Peanut Disease Control Field Trials
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William Batchelor, Director
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AUTHORS

K. L. Bowen
Professor
Dept. of Entomology and Plant Pathology
Auburn University, AL 36849-5624

K. Burch
Research Technician
Dept. of Entomology and Plant Pathology
Auburn University, AL 36849

J. Burkett
Associate Superintendent
E.V. Smith Research Center
Plant Breeding Unit
Tallassee, AL 36078

H. L. Campbell
Research Associate
Dept. of Entomology and Plant Pathology
Auburn University, AL 36849-5624

A. K. Hagan
Professor
Dept. of Entomology and Plant Pathology
Auburn University, AL 36849-5624

B. Gamble
Associate Director
Wiregrass Research and Extension Center
Headland, AL 36345

J. Jones
Associate Director
Gulf Coast Research and Extension Center
Fairhope, AL 36532

B. Miller
Supervisor
Brewton Agricultural Research Unit
Brewton, AL 36426

M. D. Pegues
Director
Gulf Coast Research and Extension Center
Fairhope, AL 36532

J. Pitts
Director
Chilton Research and Extension Center
Clanton, AL 35045

L. Wells
Director
Wiregrass Research and Extension Center
Headland, AL 36345

PEANUT DISEASE CONTROL FIELD TRIALS, 2015

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, Ala., at the Gulf Coast Research and Extension Center (GCREC) in Fairhope, Ala., at the Brewton Agricultural Research Unit in Brewton (BARU), Ala., at the EV Smith Research Center, Plant Breeding Unit (PBU) in Tallassee, Ala., and at the Chilton Research and Extension Center (CREC)in Clanton, Ala. This report summarizes the results of those trials.

During the 2015 production season, at the WREC, temperatures were near normal historical averages (Fig. 1) and monthly rainfall totals were at or above normal historical averages throughout the entire growing season (Fig. 2). As a result of the higher than normal rainfall in September, leaf spot severity increased exponentially in all trials and soil-borne disease incidence was higher to that observed in previous years due to higher soil temperatures and rainfall and this adversely affected yield.

At the GCREC, temperatures were near historical averages throughout the entire growing season (Fig. 1) and rainfall totals were at or above normal throughout the entire growing season (Fig. 2). Less than normal rainfall throughout during the growing season in August and September decreased leaf spot severity throughout the season. Despite rainfall, rust never developed in the plots. Despite the high temperatures and rainfall, stem rot incidence was similar to that which had been previously observed and yield was not negatively impacted in most plots.

