.1 lb	In furrow	3.5	3.2	3.5	6064
Echo 720 24.0 fl oz	1,2,4,6,7				
Echo 720 24.0 fl oz + Moncut 70DF 1.1 lb	3,5				
Echo 720 24.0 fl oz	1,2,7	4.1	3.2	3.7	6186
Folicur 3.6F 7.2 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,4,6,7	3.5	3.3	3.5	6439
Abound 2.08SC 18.5 fl oz	3,5				
Echo 720 24.0 fl oz	1,2,4,6,7	3.5	3.3	3.0	6316
Echo 720 24.0 fl oz + Moncut 70DF 1.1 lb	3,5				
Headline 2.09EC 9.0 fl oz	1.5	3.9	3.2	3.8	6232
Folicur 3.6F 7.2 fl oz	3,5				
Headline 2.09EC 12.0 fl oz	4				
Echo 720 24.0 fl oz	7				
Echo 720 24.0 fl oz	1,7	3.4	3.5	3.3	6316
Headline 2.09EC 6.0 fl oz	2				
Headline 2.09EC 9.0 fl oz	4				
Folicur 3.6F 7.2 fl oz	3,5,6				
LSD (P = 0.05)		**0.5**	**0.8**	**1.8**	**531**

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

COMPARISON OF MONCUT 70DF AND SPARTA WITH ABOUND 2.08SC, FOLICUR 3.6F, AND ARTISAN 3.6SE FOR CONTROL OF LEAF SPOT AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHWEST ALABAMA, GCREC

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

Objective: To evaluate Moncut 70DF and the new fungicide Sparta and compare them against other currently registered products for their efficacy in controlling early and late leaf spot, rust, and southern stem rot of peanut in a dryland peanut production system in southwest Alabama.

Methods: Peanut cultivar Georgia Green was planted on May 18 at the Gulf Coast Research and Extension Center (GCREC) near Fairhope, Alabama, in a field with a history of peanut production. The soil type was a Malbis fine sandy loam (OM < 1 percent) and seed were sown at a rate of approximately five seed per foot of row in raised beds with bed knockers. Plots consisted of four 30-foot rows spaced 38 inches apart arranged in a randomized complete block with six replications.

On April 21, the test area was disked, ripped, and bedded. On June 15, 6 ounces per acre of Gramoxone + 1 pint per acre Storm + 1 pint per acre Butyrac 1.75 + 1 pint per 25 gallons Induce was made for postemergent weed control. On June 23, 1.1 ounces per acre of Cadre and 0.3 ounce per acre Strongarm were applied for weed control. On August 2, 1.5 ounce per acre of Karate + 1 pint per 50 gallons was applied for leafhopper control. Thrips were controlled at planting with an in-furrow application of 6.5 pounds per acre of Temik 15G. Fungicides were applied on a 14- to 21-day schedule on July 5, July 12, July 25, August 9, August 22, September 6, and September 20 using a four-row, ATV-mounted CO_2 sprayer with TX8 nozzles calibrated to deliver 15 gallons per acre.

Early and late leaf spot were visually rated on September 29 using the Florida leaf spot scoring system where 1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation (≤ 10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤ 25 percent); 6 = lesions numerous with significant defoliation (≤ 50 percent); 7 = lesions numerous with heavy defoliation (≤ 75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (≤ 90 percent); 9 = very few remaining leaves covered with lesions (≤ 95 percent); 10 = completely defoliated or dead plants). Rust was also rated on September 29 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 5 immediately after plot inversion.

Plots were harvested on October 10 and yields were reported at 10.3 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test (P = 0.05).

Results: During the 2005 peanut production season, temperatures were near normal and monthly rainfall totals were at or above normal through August. A drought in September and October had little impact on disease severity or yield.

Late leaf spot was the most common leaf spot disease observed. Bravo 720 (full season) and Bravo 720/Bravo 720 + Moncut 70DF (1.1 pounds per acre) gave better leaf spot control than programs that included applications of Folicur 3.6F, Artisan 3.6SE, and Sparta fungicides. Both Headline 2.09EC and the Abound 2SC program controlled leaf spot better than the Folicur 3.6F and Artisan 3.6SE programs. Rust incidence was lower than had been seen in previous years. Bravo 720/Bravo 720 + Moncut 70DF (1.1 pounds per acre) gave better rust control than the recommended Folicur 3.6F, Abound 2SC, and Bravo 720/Bravo 720 + Moncut 70DF (0.54 pounds per acre) programs. Otherwise, the level of rust control provided by the remaining fungicide programs was similar. SSR severity was low. However, the Bravo 720/Bravo 720 + Moncut 70DF at 0.54 pounds per acre controlled SSR better than the Headline 2.09EC/Bravo 720 + Moncut 70DF/Headline 2.09EC/Bravo 720 program. Yield was similar among all fungicide programs.

COMPARISON OF MONCUT 70DF AND SPARTA WITH ABOUND 2.08SC, FOLICUR 3.6F, AND ARTISAN 3.6SE FOR CONTROL OF LEAF SPOT AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHWEST ALABAMA, GCREC

Treatment and rate/ac	Application timing[1]	——Disease ratings—— LS[2]	Rust[3]	SSR[4]	Yield *lb/ac*
Bravo 720 24.0 fl oz	1-7	3.3[5]	4.0	1.7	5153
Headline 2.09EC 6.0 fl oz Bravo 720 24.0 fl oz + Moncut 70DF 1.1 lb Headline 2.09EC 9.0 fl oz Bravo 720 24.0 fl oz	1,2 3,5 4 6,7	3.5	4.3	2.3	4993
Headline 2.09EC 9.0 fl oz Bravo 720 24.0 fl oz + Moncut 70DF 1.1 lb Headline 2.09EC 6.0 fl oz Bravo 720 24.0 fl oz	1.5 3,5 4 6,7	3.5	4.2	2.5	5238
Bravo 720 24.0 fl oz Bravo 720 24.0 fl oz + Moncut 70DF 1.1 lb	1,2,4,6,7 3,5	3.3	3.8	1.5	5077
Bravo 720 24.0 fl oz Bravo 720 24.0 fl oz + Moncut 70DF 0.54 lb	1,2,7 3,4,5,6	3.4	4.7	1.2	5406
Bravo 720 24.0 fl oz Abound 2.08SC 18.5 fl oz	1,2,4,6,7 3,5	3.5	4.7	2.0	5413
Bravo 720 24.0 fl oz Folicur 3.6F 7.2 fl oz	1,2,7 3,4,5,6	4.0	5.0	1.7	5046
Bravo 720 24.0 fl oz Folicur 3.6F 7.2 fl oz Bravo 720 24.0 fl oz + Moncut 70DF 0.54 lb	1,2,7 3,5 4,6	3.8	4.5	2.0	5223
Bravo 720 24.0 fl oz Artisan 3.6SE 32.0 fl oz	1,2,4,6,7 3,5	3.9	4.3	2.2	5223
Bravo 720 24.0 fl oz Sparta 7.2 fl oz	1,2,7 3,4,5,6	3.8	4.5	1.8	5223
LSD (P = 0.05)		**0.3**	**0.8**	**1.2**	**607**