Figure 1. Daily maximum and minimum temperatures from May 1 – Sept. 30

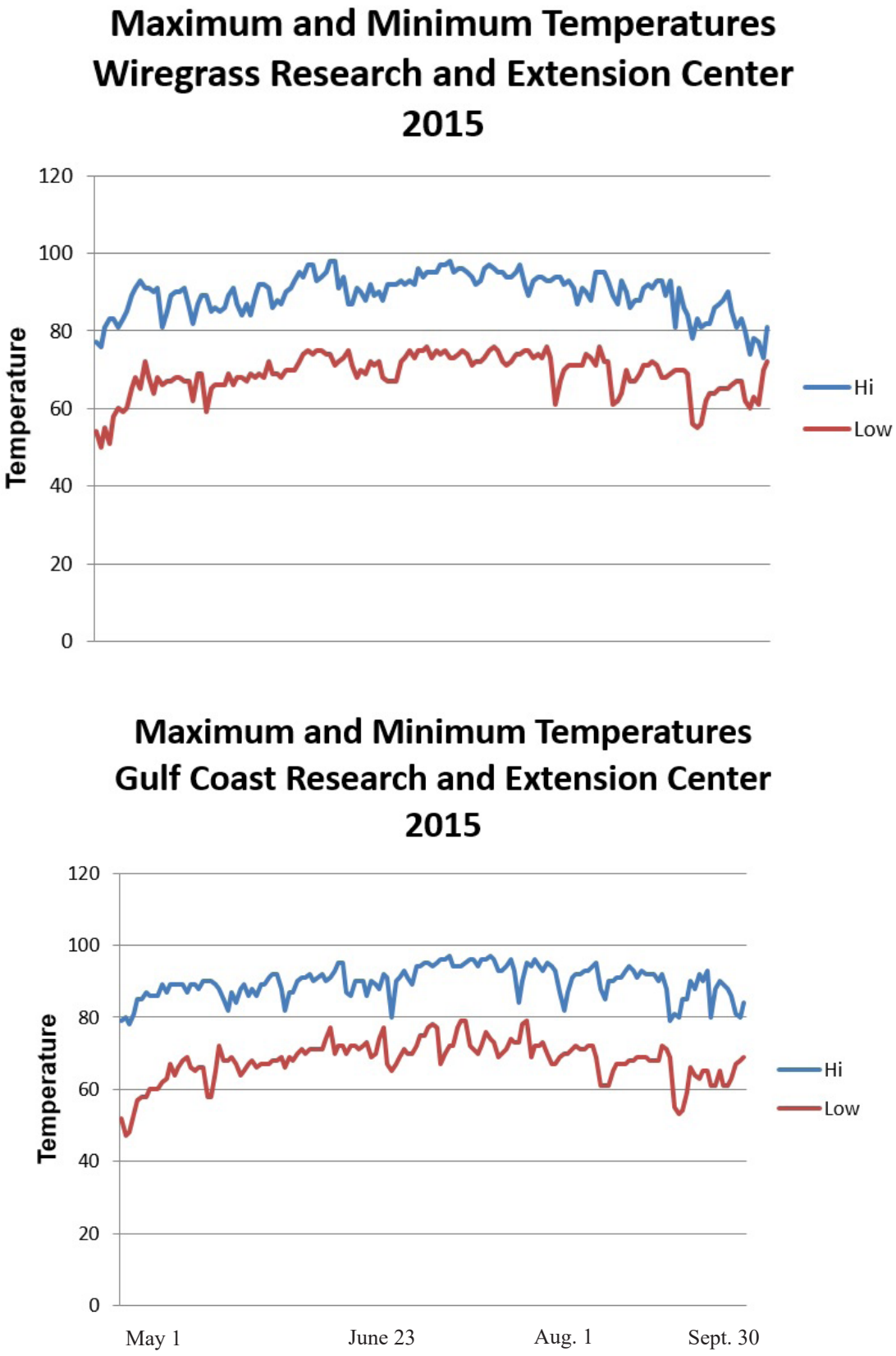
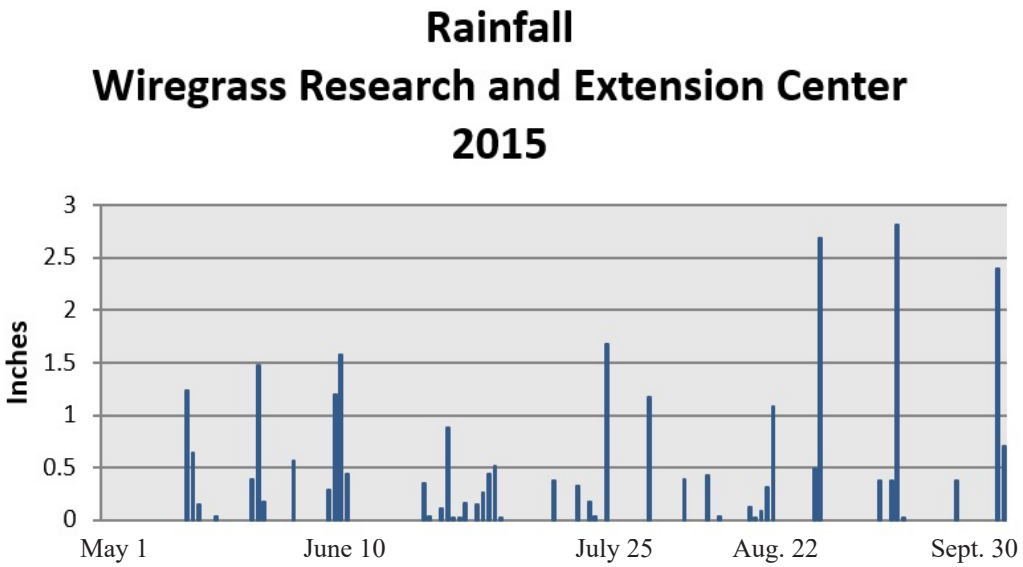
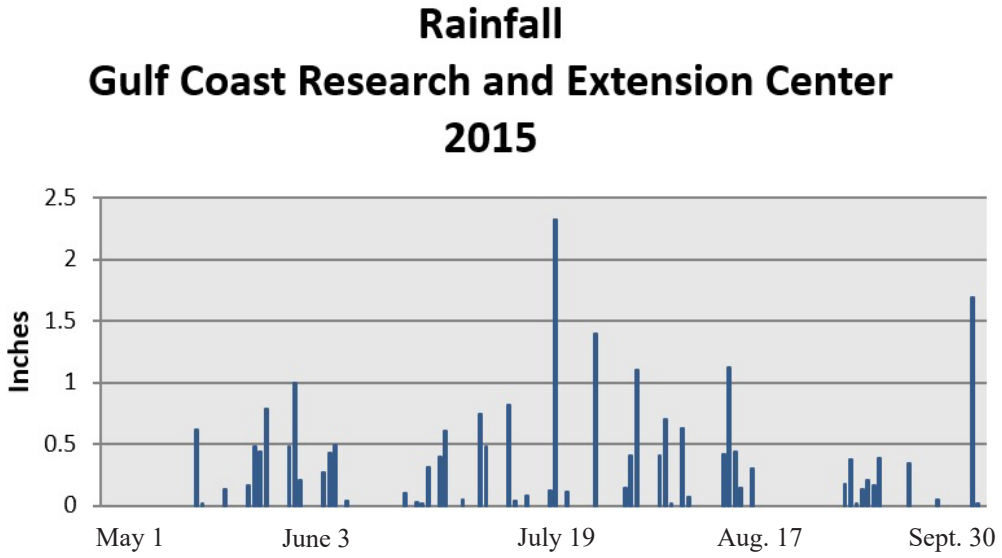


Figure 2. Daily precipitation (inches) from May 1 – Sept. 30.





EVALUATION OF SA-0040304 AND OTHER EXPERIMENTAL FUNGICIDES FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate experimental fungicides SA-0040304, SA-0040312, 0450107, and 0040309 and compare them against currently registered fungicides for control of early and late leaf spot and stem rot and yield response in an irrigated peanut production system in southeast Alabama.

Methods: Peanut cultivar 'Georgia 09B' was planted on May 26 at the Wiregrass Research and Extension Center in Headland, Ala., in a field with a history of peanut production. Seed were sown at a rate of approximately five seed per foot of row, and recommendations of the Alabama Cooperative Extension System for tillage, fertility, weed, and nematode control were followed. The soil type was a Dothan sandy loam (OM<1%). On May 20, 1 qt/A of Sonalan + 0.45 oz/A of Strongarm were applied and incorporated to the test area for pre-emergent weed control. On May 20, 3 oz/A of Valor were applied to test area after planting for weed control. On June 26, 1.5 pt/A of 2,4 DB was applied for weed control. Thrips were controlled with an in-furrow application of 5.0 lb/A of Thimet 20G at planting.

Plots, which consisted of four 30-foot rows spaced 3-feet apart, were arranged in a randomized complete block with six replicates. Plots were located under a central pivot irrigation system and irrigated 0.5 inch on July 7 and 1 inch on July 31, Aug. 4, Aug. 19, Sept. 4, and Sept. 17. Rainfall recorded during the growing season was (in inches) as follows: May = 4.76, June = 5.28, July = 5.19, August = 6.03 and September = 8.03. Early emergent fungicides were applied with a drop nozzle directly over row at a rate of 20 gal/A on June 24. Foliar fungicides were applied on a 14-21 day schedule on July 8, July 15, July 20, Aug. 4, Aug. 18, Sept. 4, Sept. 21 and Oct. 6 using a four row tractor-mounted boom sprayer with three TX8 nozzles per row calibrated to deliver 15 gal/A per plot.

Early and late leaf spot were visually rated on Oct. 12 using the Florida leaf spot scoring system (1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation; 5 = lesions noticeable in upper canopy with some defoliation; 6 = lesions numerous with significant defoliation; 7 = lesions numerous with heavy defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation; 9 = very few remaining leaves covered with lesions; 10 = completely dead plants).

Counts of stem rot (SR) loci (1 locus was defined as ≤ 1 foot of consecutive symptoms and signs of the disease) were made on Oct. 19 immediately after plot

inversion. Plots were harvested on Oct. 22 and yields were reported at 8.43% moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

Results: During the 2015 production season, temperatures were near normal and monthly rainfall totals were near normal during June, July, August, and September. Early leaf spot appeared early and rapidly progressed until September when late leaf spot became dominant. Stem rot incidence was higher than in previous years due to normal rainfall and elevated soil temperatures. Leaf spot intensity was lower for all fungicide programs than the untreated control, which suffered considerable premature defoliation (data not shown). Of the fungicide programs tested, the best leaf spot control was observed with Priaxor/MuscleADV/Priaxor/Echo 720 and the worst leaf spot control was observed with the season-long Echo 720 and Echo 720/Echo 720 + Convoy programs. SA-0040304(1.5)/MuscleADV/Echo and the MuscleADV(EE)/SA-0040304/MuscleADV/Echo 720 gave better leaf spot control than the season-long Echo 720 program as did all programs that include SA-0040312, SA-0450107, and SA-0040309. The SA-0040304(1.5)/MuscleADV/Echo 720 and Echo 720/Fontelis programs gave better stem rot control than the Muscle ADV(EE)/SA-0040304/Muscle ADV/Echo 720 and season-long Echo 720 programs. When compared to the season-long Echo 720 standard, all treatments with the exception of Echo 720/Muscle ADV, Muscle ADV(EE)/SA-0040304/Muscle ADV/Echo 720, Headline/Muscle ADV/Echo 720, SA-0040312/Muscle ADV/Echo 720, and SA-0040309/Muscle ADV/Echo 720 had lower stem rot incidence. With the exception of SA-0040304(1.5)/Muscle ADV/Echo 720 and Muscle ADV(EE)/Mazinga/Muscle ADV/Echo 720 higher yields than the season-long Echo 720 standard. Yields for all other fungicide programs were similar.

EVALUATION OF SA-0040304 AND OTHER EXPERIMENTAL FUNGICIDES FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

Treatment and Rate/A	Application Timing	Disease ratings		Yield lb/A
		Leaf Spot[1]	Stem Rot[2]	
SA-0040304 32.0 fl oz Muscle ADV 3.48SC 32.0 fl oz Echo 720 24.0 fl oz	1,2 3,4,5,6 7	4.0 abc[3]	3.0 bc	4404 b-e
SA-0040304 32.0 fl oz Muscle ADV 3.48SC 32.0 fl oz Echo 720 24.0 fl oz	1.5 3,4,5,6 7	3.8 bcde	2.2 c	4033 def
Muscle ADV 3.48 SC 32.0 fl oz Echo 720 24.0 fl oz	1,2,7 3,4,5,6	2.8 bcde	3.5 abc	4711 a-d
Muscle 3.48SC ADV 32.0 fl oz SA-0040304 32.0 fl oz Muscle ADV 3.48SC 32.0 fl oz Echo 720 24.0 fl oz	EE 1,2 3,4,5,6 7	3.8 cdef	4.5 ab	3977 ef
Headline 2.09SC 9.0 fl oz Muscle ADV 3.48SC 32.0 fl oz Echo 720 24.0 fl oz	1.5 3,4,5,6 7	3.4 efgh	3.5 abc	4388 b-e
SA-0040312 16.0 fl oz Muscle ADV 3.48SC 32.0 fl oz Echo 720 24.0 fl oz	1,2 3,4,5,6 7	3.2 ghi	3.7 abc	4711 a-d
SA-0450107 30.0 fl oz Muscle ADV 3.48SC 32.0 fl oz Echo 720 24.0 fl oz	1,2 3,4,5,6 7	3.5 defg	2.5 bc	4945 abc
SA-0040309 20.0 fl oz Muscle ADV 3.48SC 32.0 fl oz Echo 720 24.0 fl oz	1,2 3,4,5,6 7	3.3 fghi	3.3 abc	4840 abc
Echo 720 24.0 fl oz Provost 433SC 10.7 fl oz	1,2,7 3,4,5,6	3.1 hi	3.0 bc	4509 a-e
Echo 720 24.0 fl oz Fontelis 16.0 fl oz	1,2,6,7 3,4,5	3.3 fghi	2.2 c	5130 a
Echo 720 24.0 fl oz Abound 2.08SC 18.2 fl oz + Alto 0.83SE 5.5 fl oz	1,2,4,6,7 3,5	3.6 cdefg	2.7 bc	5034 ab
Echo 720 24.0 fl oz Echo 720 24.0 fl oz + Convoy 26.0 fl oz	1,2,4,6,7 3,5	4.3 a	2.8 bc	4299 cde
Echo 720 24.0 fl oz Echo 720 24.0 fl oz + Artisan 26.0 fl oz	1,2,4,6,7 3,5	3.9 abcd	2.8 bc	4767 abc
Priaxor 6.0 fl oz Muscle ADV 32.0 fl oz Priaxor 8.0 fl oz Echo 720 24. 0 fl oz	1.5 3,5 4 6,7	2.9 i	2.7 bc	4493 a-e
Echo 720 24.0 fl oz	1-7	4.3 a	5.2 a	3566 f
LSD (P ≤ 0.05)		*0.4*	*2.0*	*693*

[1]Early and late leaf spot were assessed using the Florida leaf spot scoring system.
[2]Stem rot (SR) incidence is expressed as the number of disease loci per 60 foot of row.
[3]Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

EVALUATION OF EQUATION AND TOPGUARD EQ FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

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

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

Methods: Peanut cultivar 'Georgia 09B' was planted on May 26 at the Wiregrass Research and Extension Center in Headland, Ala., in a field with a history of peanut production. Seed were sown at a rate of approximately five seed per foot of row, and recommendations of the Alabama Cooperative Extension System for tillage, fertility, weed, and nematode control were followed. The soil type was a Dothan sandy loam (OM<1%). On May 20, 1 qt/A of Sonalan + 0.45 oz/A of Strongarm were applied and incorporated to the test area for pre-emergent weed control. On May 20, 3 oz/A of Valor were applied to test area after planting for weed control. On June 26, 1.5 pt/A of 2,4 DB was applied for weed control. Thrips were controlled with an in-furrow application of 5.0 lb/A of Thimet 20G at planting.