[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 was rated using the ICRISAT 1-9 rating scale (1 = no disease, ...9 = plants severely affected, 80-100 percent leaves withering).
[4] Southern stem rot incidence was expressed as the number of diseased plants 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 A13817 AND ABOUND 2.08SC FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES ON PEANUT IN SOUTHWEST ALABAMA, GCREC

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

Objective: To evaluate A13817 and compare it against Abound 2.08SC and other currently registered products for their efficacy in controlling early and late leaf spot, rust, and southern stem rot of peanut in a dryland peanut production system in southwest Alabama.

Methods: Peanut cultivar Georgia Green was planted on May 18 at the Gulf Coast Research and Extension Center (GCREC) near Fairhope, Alabama, in a field with a history of peanut production. The soil type was a Malbis fine sandy loam (OM < 1 percent) and seed were sown at a rate of approximately five seed per foot of row in raised beds with bed knockers. Plots consisted of four 30-foot rows spaced 38 inches apart arranged in a randomized complete block with six replications.

On April 18, the test area was disked, ripped, and bedded. On June 3, 6 ounces per acre of Gramoxone + 1 pint per acre Storm + 1 pint per acre Butyrac 1.75 + 1 pint per 25 gallons Induce was made for postemergent weed control. On June 23, 1.1 ounces per acre of Cadre and 0.3 ounce per acre of Strongarm were applied for weed control. On August 2, 1.5 ounces per acre of Karate + 1 pint per 50 gallons of water was applied for leafhopper control. Thrips were controlled at planting with an in-furrow application of 6.5 pounds per acre of Temik 15G. Fungicides were applied on a 14- to 28-day schedule on July 5, July 12, July 25, August 2, August 9, August 15, August 22, August 30, September 6, and September 19 using a four-row, ATV-mounted CO_2 sprayer with TX8 nozzles calibrated to deliver 15 gallons per acre.

Early and late leaf spot were visually rated on September 29 using the Florida leaf spot scoring system where 1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation (≤ 10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤ 25 percent); 6 = lesions numerous with significant defoliation (≤ 50 percent); 7 = lesions numerous with heavy defoliation (≤ 75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (≤ 90 percent); 9 = very few remaining leaves covered with lesions (≤ 95 percent); 10 = completely defoliated or dead plants). Rust was also rated on September 29 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 10 immediately after plot inversion.

Plots were harvested on October 13 and yields were reported at 10.3 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test (P = 0.05).

Results: During the 2005 peanut production season, temperatures were near normal and monthly rainfall totals were at or above normal through August. A drought in late September and October had little impact on disease severity or yield.

Late leaf spot was the most common leaf spot disease observed. The recommended Folicur 3.6F block program proved less effective in controlling leaf spot diseases than the Headline 2.09EC/Folicur 3.6F, Headline 2.09EC + Moncut 70DF/Bravo 720, and full season Bravo 720 programs. The lowest leaf spot rating was recorded for Bravo 720 full season. Rust incidence and severity was lower than had been seen in previous years. Bravo 720/Bravo 720 + Moncut 70DF with Moncut 70DF in-furrow gave significantly better rust control than Bravo 720 full season, A13817/Abound 2SC/Bravo 720, Abound 2SC + Tilt 3.6EC/A13817/Bravo 720 with Abound 2SC in-furrow, and Tilt 3.6EC + Bravo 720/Amistar + NIS/Bravo 720. Incidence of SSR was low; however, Bravo 720/Bravo 720 + Moncut 70DF gave significantly better SSR control than Bravo 720/Folicur 3.6F. Few differences in SSR control were observed among any of the other fungicide programs. The A13817/Abound 2SC/Bravo 720 program had higher yields than the full season Bravo 720, Headline 2.09EC/Folicur 3.6F, and Abound 2SC(in-furrow)/Abound 2SC + Tilt 3.6EC/A13817/Bravo 720 programs.

EVALUATION OF A13817 AND ABOUND 2.08SC FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES ON PEANUT IN SOUTHWEST ALABAMA, GCREC

Treatment and rate/ac	Application timing[1]	——Disease ratings—— LS[2]	Rust[3]	SSR[4]	Yield *lb/ac*
A13817 24.0 fl oz Abound 2.08SC 18.5 fl oz Bravo 720 24.0 fl oz	1,2,4 3,5 6,7	3.7[5]	4.7	4.7	6140
A13817 24.0 fl oz Abound 2.08SC 18.5 fl oz Bravo 720 24.0 fl oz	2,4 3,5 6,7	3.8	4.3	3.2	6423
A13817 24.0 fl oz Abound 2.08SC 18.5 fl oz Bravo 720 24.0 fl oz	1,2 3.5 4,6,7	3.8	5.0	3.2	5957
Headline 2.09EC 6.0 fl oz Folicur 3.6F 7.2 fl oz Headline 12.0 fl oz Bravo 720 24.0 fl oz	2 3,5,6 4.5 7	3.9	4.7	3.5	6056
Headline 2.09EC 6.0 fl oz Folicur 3.6F 7.2 fl oz	3,5.5 4.5,7	3.5	4.8	5.7	5781
Abound 2.08SC 6.0 fl oz Abound 2.08SC 18.5 fl oz + Tilt 3.6EC 4.0 fl oz A13817 24.0 fl oz Bravo 720 24.0 fl oz	In furrow 3,5.5 4.5 7	3.7	5.7	3.8	5750
Headline 2.09EC 6.0 fl oz + Moncut 70DF 1.1 lb Bravo 720 24.0 fl oz	3,5.5 4.5,7	3.5	4.7	3.8	5942
Abound 2.08SC 18.5 fl oz + Tilt 3.6EC 4.0 fl oz A13817 24.0 fl oz Bravo 720 24.0 fl oz	3,5 4 6,7	3.8	4.0	4.2	6094
Bravo 720 24.0 fl oz Abound 2.08SC 18.5 fl oz	1,2,4,6,7 3,5	3.7	4.2	3.8	6064
Bravo 720 24.0 fl oz Folicur 3.6F 7.2 fl oz	1,2,7 3,4,5,6	4.0	4.8	5.3	6056
Tilt 3.6EC 2.0 fl oz + Bravo 720 16.0 fl oz Amistar 6.0 oz Bravo 720 24.0 fl oz	1,2,4 3,5 6,7	3.7	5.2	4.7	6041
Tilt 3.6EC 2.0 fl oz + Bravo 720 24.0 fl oz Amistar 6.0 fl oz + NIS 0.25% v/v Bravo 720 24.0 fl oz	1,2,4 3,5 6,7	3.6	4.8	4.5	6209
Moncut 70DF 1.1 lb Bravo 720 24.0 fl oz Bravo 720 24.0 fl oz + Moncut 70DF 1.1 lb	In furrow 1,2,4,6,7 3,5	3.5	3.8	2.7	5896
Bravo 720 24.0 fl oz	1-7	3.4	5.0	3.3	5674
LSD (P = 0.05)		**0.3**	**1.1**	**1.8**	**550**

[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 was rated using the ICRISAT 1-9 rating scale (1 = no disease, ...9 = plants severely affected, 80-100 percent leaves withering). [4] Southern stem rot incidence was expressed as the number of diseased plants 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 FOR CONTROL OF LEAF SPOT, RUST, AND SOUTHERN STEM ROT ON PEANUT IN SOUTHWEST ALABAMA, GCREC

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

Objective: To evaluate the experimental fungicide V-10116 applied at various rates and compare it against currently registered products for controlling early and late leaf spot, rust, and southern stem rot of peanut in a dryland peanut production system in southwest Alabama.

Methods: Peanut cultivar Georgia Green was planted on May 18 at the Gulf Coast Research and Extension Center (GCREC) near Fairhope, Alabama, in a field with a history of peanut production. The soil type was a Malbis fine sandy loam (OM < 1 percent) and seed were sown at a rate of approximately five seed per foot of row in raised beds with bed knockers. Plots consisted of four 30-foot rows spaced 38 inches apart arranged in a randomized complete block with six replications.

On April 18, the test area was disked, ripped, and bedded. On June 3, 6 ounces per acre of Gramoxone + 1 pint per acre Storm + 1 pint per acre Butyrac 1.75 + 1 pint per 25 gallons Induce were applied for postemergent weed control. On June 23, 1.1 ounces per acre of Cadre and 0.3 ounce per acre of Strongarm were applied for postemergent weed control. On July 20, 1.5 pints per acre of Poast + 1 quart per acre of Prime Oil was applied for weed control. On August 2, 1.5 ounces per acre of Karate + 1 pint per 50 gallons of water was applied for leafhopper control. Thrips were controlled at planting with an in-furrow application of 6.5 pounds per acre of Temik 15G. Fungicides were applied on a 14-day schedule on July 5, July 12, July 25, August 9, August 23, September 6, and September 19 using a four-row, ATV-mounted CO_2 sprayer with TX8 nozzles calibrated to deliver 15 gallons per acre.

Early and late leaf spot were visually rated on September 29 using the Florida leaf spot scoring system where 1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation (≤ 10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤ 25 percent); 6 = lesions numerous with significant defoliation (≤ 50 percent); 7 = lesions numerous with heavy defoliation (≤ 75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (≤ 90 percent); 9 = very few remaining leaves covered with lesions (≤ 95 percent); 10 = completely defoliated or dead plants). Rust was also rated on September 29 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 to 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 10 immediately after plot inversion.

Plots were harvested on October 13 and yields were reported at 10.3 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test (P = 0.05).

Results: During the 2005 peanut production season, temperatures were near normal and monthly rainfall totals were at or above normal through August. A drought in September and October had little impact on disease severity or yield.

Late leaf spot was the most common leaf spot disease observed. The best leaf spot control was observed with Bravo 720 full season while the worst was obtained with Bravo 720/Folicur 3.6F. The addition of a non-ionic surfactant (NIS) did not enhance the efficacy of Folicur 3.6F for the control of leaf spot diseases. Leaf spot control with Bravo 720/ V-10116 + NIS at 2.56, 3.42, and 5.0 ounces per acre was comparable to that given by Bravo 720 full season. The worst control was observed in the Bravo 720/Folicur 3.6F programs. Rust appeared near the end of the growing season and severity was lower than was seen in previous years. As with leaf spot diseases, Bravo 720 full season was highly effective in controlling rust. Poorest rust control was given by the 3.42, 4.0, and 5.0 ounces per acre rates of V-10116 as well as the Bravo 720/Folcur 3.6F four-application block program. SSR incidence was minimal; however, the Bravo 720/Folicur 3.6F +NIS and the Bravo/V-10116 (2.56 ounce) programs had the fewest SSR hits. Incidence of SSR for the remaining programs was similar. Yield was similar among all treatment regimes.