Plots, which consisted of four 30-foot rows spaced 3-feet apart, were arranged in a randomized complete block with six replicates. Plots were located under a central pivot irrigation system and irrigated 0.5 inch on July 7 and 1 inch on July 31, Aug. 4, Aug. 19, Sept. 4, and Sept. 17. Rainfall recorded during the growing season was as follows (in inches): May = 4.76, June = 5.28, July = 5.19, August = 6.03 and September = 8.03. Foliar fungicides were applied on a 14-21 day schedule on July 8, July 15, July 21, Aug. 4, Aug. 17, Sept. 4, Sept. 20, and Oct. 6 using a four row tractor-mounted boom sprayer with three TX8 nozzles per row calibrated to deliver 15 gal/A per plot.

Early and late leaf spot were visually rated on Oct. 13 using the Florida leaf spot scoring system (1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation; 5 = lesions noticeable in upper canopy with some defoliation; 6 = lesions numerous with significant defoliation; 7 = lesions numerous with heavy defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation; 9 = very few remaining leaves covered with lesions; 10 = completely dead plants).

Counts of stem rot (SR) loci (1 locus was defined as ≤ 1 foot of consecutive symptoms and signs of the disease) were made on Oct. 20 immediately after plot inversion. Plots were harvested on Oct. 23 and yields were reported at 8.07% moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

Results: During the 2015 peanut production season, temperatures were near normal and monthly rainfall totals were near average during June, July, August and September. Early leaf spot appeared early and progressed rapidly during the season until September when late leaf spot became dominant. Stem rot incidence was higher than in previous years due to average

rainfall and elevated soil temperatures. Leaf spot intensity was lower for all fungicide programs than the untreated control, which suffered considerable premature defoliation (data not shown). Of the fungicide programs tested, Echo 720/Provost gave better leaf spot control than all programs except for Echo/Topguard EQ, while the poorest disease control was obtained with Echo 720/Equation at the 12 fl oz/A rate and Echo 720 /Muscle ADV. In addition to the former two fungicide programs, Echo 720/Abound and Priaxor/ MuscleADV/Priaxor/Echo 720 gave better leaf spot control than the season-long Echo 720 program. The stem rot indices for Echo 720/Topguard EQ and Echo 720/Provost were greater than Echo 720/Fontelis with all other fungicide programs including the season-long Echo 720 standard had imtermediate ratings for this disease. Higher yields were recorded for the Echo 720/Abound program than for Echi 720/Muscle ADV, Echo 720/Provost, Priaxor/Muscle ADV/Priaxor/Echo 720, and Echo 720 standard, all of which had similarly low yields.

EVALUATION OF EQUATION AND TOPGUARD EQ FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

Treatment and Rate/A	Application Timing	Disease ratings		Yield lb/A
		Leaf Spot[1]	Stem Rot[2]	
Echo 720 24.0 fl oz Equation 12.0 fl oz	1,2,4,6,7 3,5	4.1 a[3]	4.8 ab	4477 abcd
Echo 720 24.0 fl oz Equation 24.5 fl oz	1,2,4,6,7 3,5	4.2 bc	4.7 ab	4388 bcd
Echo 720 24.0 fl oz Topguard EQ 7.0 fl oz	1,2,4,6,7 3,5	3.6 ef	5.4 a	4646 abcd
Echo 720 24.0 fl oz Abound 2.08SC 24.5 fl oz	1,2,4,6,7 3,5	3.8 de	4.3 ab	5171 a
Echo 720 24.0 fl oz Muscle ADV 3.48SC 32.0 fl oz	1,2,7 3,4,5,6	4.8 a	4.7 ab	4178 cd
Echo 720 24.0 fl oz Provost 433SC 10.7 fl oz	1,2,7 3,4,5,6	3.4 f	5.2 a	4066 d
Echo720 24.0 fl oz Fontelis 16.0 fl oz	1,2,6,7 3,4,5	3.9 cde	3.0 b	4904 ab
Echo 720 24.0 fl oz Echo 720 24.0 fl oz + Convoy 26.0 fl oz	1,2,4,6,7 3,5	4.4 b	4.2 ab	4811 abc
Priaxor 6.0 fl oz Muscle ADV 3.48SC 32.0 fl oz Priaxor 8.0 fl oz Echo 720 24.0 fl oz	1.5 3,5 4 6,7	3.8 de	3.8 ab	4211 bcd
Echo 720 24.0 fl oz	1-7	4.2 bc	4.7 ab	4308 bcd
LSD (P ≤ 0.05)		0.4	2.0	694

[1]Early and late leaf spot were assessed using the Florida leaf spot scoring system.
[2]Stem rot (SR) incidence is expressed as the number of disease loci per 60 foot of row.
[3]Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

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

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

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

Methods: Peanut cultivar 'Georgia 09B' was planted on May 5 at the Wiregrass Research and Extension Center in Headland, Ala., in a field with a history of peanut production. Seed were sown at a rate of approximately five seed per foot of row, and recommendations of the Alabama Cooperative Extension System for tillage, fertility, weed, and nematode control were followed. The soil type was a Dothan sandy loam (OM<1%). On May 4, 1 qt/A of Sonalan + 0.45 oz/A of Strongarm were applied and incorporated to the test area for pre-emergent weed control. On May 6, 3 oz/A of Valor were applied to test area after planting for weed control. On Sept. 4, 2 oz/A of Blackhawk was applied for late season insect control. Thrips were controlled with an in-furrow application of 5.0 lb/A of Thimet 20G at planting.