EVALUATION OF EXPERIMENTAL FUNGICIDES FOR CONTROL OF LEAF SPOT, RUST, AND SOUTHERN STEM ROT ON PEANUT IN SOUTHWEST ALABAMA, GCREC

Treatment and rate/ac	Application timing[1]	——Disease ratings—— LS[2]	Rust[3]	SSR[4]	Yield *lb/ac*
Bravo 720 24.0 fl oz	1-7	3.6[5]	3.8	3.7	5666
Bravo 720 24.0 fl oz V-10116 2.56 fl oz	1,2,7 3,4,5,6	4.3	5.2	3.0	5552
Bravo 720 24.0 fl oz V-10116 2.56 fl oz + NIS 0.125% v/v	1,2,7 3,4,5,6	3.8	4.0	4.2	5689
Bravo 720 24.0 fl oz V-10116 3.42 fl oz	1,2,7 3,4,5,6	4.1	5.3	4.7	5559
Bravo 720 24.0 fl oz V-10116 3.42 fl oz + NIS 0.125% v/v	1,2,7 3,4,5,6	3.9	4.5	3.2	5437
Bravo 720 24.0 fl oz V-10116 4.0 fl oz	1,2,7 3,4,5,6	4.3	5.7	4.5	5437
Bravo 720 24.0 fl oz V-10116 4.0 fl oz + NIS 0.125% v/v	1,2,7 3,4,5,6	4.0	4.3	5.3	5873
Bravo 720 24.0 fl oz V-10116 5.0 fl oz	1,2,7 3,4,5,6	4.7	5.5	4.8	5207
Bravo 720 24.0 fl oz V-10116 5.0 fl oz + NIS 0.125% v/v	1,2,7 3,4,5,6	3.7	4.5	3.2	5651
Bravo 720 24.0 fl oz Folicur 3.6F 7.2 fl oz	1,2,7 3,4,5,6	4.8	5.3	4.5	5383
Bravo 720 24.0 fl oz Folicur 3.6F + NIS 0.125% v/v	1,2,7 3,4,5,6	4.6	4.8	3.0	5162
Bravo 720 24.0 fl oz Abound 2.08SC 18.5 fl oz	1,2,4,6,7 3,5	3.7	4.8	4.8	5284
Bravo 720 24.0 fl oz Bravo 720 24.0 fl oz + Moncut 70DF 1.1 lb	1,2,4,6,7 3,5	3.9	4.5	4.2	5896
Bravo 720 24.0 fl oz Headline 2.09EC 6.0 fl oz Headline 2.09EC 9.0 fl oz Folicur 3.6F 7.2 fl oz	1,7 2 4 3,5,6	4.2	4.5	4.2	5528
LSD (P = 0.05)		**0.4**	**1.2**	**1.7**	**558**

[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 was rated using the ICRISAT 1-9 rating scale (1 = no disease, ...9 = plants severely affected, 80-100 percent leaves withering).
[4] Southern stem rot incidence was expressed as the number of diseased plants 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 SERENADE ASO AND BALLAD FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES ON PEANUT IN SOUTHWEST ALABAMA, GCREC

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

Objective: To evaluate the biological fungicides Serenade ASO and Ballad in tank mix with Kocide or other registered products and compare them against currently registered products for their efficacy in controlling early and late leaf spot, rust, and southern stem rot of peanut in a dryland peanut production system in southwest Alabama.

Methods: Peanut cultivar Georgia Green was planted on May 18 at the Gulf Coast Research and Extension Center (GCREC) near Fairhope, Alabama, in a field with no prior history of peanut production. The soil type was a Malbis fine sandy loam (OM < 1 percent) and seed were sown at a rate of approximately five seed per foot of row in raised beds with bed knockers. Plots consisted of four 30-foot rows spaced 38 inches apart arranged in a randomized complete block with six replications.

On April 19, the test area was disked, ripped, and bedded. On June 15, 6 ounces per acre of Gramoxone + 1 pint per acre of Storm + 1 pint per acre of Butyrac 1.75 + 1 pint per 25 gallons of Induce were applied for postemergent weed control. On June 23, 1.1 ounces per acre of Cadre and 0.3 ounce per acre of Strongarm were applied for postemergent weed control. On August 2, 1.5 ounces per acre of Karate + 1 pint per 50 gallons of water was applied for leafhopper control. Thrips were controlled at planting with an in-furrow application of 6.5 pounds per acre of Temik 15G. Fungicides were applied on a 14-day schedule on July 5, July 13, July 25, August 10, August 23, September 6, and September 20 using a four-row, ATV-mounted CO_2 sprayer with three TX8 nozzles calibrated to deliver 15 gallons per acre.

Early and late leaf spot were visually rated on September 29 using the Florida leaf spot scoring system where 1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation (≤ 10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤ 25 percent); 6 = lesions numerous with significant defoliation (≤ 50 percent); 7 = lesions numerous with heavy defoliation (≤ 75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (≤ 90 percent); 9 = very few remaining leaves covered with lesions (≤ 95 percent); 10 = completely defoliated or dead plants). Rust was also rated on September 29 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 5 immediately after plot inversion.

Plots were harvested on October 11 and yields were reported at 10.2 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test (P = 0.05).

Results: During the 2005 peanut production season, temperatures were near normal and monthly rainfall totals were at or above normal through August. Drought conditions in September and October had little impact on disease severity or yield.

Late leaf spot was the most common leaf spot disease observed. Echo 720/Abound 2SC and Echo 720/Echo 720 + Moncut 70DF controlled leaf spot diseases better than either the Serenade ASO + Biotune and the Ballad + Biotune programs or the Echo 720/Folicur 3.6F four-application block program. However, Serenade ASO + Biotune + Kocide 4.5LF and Ballad + Biotune + Kocide 4.5LF were as effective in controlling leaf spot diseases as Echo 720 full season and the Headline 2.09EC program. Rust appeared near the end of the growing season and severity was lower than had been seen in previous years. Echo 720/Abound 2SC, which had the lowest rust rating, gave significantly better control of rust than the Serenade ASO + Biotune + Kocide 4.5LF, Serenade ASO + Echo 720/Serenade ASO + Abound 2SC, and Echo 720/Headline 2.09EC/Headline 2.09EC/Folicur 3.6F programs. With no prior history of peanut production in the test area, SSR incidence was minimal. No significant differences in SSR incidence were noted among any of the fungicide programs. Yield response for the Echo 720/Abound 2SC

and Echo 720/Echo 702 + Moncut 70DF programs was significantly higher than that recorded for the Serenade ASO + Echo 720/Serenade ASO + Abound 2SC program.

EVALUATION OF SERENADE ASO AND BALLAD FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES ON PEANUT IN SOUTHWEST ALABAMA, GCREC

Treatment and rate/ac	Application timing[1]	——Disease ratings—— LS[2]	Rust[3]	SSR[4]	Yield *lb/ac*
Echo 720 24.0 fl oz	1-7	3.5[5]	4.3	2.3	4570
Serenade ASO 64.0 fl oz + Biotune 0.15% v/v + Kocide 4.5 LF 2.0 lb	1-7	3.8	5.2	2.7	4643
Ballad 64.0 fl oz + Biotune 0.15% v/v + Kocide 4.5 LF 2.0 lb	1-7	3.8	4.5	2.3	4687
Serenade ASO 64.0 fl oz + Biotune 0.15% v/v + Echo 720 16.0 fl oz	1,2,4,6,7	4.1	5.5	2.2	4213
Serenade 64.0 fl oz + Biotune 0.15% v/v + Abound 2.08SC 9.25 fl oz	3,5				
Echo 720 24.0 fl oz	1,2,7	3.8	4.7	2.5	4542
Folicur 3.6F 7.2 fl oz	3,4,5,6				
Echo 720 24.0 fl oz	1,2,4,6,7	3.3	4.0	2.2	4894
Abound 2.08SC 18.5 fl oz	3,5				
Echo 720 24.0 fl oz	1,2,4,6,7	3.3	4.3	2.5	4840
Echo 720 24.0 fl oz + Moncut 70DF 1.1 lb	3,5				
Echo 720 24.0 fl oz	1,7	3.6	4.8	2.3	4489
Headline 2.09EC 6.0 fl oz	2				
Headline 2.09EC 9.0 fl oz	4				
Folicur 3.6F 7.2 fl oz	3,5,6				
LSD (P = 0.05)		**0.3**	**0.7**	**1.5**	**585**

[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 was rated using the ICRISAT 1-9 rating scale (1 = no disease, ...9 = plants severely affected, 80-100 percent leaves withering).
[4] Southern stem rot incidence was expressed as the number of diseased plants 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 FOR CONTROL OF FOLIAR AND SOIL-BORNE DISEASES OF PEANUT IN SOUTHWEST ALABAMA, GCREC

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

Objective: To evaluate TM-473 480SC and compare it against currently registered products for their efficacy in controlling early and late leaf spot and rust and southern stem rot of peanut in a dryland peanut production system in southwest Alabama.

Methods: Peanut cultivar Georgia Green was planted on May 18 at the Gulf Coast Research and Extension Center (GCREC) near Fairhope, Alabama, in a field with no prior history of peanut production. The soil type was a Malbis fine sandy loam (OM < 1 percent) and seed were sown at a rate of approximately five seed per foot of row in raised beds with bed knockers. Plots consisted of four 30-foot rows spaced 38 inches apart arranged in a randomized complete block with four replications.

On April 18, the test area was disked, ripped, and bedded. On June 3, 6 ounces per acre of Gramoxone + 1 pint per acre of Storm + 1 pint per acre of Butyrac 1.75 + 1 pint per 25 gallons Induce were applied for postemergent weed control. On June 23, 1.1 ounces per acre of Cadre and 0.3 ounce per acre of Strongarm were applied for postemergent weed control. On July 20, 1.5 pints per acre of Poast + Prime Oil were applied for weed control. On August 2, 1.5 ounces per acre of Karate + 1 pint per 50 gallons of water were applied for leafhopper control. Thrips were controlled at planting with an in-furrow application of 6.5 pounds per acre of Temik 15G. Fungicides were applied on a 14-day schedule on July 5, July 13, July 25, August 10, August 23, September 6, and September 20 using a four-row, ATV-mounted CO_2 sprayer with three TX8 nozzles calibrated to deliver 15 gallons per acre.

Early and late leaf spot were visually rated on September 29 using the Florida leaf spot scoring system where 1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation (≤ 10 percent); 5 = lesions noticeable in upper canopy with some defoliation (≤ 25 percent); 6 = lesions numerous with significant defoliation (≤ 50 percent); 7 = lesions numerous with heavy defoliation (≤ 75 percent); 8 = very numerous lesions on few remaining leaves with heavy defoliation (≤ 90 percent); 9 = very few remaining leaves covered with lesions (≤ 95 percent); 10 = completely defoliated or dead plants). Rust was also rated on September 29 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 10 immediately after plot inversion.

Plots were harvested on October 13 and yields were reported at 10.2 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test (P = 0.05).

Results: During the 2005 peanut production season, temperatures were near normal and monthly rainfall totals were at or above normal through August. Drought in September and October had little impact on disease severity or yield.

Late leaf spot was the most common leaf spot disease observed. Echo 720 full season, Echo 720/Folicur 3.6F + Absolute, and Stratego/Echo 720 programs gave better leaf spot control than Echo 720/Echo 720 + Moncut 70DF. Otherwise, differences in the leaf spot control ratings between the other fungicide programs were not significant. Rust appeared near the end of the growing season and severity was lower than in previous years. Echo 720 full season controlled rust better than all other fungicide programs except for Echo 720/Abound 2SC and Echo 720/Echo 720 + SA-12301. Overall, SSR incidence was low. However, the SSR hit counts for Stratego/Echo 720 were significantly higher than those recorded for Echo 720 full season. Yield response to Echo 720 full season was superior to that recorded with Echo 720/Echo 720 + Moncut 70DF, Echo 720/Folciur 3.6F, Echo 720/TM-473 + Folicur 3.6F, and Absolute/Echo 720.