Plots, which consisted of four 30-foot rows spaced 3-feet apart, were arranged in a randomized complete block with six replicates. Plots were located under a central pivot irrigation system and irrigated 1.0 inch on July 14 and Aug. 10. Rainfall recorded during the growing season was as follows (in inches): May = 4.76, June = 5.28, July = 5.19, August = 6.03 and September = 8.03. Foliar fungicides were applied on a 14-21 day schedule on June 25, July 1, July 7, July 21, Aug. 3, Aug. 20, Sept. 3 and Sept. 16 using a four row tractor-mounted boom sprayer with three TX8 nozzles per row calibrated to deliver 15 gal/A per plot.

Early and late leaf spot were visually rated on Sept. 21 using the Florida leaf spot scoring system (1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation; 5 = lesions noticeable in upper canopy with some defoliation; 6 = lesions numerous with significant defoliation; 7 = lesions numerous with heavy defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation; 9 = very few remaining leaves covered with lesions; 10 = completely dead plants).

Counts of stem rot (SR) loci (1 locus was defined as ≤ 1 foot of consecutive symptoms and signs of the disease) were made on Sept. 23 immediately after plot inversion. Plots were harvested on Sept. 29 and yields were reported at 7.34% 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 2015 peanut production season, temperatures were near normal and monthly rainfall totals were near average during June, July, August and September. Early

leaf spot appeared early and progressed rapidly during the season until September when late leaf spot became dominant. Stem rot incidence was higher than in previous years due to average rainfall and elevated soil temperatures. Leaf spot intensity was lower for all fungicide programs than the untreated control, which suffered considerable premature defoliation (data not shown). Of the fungicide programs tested, Echo/Provost provided the best leaf spot control compared with all other programs tested. Echo/Convoy + Echo + Topsin/Headline + Echo, Echo/Artisan + Echo, Echo/Fontelis, and Echo/Custodia gave similar control as the Echo/Provost treatment. The poorest leaf spot control was obtained with Echo 720/Muscle treatment program however it was not significantly different than that obtained with Echo/Custodia, Echo/Artisan + Echo, Echo/Abound, Echo/Abound + Alto, Priaxor/Convoy/Priaxor/Echo, and Echo only programs. The lowest incidence of stem rot was seen in the plots treated with Echo/Convoy + Echo + Topsin/Headline + Convoy and the highest incidence was observed in the season-long Echo only treatment. Among the remaining treatment programs, only Echo/Custodia and Priaxor/Convoy/Priaxor/Echo had lower stem rot incidence than the Echo only treatment. Although disease incidence and severity varied among the treatment programs, it had little impact on yield obtained from the treatment plots. Yield among all treatments were similar.

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

Treatment and Rate/A	Application Timing	Disease ratings		Yield lb/A
		Leaf Spot[1]	Stem Rot[2]	
Echo 720 24.0 fl oz Convoy 32 fl oz + Echo 720 16 fl oz + Topsin 5 fl oz Headline 2.09SC + Convoy 32.0 fl oz	1,2,4,6,7 3 5	3.0 cd[3]	1.3 c	3735 a
Echo 720 24.0 fl oz Artisan 32.0 fl oz + Echo 720 24.0 fl oz	1,2,4,6,7 3,5	3.2 bcd	2.5 abc	3590 a
Echo 720 24.0 fl oz Fontellis 16.0 fl oz	1,2,6,7 3,4,5	3.1 cd	2.8 abc	3848 a
Echo 720 24.0 fl oz Provost 433SC 10.7 fl oz	1,2,7 3,4,5,6	2.9 d	2.7 abc	3888 a
Echo 720 24.0 fl oz Custodia 15.5 fl oz	1,2,7 3,4,5,6	3.3 bcd	1.5 bc	4106 a
Echo 720 24.0 fl oz Abound 2.08SC 18.5 fl oz	1,2,4,6,7 3,5	3.7 ab	4.2 ab	3977 a
Echo 720 24.0 fl oz Abound 2.08SC 18.5 fl oz + Alto 0.83SL 5.5 fl oz	1,2,4,6,7 3,5	3.6 ab	3.3 abc	3904 a
Echo 720 24.0 fl oz Muscle 3.6F 7.2 fl oz	1,2,7 3,4,5,6	3.8 a	4.7 a	3791 a
Priaxor 6.0 fl oz Muscle ADV 3.48SC 32.0 fl oz Priaxor 8.0 fl oz Echo 720 24.0 fl oz	1.5 3,5 4 6,7	3.7 ab	1.5 bc	4009 a
Echo 720 24.0 fl oz	1-7	3.4 abc	5.2 a	3654 a
LSD (P ≤ 0.05)		*0.5*	*2.7*	*527*

[1]Early and late leaf spot were assessed using the Florida leaf spot scoring system.
[2]Stem rot (SR) incidence is expressed as the number of disease loci per 60 foot of row.
[3]Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

EVALUATION OF PROLINE 480SC, PROSARO, AND VELUM TOTAL FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate Proline 480SC, Prosaro, and Velum Total applied both at planting and at early emergence and compare them against other currently registered fungicides for control of early and late leaf spot and stem rot and yield response in an irrigated peanut production system in southeast Alabama.

Methods: Peanut cultivar 'Georgia 09B' was planted on May 5 at the Wiregrass Research and Extension Center in Headland, Ala., in a field with a history of peanut production. Seed were sown at a rate of approximately five seed per foot of row, and recommendations of the Alabama Cooperative Extension System for tillage, fertility, weed, and nematode control were followed. The soil type was a Dothan sandy loam (OM<1%). On May 4, 1 qt/A of Sonalan + 0.45 oz/A of Strongarm were applied and incorporated to the test area for pre-emergent weed control. On May 6, 3 oz/A of Valor were applied to test area after planting for weed control. On Sept. 4, 2 oz/A of Blackhawk was applied for late season insect control. Thrips were controlled with an in-furrow application of 5.0 lb/A of Thimet 20G at planting.

Plots, which consisted of four 30-foot rows spaced 3-feet apart, were arranged in a randomized complete block with six replicates. Plots were located under a central pivot irrigation system and irrigated 1.0 inch on July 14 and Aug. 10. Rainfall recorded during the growing season was as follows (in inches): May = 4.76, June = 5.28, July = 5.19, August = 6.03 and September = 8.03. Early emergent fungicides were applied on June 15 using a tractor mounted drop sprayer directly over the row at 20 gal/A. Foliar fungicides were applied on a 14-day schedule on June 25, July 7, July 21, Aug. 3, Aug. 19, Sept. 3, and Sept. 17 using a four row tractor-mounted boom sprayer with three TX8 nozzles per row calibrated to deliver 15 gal/A per plot.