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

Treatment and rate/ac	Application timing[1]	——Disease ratings—— LS[2]	Rust[3]	SSR[4]	Yield *lb/ac*
Echo 720 24.0 fl oz	1-7	3.6[5]	3.3	3.3	6217
Echo 720 24.0 fl oz TM-473 480SC 3.5 fl oz + Folicur 3.6F 3.9 fl oz	1,2,4,6,7 3,5	4.0	4.3	4.0	6102
TM-473 480SC 3.5 fl oz Echo 720 24.0 fl oz	1,3,5,7 2,4,6	4.0	4.3	4.0	5597
Echo 720 24.0 fl oz TM-473 480SC 0.7 fl oz + Folicur 3.6F 2.4 fl oz	1,2,7 3,4,5,6	4.1	4.3	4.0	5460
Absolute 3.5 fl oz Echo 720 24.0 fl oz	1,3,5,7 2,4,6	4.0	4.8	4.8	5357
Echo 720 24.0 fl oz Folicur 3.6F 5.2 fl oz + Absolute 3.5 fl oz	1,2,4,6,7 3,5	3.6	4.3	3.8	5861
Echo 720 24.0 fl oz Folicur 3.6F 7.2 fl oz	1,2,7 3,4,5,6	3.9	4.8	4.3	5540
Echo 720 24.0 fl oz Echo 720 24.0 fl oz + Moncut 70DF 1.1 lb	1,2,4,6,7 3,5	4.3	4.8	5.0	5379
Echo 720 24.0 fl oz Abound 2.08SC 18.5 fl oz	1,2,4,6,7 3,5	3.6	4.0	4.5	5747
Stratego 7.0 fl oz Echo 720 24.0 fl oz	1,2 3,4,5,6,7	3.6	4.3	5.8	5896
Echo 720 24.0 fl oz Echo 720 24.0 fl oz + SA-12301 7.0 fl oz	1,2,7 3,4,5,6	3.8	3.8	4.5	5919
LSD (P = 0.05)		**0.6**	**0.9**	**2.4**	**661**

[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 was rated using the ICRISAT 1-9 rating scale (1 = no disease, ...9 = plants severely affected, 80-100 percent leaves withering).
[4] Southern stem rot incidence was expressed as the number of diseased plants 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 FUNGICIDE SEED TREATMENTS AND ABOUND 2.08SC APPLIED IN-FURROW AT PLANTING AND THEIR EFFECTS ON STAND, TOMATO SPOTTED WILT VIRUS, SOIL-BORNE DISEASE CONTROL, AND YIELD ON PEANUT, GCREC

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

Objective: To compare new fungicide seed treatments with currently registered seed treatments and Abound 2.08SC applied in-furrow for their effect on peanut seed germination, stand, tomato spotted wilt virus, and southern stem rot of peanut in southeast Alabama.

Methods: On May 11 peanut cultivars AP-3 (Test 1) and Georgia Green (Test 2) were planted at the Gulf Coast Research and Extension Center (GCREC) near Fairhope, Alabama, in a field with no prior history of peanut production. The soil type was a Malbis fine sandy loam (OM < 1 percent). Seed were sown at a rate of approximately five and one-half seed per foot of row. Plots consisted of four 30-foot rows spaced 38 inches apart and were arranged in a randomized complete block design with six replications. Plots were not irrigated.

On April 19, the test area was disked, ripped, and bedded. On June 15, 6 ounces per acre of Gramoxone + 1 pint per acre of Storm + 1 pint per acre of Butyrac 1.75 + 1 pint per 25 gallons of Induce were applied for postemergent weed control. On June 23, 1.1 ounces per acre of Cadre and 0.3 ounce per acre of Strongarm were applied for weed control. On August 2, 1.5 ounces per acre of Karate + 1 pint per 50 gallons of water were applied for leafhopper control. Thrips were controlled at planting with an in-furrow application of 6.5 pounds per acre of Temik 15G. Abound 2.08SC was applied in-furrow at planting using a tractor-mounted CO_2 sprayer with 8001 nozzles calibrated to deliver 5 gallons per acre with a nozzle placed over the open seed furrow. Stand counts were made on May 24 and June 14 at approximately 7 and 28 days after emergence. The 14-day stand count was not made due to excessive rainfall during the period. Foliar fungicide treatments were made on test 1 following the recommended Echo 720/Moncut 70DF program [Echo 720 (1,2,4,6,7) and Echo 720 + Moncut 70DF (3,5)] and on test 2 following the recommended Bravo 720/Abound 2.08SC program [Tilt 3.6EC + Bravo 720 (1,2,4), Abound 2.08SC (3,5), and Bravo 720 (6,7)]. All foliar fungicides were applied at two-week intervals using a four-row, ATV-mounted CO_2 sprayer with TX8 nozzles calibrated to deliver 15 gallons per acre.

Tomato spotted wilt virus (TSWV) was assessed on September 14. Counts of southern stem rot (SSR) hits (one hit was defined as $\leq$ 1 foot of consecutive SSR-damaged plants) were made on October 4 immediately after plot inversion. Inversion was delayed due to drought. Plots were harvested on October 10 and yields were reported at 10.3 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test (P = 0.05).

Results: During the 2005 peanut production season, temperatures were near normal and monthly rainfall totals were at or above normal through August. A late season drought in September and October had little impact on disease severity or yield.

Late leaf spot was the most common leaf spot disease observed although some early leaf spot was also seen. Rust appeared in late August and early September but neither disease negatively impacted yield. In test 1, stand counts for all of the seed treatments were similar and all were significantly better than the untreated seeds. (Table 1). Seed treatment had very little impact on the incidence of TSWV and all treatments were similar with the exception of the seed treatment which had significantly lower incidence of TSWV than did the untreated seed. SSR control was similar among all treatments; however, the seed treatment Allegiance had lower SSR hits than did all other seed treatments and significantly lower hits than did the untreated control. All seed treatments yielded similarly and there was no significance of treatment effects among any of the treatments.

In test 2, lowest stand counts were observed with the untreated seeds. All other seed treatments gave similar stand count numbers and were significantly higher than the untreated control (Table 2). TSWV ratings were similar among all seed treatments; however, the highest numbers were in the untreated control seed and were significantly higher than all of the seed treatments. No differences in SSR control were observed among the treatments. Yield response to the seed treatments was similar and only the Dynasty PD seed treatment yielded significantly higher than the untreated seed.