Early and late leaf spot were visually rated on Sept. 21 using the Florida leaf spot scoring system (1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation; 5 = lesions noticeable in upper canopy with some defoliation; 6 = lesions numerous with significant defoliation; 7 = lesions numerous with heavy defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation; 9 = very few remaining leaves covered with lesions; 10 = completely dead plants).

Counts of stem rot (SR) loci (1 locus was defined as ≤ 1 foot of consecutive symptoms and signs of the disease) were made on Oct. 5 immediately after plot inversion. Plots were harvested on Oct. 9 and yields were reported at 8.76% moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

Results: During the 2015 peanut production season, temperatures were near average and monthly rainfall totals were near average during June, July, August and September. With the exception of the untreated control (data not shown), leaf spot damage was limited to light leaf spotting with limited premature defoliation and all fungicide programs gave similar leaf spot control. Lower stem rot incidence was observed with Propulse(IF)/Echo/Prosaro and Velum Total + Proline/Echo/Prosaro than Proline(IF)/Echo 720, Proline + Serenade Soil(IF)/ Echo 720, Serenade Soil(IF)/Echo 720, and season-long Echo 720 standard. Highest yield was recorded with the Velum Total(IF)/Echo 720/Prosaro treatment program and the lowest was with the Proline(IF)/Echo 720 program. All remaining programs had higher similar yields as those that were observed with the season-long Echo 720 standard.

EVALUATION OF PROLINE 480SC, PROSARO, VELUM TOTAL FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

Treatment and Rate/A	Application Timing	Disease ratings		Yield lb/A
		Leaf Spot[1]	Stem Rot[2]	
Proline 480SC 5.7 fl oz Echo 720 24.0 fl oz	IF 1-7	2.2 c[3]	3.3 a	4848 b
Proline 480SC 5.7 fl oz + Serenade Soil 32.0 fl oz Echo 720 24.0 fl oz	IF 1-7	2.7 ab	3.5 a	5227 ab
Serenade Soil 32.0 fl oz Echo 720 24.0 fl oz	IF 1-7	2.7 ab	3.2 a	5058 ab
Propulse 13.7 fl oz Echo 24.0 fl oz Prosaro 10.0 fl oz	IF 1,2,7 3,4,5,6	2.6 bc	0.7 b	5518 ab
Propulse 13.7 fl oz Echo 24.0 fl oz Prosaro 10.0 fl oz	EE 1,2,7 3,4,5,6	2.7 ab	1.8 ab	5292 ab
Velum Total 18.0 fl oz Echo 720 24.0 fl oz Prosaro 10.0 fl oz	IF 1,2,7 3,4,5,6	3.2 a	1.8 ab	5703 a
Proline 480SC 5.7 fl oz Echo 720 24.0 fl oz Prosaro 10.0 fl oz	IF 1,2,7 3,4,5,6	2.8 ab	2.1 ab	4981 abc
Proline 480SC 5.7 fl oz Echo 720 24.0 fl oz Prosaro 10.0 fl oz	EE 1,2,7 3,4,5,6	2.7 ab	2.7 ab	5299 ab
Velum Total 18.0 fl oz + Proline 480SC 5.7 fl oz Echo 720 24.0 fl oz Prosaro 10.0 fl oz	IF 1,2,7 3,4,5,6	2.8 ab	0.7 b	5235 ab
Echo 720 24.0 fl oz Prosaro 10.0 fl oz	1,2,7 3,4,5,6	3.0 ab	1.8 ab	5146 ab
Echo 720 24.0 fl oz Provost 433SC 10.7 fl oz	1,2,7 3,4,5,6	2.9 ab	2.8 ab	5469 ab
Echo 720 24.0 fl oz Fontelis 16.0 fl oz	1,2,6,7 3,4,5	3.0 ab	2.5 ab	5106 ab
Echo 720 24.0 fl oz	1-7	3.2 a	3.5 a	4993 ab
LSD (P ≤ 0.05)		*0.5*	*2.2*	*828*

[1]Early and late leaf spot were assessed using the Florida leaf spot scoring system
[2]Stem rot incidence is expressed as the number of disease loci per 60 foot of row at inversion.
[3]Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

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

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

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

Methods: Peanut cultivar 'Georgia 09B' was planted on May 5 at the Wiregrass Research and Extension Center in Headland, Ala., in a field with a history of peanut production. Seed were sown at a rate of approximately five seed per foot of row, and recommendations of the Alabama Cooperative Extension System for tillage, fertility, weed, and nematode control were followed. The soil type was a Dothan sandy loam (OM<1%). On May 4, 1 qt/A of Sonalan + 0.45 oz/A of Strongarm were applied and incorporated to the test area for pre-emergent weed control. On May 6, 3 oz/A of Valor were applied to test area after planting for weed control. On Sept. 4, 2 oz/A of Blackhawk was applied for late season insect control. Thrips were controlled with an in-furrow application of 5.0 lb/A of Thimet 20G at planting.

Plots, which consisted of four 30-foot rows spaced 3-feet apart, were arranged in a randomized complete block with six replicates. Plots were located under a central pivot irrigation system and irrigated 1.0 inch on July 14 and Aug. 10. Rainfall recorded during the growing season was as follows (in inches): May = 4.76, June = 5.28, July = 5.19, August = 6.03 and September = 8.03. Early emergent fungicides were applied on June 6 using a drop sprayer directly over the row at 20 gal/A. Foliar fungicides were applied on a 14-21 day schedule on June 26, July 1, July 8, July 24, Aug. 7, Aug. 25, Sept. 2, and Sept. 16 using a four row tractor-mounted boom sprayer with three TX8 nozzles per row calibrated to deliver 15 gal/A per plot.

Early and late leaf spot were visually rated on Sept. 21 using the Florida leaf spot scoring system (1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation; 5 = lesions noticeable in upper canopy with some defoliation; 6 = lesions numerous with significant defoliation; 7 = lesions numerous with heavy defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation; 9 = very few remaining leaves covered with lesions; 10 = completely dead plants).