TABLE 1. PEANUT SEED TREATMENT TEST 1

Treatment and rate/ac	Application timing[1]	Stand counts[2] May 23	Stand counts[2] June 14	Disease ratings TSWV[3]	Disease ratings SSR[4]	Yield *lb/ac*
Untreated Control		48.8[5]	60.3	3.0	3.8	3785
Echo 720 1.5 pt	1,2,4,6,7					
Echo 720 1.5 pt + Moncut 70DF 1.1 lb	3,5					
Vitavax PC	Seed treatment	63.8	80.5	1.7	3.2	3909
Echo 720 1.5 pt	1,2,4,6,7					
Echo 720 1.5 pt + Moncut 70DF 1.1 lb	3,5					
Allegiance	Seed treatment	63.5	75.7	2.0	2.5	3602
Echo 720 1.5 pt	1,2,4,6,7					
Echo 720 1.5 pt + Moncut 70DF 1.1 lb	3,5					
Dynasty	Seed treatment	62.7	80.3	2.7	3.7	3404
Echo 720 1.5 pt	1,2,4,6,7					
Echo 720 1.5 pt + Moncut 70DF 1.1 lb	3,5					
KNF 2830 (3 oz)	Seed treatment	64.5	81.7	1.5	3.0	3487
Echo 720 1.5 pt	1,2,4,6,7					
Echo 720 1.5 pt + Moncut 70DF 1.1 lb	3,5					
KNF 2830 (4 oz)	Seed treatment	65.8	77.8	1.8	3.5	3799
Echo 720 1.5 pt	1,2,4,6,7					
Echo 720 1.5 pt + Moncut 70DF 1.1 lb	3,5					
LSD (P = 0.05)		**6.3**	**7.7**	**1.4**	**1.3**	**616**

[1] Fungicide applications were made at 14-day intervals unless otherwise indicated.
[2] Stand counts were made at 7, 14, and 28 days after emergence.
[3] TSWV ratings were based on number of infected plants per 60 feet of row.
[4] Southern stem rot incidence was expressed as the number of diseased plants per 60 feet of row.
[5] Mean separation within columns was according to Fisher's protected least significant difference (LSD) test (P = 0.05).

TABLE 2. PEANUT SEED TREATMENT TEST 2

Treatment and rate/ac	Application timing[1]	Stand counts[2] May 23	Stand counts[2] June 14	Disease ratings TSWV[3]	Disease ratings SSR[4]	Yield *lb/ac*
Untreated Control		48.8[5]	55.8	3.3	4.5	4003
Tilt 3.6EC 2 fl oz + Bravo 720 1.5 pt	1,2,4					
Abound 2SC 18.5 fl oz	3,5					
Bravo 720 1.5 pt	6,7					
Dynasty PD	Seed treatment	61.0	72.2	1.5	4.8	4305
Tilt 3.6EC 2 fl oz + Bravo 720 1.5 pt	1,2,4					
Abound 2SC 18.5 fl oz	3,5					
Bravo 720 1.5 pt	6,7					
Dynasty PD	Seed treatment	59.7	77.5	1.7	5.3	4320
Abound 2SC	In furrow					
Tilt 3.6EC 2 fl oz + Bravo 720 1.5 pt	1,2,4					
Abound 2SC 18.5 fl oz	3,5					
Bravo 720 1.5 pt	6,7					
Vitavax PC	Seed treatment	62.8	76.0	2.5	5.3	4166
Tilt 3.6EC 2 fl oz + Bravo 720 1.5 pt	1,2,4					
Abound 2SC 18.5 fl oz	3,5					
Bravo 720 1.5 pt	6,7					
Vitavax PC	Seed treatment	61.0	72.2	1.3	4.0	4412
Abound 2SC	In furrow					
Tilt 3.6EC 2 fl oz + Bravo 720 1.5 pt	1,2,4					
Abound 2SC 18.5 fl oz	3,5					
Bravo 720 1.5 pt	6,7					
LSD (P = 0.05)		**8.1**	**6.8**	**1.6**	**2.9**	**550**

[1] Fungicide applications were made at 14-day intervals unless otherwise indicated.
[2] Stand counts were made at 7, 14, and 28 days after emergence.
[3] TSWV ratings were based on number of infected plants per 60 feet of row.
[4] Southern stem rot incidence was expressed as the number of diseased plants per 60 feet of row.
[5] Mean separation within columns was according to Fisher's protected least significant difference (LSD) test (P = 0.05).

YIELD OF EXPERIMENTAL PEANUT LINES AND THEIR SENSITIVITY TO TOMATO SPOTTED WILT VIRUS, LEAF SPOT DISEASES, AND WHITE MOLD, WREC

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Objective: To assess the yield potential and the susceptibility of experimental runner and Virginia-type peanut cultivars to tomato spotted wilt, early and late leaf spot, and white mold in a well-rotated, irrigated production system in southeast Alabama.

Methods: On May 20, 20 commercial and experimental runner peanut lines were planted at at the Wiregrass Research and Extension Center (WREC) in Headland, Alabama, in a field that was cropped to peanut after two years of cotton. Seed were sown at a rate of approximately six seed per foot of row using conventional tillage practices. The soil type was a Dothan fine sandy loam (OM < 1 percent). Plots were two 20-foot rows spaced 3 feet apart.

Prior to planting, 1000 pounds per acre of lime was broadcast and lightly incorporated with a disk harrow. Gypsum at a rate of 600 pounds per treated acre was applied on a 14-inch band over the row middles. The plot area was irrigated with 0.35, 1.0, 0.4, and 0.4 acre inches of water on May 26, July 27, August 23, and September 13, respectively. On April 25, 1.0 quart per acre of Sonalan + 0.45 ounces per acre of Strongarm was broadcast and lightly incorporated with a disk harrow. Select at 8 ounces per acre + 1 quart per acre of crop oil concentrate was broadcast on July 26 for escape grass control. Escape weeds were controlled with flat sweeps or were pulled by hand. A randomized complete block design with four replications per peanut line was used. Full canopy sprays of 1.0 pint per acre of Chloronil + 2 fluid ounces per acre of Tilt 3.6F were made on June 8 and followed by applications of 1.5 pints per acre of Chloronil on June 21, 1.2 pints per acre of Abound 2SC on July 6, 1.5 pints per acre of Chloronil on July 18, 1.2 pints per acre of Abound 2SC on August 1, and 1.5 pints per acre of Chloronil on August 17 and August 26. An application of 1.5 pints per acre of Chloronil was made on September 21 to the maturity group 5 cultivars. Fungicides were applied with a tractor-mounted boom sprayer with three TX-8 nozzles per row that delivered approximately 15 gallons of spray volume per acre.

Incidence of tomato spotted wilt virus (TSWV) was determined on September 7, September 18, and October 3 for the maturity group 3, 4, and 5 lines, respectively, by counting the number of disease hits (one hit was defined as ≤ 1 foot of consecutive symptomatic plants per row) for the middle two rows of each plot.