Counts of stem rot (SR) loci (1 locus was defined as ≤ 1 foot of consecutive symptoms and signs of the disease) were made on Sept. 23 immediately after plot inversion. Plots were harvested on Sept. 29 and yields were reported at 7.91% moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

Results: During the 2015 peanut production season, temperatures were near average and monthly rainfall totals were near average during June, July, August and September. With the exception of the untreated control (data not shown), leaf spot damage was limited to light leaf spotting with limited premature defoliation and all fungicide programs gave similar leaf spot control. Lower stem rot incidence was observed with the Proline/Echo 720/Provost, Proline/Echo 720/Prosaro, Echo 720/Prosaro, Echo 720/ Echo 720 + Convoy, and Echo 720/Abound + Alto than Priaxor/Muscle/Priaxor/Echo 720 and season-long Echo 720 standard. Highest yield was recorded with the Echo 720/ Prosaro treatment program and the lowest was with the Priaxor/Muscle/Priaxor/Echo 720 program. All remaining programs, with the exception of Echo 720/Abound + Alto, and Echo 720/Fontelis, had higher yields than that observed with the season-long Echo 720 standard.

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

Treatment and Rate/A	Application Timing	Disease ratings		Yield lb/A
		Leaf Spot[1]	Stem Rot[2]	
Proline 480SC 5.7 fl oz Echo 720 24.0 fl oz Provost 433SC 10.7 fl oz	EE 1,2,7 3,4,5,6	2.8 a[3]	2.3 b	3767 abcd
Echo 720 24.0 fl oz Provost 433SC 10.7 fl oz	1,2,7 3,4,5,6	2.6 a	3.5 ab	3606 cde
Proline 480SC 5.7 fl oz Echo 720 24.0 fl oz Prosaro 10.0 fl oz	EE 1,2,7 3,4,5,6	2.8 a	1.1 b	3601 cde
Echo 720 24.0 fl oz Prosaro 10.0 fl oz	1,2,7 3,4,5,6	2.6 a	2.0 b	4211 a
Proline 480SC 5.7 fl oz Echo 720 24.0 fl oz Prosaro 10.0 fl oz Abound 18.2 fl oz	EE 1,7 2,4,6 3,5	2.8 a	3.7 ab	3981 abc
Echo 720 24.0 fl oz Prosaro 10.0 fl oz Abound 2.08SC 18.2 fl oz	1,7 2,4,6 3,5	2.8 a	3.3 ab	3445 def
Echo 720 24.0 fl oz Muscle ADV 3.48SC 32.0 fl oz	1,2,7 3,4,5,6	2.7 a	3.2 ab	3234 ef
Echo 720 24.0 fl oz Echo 720 24.0 fl oz + Convoy 26.0 fl oz	1,2,4,6,7 3,5	2.7 a	1.3 b	3678 bcde
Echo 720 24.0 fl oz Abound 2.08SC 18.2 fl oz + Alto 0.83SL 5.5 fl oz	12,4,6,7 3,5	2.5 a	1.3 b	4095 ab
Priaxor 6.0 fl oz Muscle 3.6F 7.2 fl oz Priaxor 8.0 fl oz Echo 720 24.0 fl oz	1.5 3,5 4 6,7	2.6 a	5.2 a	3138 f
Echo 720 24.0 fl oz Fontelis 16.0 fl oz	1,2,6,7 3,4,5	2.5 a	1.7 b	3949 abc
Echo 720 24.0 fl oz	1-7	2.4 a	5.2 a	3404 def
LSD (P ≤ 0.05)		*0.4*	*2.7*	*460*

[1]Early and late leaf spot were assessed using the Florida leaf spot scoring system
[2]Stem rot incidence is expressed as the number of disease loci per 60 foot of row at inversion.
[3]Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

EVALUATION OF ELATUS 45WG AND A19649 FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate the new fungicide Elatus 45WG and the experimental fungicide A19649 and compare them against other currently registered fungicides for control of early and late leaf spot and stem rot and yield response in an irrigated peanut production system in southeast Alabama.

Methods: Peanut cultivar 'Georgia 09B' was planted on May 26 at the Wiregrass Research and Extension Center in Headland, Ala., in a field with a history of peanut production. Seed were sown at a rate of approximately five seed per foot of row, and recommendations of the Alabama Cooperative Extension System for tillage, fertility, weed, and nematode control were followed. The soil type was a Dothan sandy loam (OM<1%). On May 20, 1 qt/A of Sonalan + 0.45 oz/A of Strongarm were applied and incorporated to the test area for pre-emergent weed control. On May 20, 3 oz/A of Valor were applied to test area after planting for weed control. On June 26, 1.5 pt/A of 2,4 DB was applied for weed control. Thrips were controlled with an in-furrow application of 5.0 lb/A of Thimet 20G at planting.

Plots, which consisted of four 30-foot rows spaced 3-feet apart, were arranged in a randomized complete block with six replicates. Plots were located under a central pivot irrigation system and irrigated 1.0 inch on July 13 and Aug.10. Rainfall recorded during the growing season was as follows (in inches): May = 4.76, June = 5.28, July = 5.19, August = 6.03 and September = 8.03. Early emergent fungicides were applied on June 24 using a drop sprayer directly over the row at 20 gal/A. Foliar fungicides were applied on a 14-21 day schedule on July 8, July 15, July 20, Aug. 4, Aug. 18, Aug. 25, Sept. 4, Sept. 21 and Oct. 6 using a four row tractor-mounted boom sprayer with three TX8 nozzles per row calibrated to deliver 15 gal/A per plot.

Early and late leaf spot were visually rated on Oct. 12 using the Florida leaf spot scoring system (1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation; 5 = lesions noticeable in upper canopy with some defoliation; 6 = lesions numerous with significant defoliation; 7 = lesions numerous with heavy defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation; 9 = very few remaining leaves covered with lesions; 10 = completely dead plants).