Early and late leaf spot were rated together using the Florida peanut 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 defoliated or dead. Ratings for leaf spot were made on September 7, September 18, and October 3 for the maturity group 3, 4, and 5 lines, respectively. Counts of white mold hits (one hit equals ≤ 1 foot of consecutive white mold-damaged plants per row), were collected immediately after plot inversion on September 15, September 22, and October 3 for the maturity group 3, 4 and 5 peanut cultivars, respectively.

Plots were harvested with a field combine. Yields were reported at 7 percent moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference test (P=0.05).

Results: Monthly rainfall totals in 2005 were equal to or higher than the historical average for the months of June, July, and August but below to well-below average in May, September, and October, which may have slowed late-season leaf spot and possibly white mold development. Temperatures were below average for April and early May but seasonal for the remainder of the production season.

Incidence of TSWV was highest for Florunner, NC-7, and VT003069, and it was lowest for the experimental runner lines N03090 T, UF04327, UF03325, and UF03325. Overall, leaf spot pressure was low, and early leaf spot was the more common of the two leaf spot diseases present. Leaf spot ratings were highest for TX 033603 and GA 011568. Minimal white mold pressure was observed in the test area. Incidence of this disease was higher on CRSP14 than a majority of the other experimental peanut lines. Generally, yields were higher for the peanut lines that suffered from the lowest incidence of TSWV.

Summary: In a rotation, TSWV has more impact on yield than either leaf spot diseases or white mold. The extreme susceptibility of the Florunner peanut to TSWV was clearly demonstrated (see table). In contrast, the experimental runner peanut cultivars with the lowest TSWV ratings often had the highest yields. None of the Virginia experimental peanut cultivars had either the resistance or the yield potential of the best experimental runner peanut cultivars.

DISEASE RESPONSE OF EXPERIMENTAL RUNNER AND VIRGINIA PEANUT LINES, WREC

Peanut cultivars	Market type[1]	Maturity group	Disease rating: TSWV hits/60 ft	Disease rating: Leaf spot rating	Disease rating: White mold hits/60 ft	Yield *lb/ac*
NC-7	V	3	26.0 bc[2]	3.8 ab	0.7 bcd	2831 def
Florunner	R	4	36.0 a	3.4 abcd	0.3 cd	1307 h
UF03325	R	4	11.5 hij	3.6 abc	1.3 bcd	3939 abc
UF03326	R	4	11.8 hij	3.0 bcde	1.0 bcd	3249 cd
UF04327	R	5	8.2 ij	2.5 de	2.3 ab	4674 a
GA 012534	V	4	14.0 fghi	2.9 bcde	0.8 bcd	3113 de
GA 011514	R	4	11.0 hij	2.9 bcde	0.5 cd	4429 a
GA 011568	R	4	6.5 j	4.0 a	0.8 bcd	4057 ab
N03090 T	V	3	17.3 efgh	2.9 bcde	0.0 d	2414 efg
N01013 T	V	3	18.5 defg	3.4 abcd	0.0 d	3439 bcd
N02006	V	3	16.5 efgh	2.8 cde	0.0 d	3367 bcd
VT003069	V	3	29.3 ab	3.4 abcd	1.5 bcd	2478 efg
CRSP08	R	5	17.3 efgh	2.5 de	2.0 abc	2750 def
CRSP14	R	5	13.5 ghi	2.8 cde	3.3 a	2868 def
TX 034145	R	4	18.8 defg	3.8 ab	0.3 cd	3095 de
TX 033607	R	4	25.5 bc	3.5 abc	0.0 d	2305 fg
TX 033630	R	4	25.0 bcd	4.1 a	0.0 d	2986 def
CRSP680	—[3]	5	20.2 cdef	2.3 e	1.5 bcd	3367 bcd
CRSP925	—	3	21.3 cde	3.8 ab	—	1924 gh
CRSP736	—	4	20.0 cdef	2.5 de	0.5 cd	3158 de

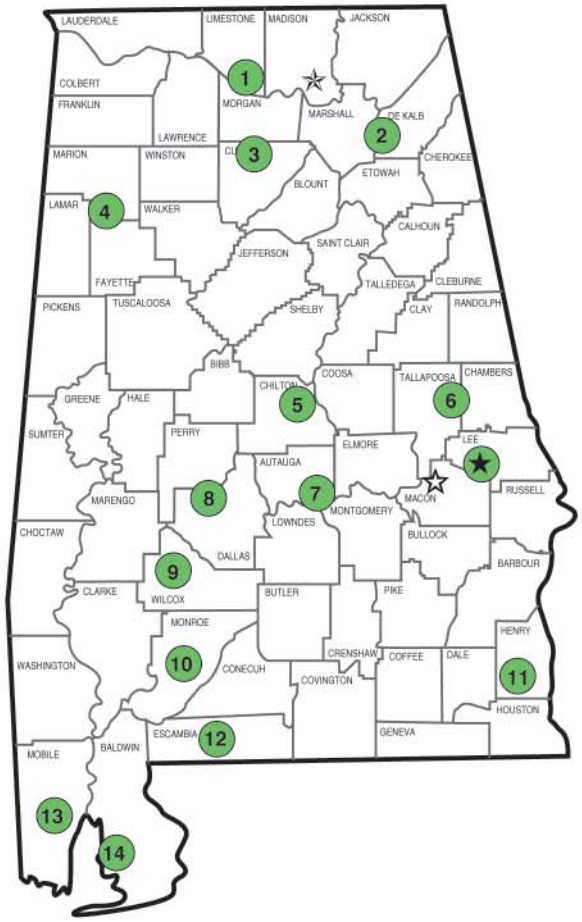
[1] Market type: R = runner and V = Virginia.

[2] Means in each column followed by the same letter were not significantly different according to ANOVA and Fisher's protected least significant difference (LSD) test (P=0.05).

[3] — = data missing.

Alabama's Agricultural Experiment Station
AUBURN UNIVERSITY

With an agricultural research unit in every major soil area, Auburn University serves the needs of field crop, livestock, forestry, and horticultural producers in each region in Alabama. Every citizen of the state has a stake in this research program, since any advantage from new and more economical ways of producing and handling farm products directly benefits the consuming public.



Research Unit Identification

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

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