Counts of stem rot (SR) loci (1 locus was defined as ≤ 1 foot of consecutive symptoms and signs of the disease) were made on Oct. 20 immediately after plot inversion. Plots were harvested on Oct. 23 and yields were reported at 8.07% moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

Results: During the 2015 peanut production season, temperatures were near normal and monthly rainfall totals were near average during June, July, August, and September. Early leaf spot appeared early and intensified until September when late leaf spot became dominant. Stem rot incidence was higher than in previous years due to average rainfall and higher soil temperatures. Leaf spot intensity was lower for all fungicide programs than the untreated control (data not shown). With the exception of the Elatus(EE)/Tilt-Bravo/Elatus/Bravo program, all other fungicide programs that included Elatus, gave significantly better leaf control than the season-long Bravo WS program. Among the remaining fungicide programs, all except for Bravo WS/Muscle ADV and Bravo WS/ Bravo WS + Convoy gave better leaf spot control than the season-long Bravo standard. The lowest incidence of stem rot observed with the Elatus(EE)/Elatus + A196449/Tilt-Bravo/Bravo WS program was matched by Elatus(EE)/tilt-Bravo/Elatus/Bravo WS and Bravo WS/Bravo WS + Convoy. When compared to the season-long Bravo standard, all of the fungicide programs that included Elatus except Elatus/Bravo WS significantly reduced stem rot incidence. Compared to the full-season Bravo WS standard, all other fungicide programs with the exception of Bravo/Provost, Tilt-Bravo/Abound + Alto/ Bravo, Bravo WS/Muscle ADV and Priaxor/Muscle/Priaxor/Bravo WS reduced stem rot incidence. Yields for Elatus(EE)/Elatus + A196449/Tilt-Bravo/Bravo were significantly higher than all other programs. All other programs that included Elatus yielded higher than the full-season Bravo WS standard. Of the remaining fungicide programs, all except Bravo/Provost, Bravo/Muscle ADV, and Priaxor/Muscle/Priaxor/Bravo, had higher yields than the Bravo WS standard.

EVALUATION OF ELATUS 45WG AND A19649 FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

Treatment and Rate/A	Application Timing	Disease ratings		Yield lb/A
		Leaf Spot[1]	Stem Rot[2]	
Bravo WS 24.0 fl oz Fontelis 16.0 fl oz	1,2,6,7 3,4,5	3.7 cde[3]	4.0 def	5187 cde
Bravo WS 24.0 fl oz Provost 433SC 10.7 fl oz	1,2,7 3,4,5,6	3.2 e	7.0 ab	3993 fg
Elatus 45W 7.14 oz Bravo WS 24.0 fl oz	1,3,5 2,4,6,7	3.8 cd	6.0 abcd	5477 bc
Tilt-Bravo 4.3SE 36.0 fl oz Elatus 45W 9.5 oz Bravo WS 24.0 fl oz	1,2 3,5 4,6,7	3.3 de	4.5 cde	4864 cde
Elatus 45W 7.5 oz Tilt-Bravo 4.3SE 36.0 fl oz Elatus 45W 9.5 oz Bravo WS 24.0 fl oz	EE 1.5 3 4,5,6,7	3.9 bc	2.8 ef	5921 b
Tilt-Bravo 4.3SE 24.0 fl oz Elatus 45W 9.5 oz Bravo WS 24.0 fl oz	1,2 3,4.5 6,7	3.6 cde	4.8 bcde	4879 cde
Elatus 45W 7.5 oz Elatus 45W 7.14 oz + A19649 3.42 fl oz TiltBravo 4.3SE 36.0 fl oz Bravo WS 24.0 fl oz	EE 1.5, 4.5 3 6	3.4 de	1.7 f	6759 a
TiltBravo 4.3SE 24.0 fl oz Abound 2.08SC 18.2 fl oz + Alto 0.83SL 5.5 fl oz Bravo WS 24.0 fl oz	1,2 3,5 4,6,7	3.3 de	6.5 abc	5276 bcd
Bravo WS 24.0 fl oz Muscle ADV 3.48SC 32.0 fl oz	1,2,7 3,4,5,6	4.3 b	7.2 ab	4017 fg
Bravo WS 24.0 fl oz Bravo 24.0 fl oz + Convoy 26.0 fl oz	1,2,4,6,7 3,5	4.3 b	3.7 def	4638 def
Priaxor 6.0 fl oz Muscle 3.6F 7.2 fl oz Priaxor 8.0 fl oz Bravo WS 24.0 fl oz	1.5 3,5 4 6,7	3.6 cde	6.7 abc	4469 efg
Bravo WS 24.0 fl oz	1-7	4.3 b	7.7 a	3767 g
LSD (P ≤ 0.05)		*0.5*	*2.5*	*702*

[1] Early and late leaf spot were assessed using the Florida leaf spot scoring system.
[2] Stem rot incidence is expressed as the number of disease loci per 60 foot of row at inversion.
[3] Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

EVALUATION OF THE NEW FUNGICIDE ELATUS 45WG AND THE EXPERIMENTAL FUNGICIDE A19649 FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate the new fungicide Elatus 45WG and the experimental fungicide A19649 at different spray intervals and compare them against other currently registered fungicides for control of early and late leaf spot and stem rot and yield response in an irrigated peanut production system in southeast Alabama.

Methods: Peanut cultivar 'Georgia 09B' was planted on May 5 at the Wiregrass Research and Extension Center in Headland, Ala., in a field with a history of peanut production. Seed were sown at a rate of approximately five seed per foot of row, and recommendations of the Alabama Cooperative Extension System for tillage, fertility, weed, and nematode control were followed. The soil type was a Dothan sandy loam (OM<1%). On May 4, 1 qt/A of Sonalan + 0.45 oz/A of Strongarm were applied and incorporated to the test area for pre-emergent weed control. On May 6, 3 oz/A of Valor were applied to test area after planting for weed control. On Sept. 4, 2 oz/A of Blackhawk was applied for late season insect control. Thrips were controlled with an in-furrow application of 5.0 lb/A of Thimet 20G at planting.

Plots, which consisted of four 30-foot rows spaced 3-feet apart, were arranged in a randomized complete block with six replicates. Plots were located under a central pivot irrigation system and irrigated 1.0 inch on July 14 and Aug. 10. Rainfall recorded during the growing season was as follows (in inches): May = 4.76, June = 5.28, July = 5.19, August = 6.03 and September = 8.03. Early emergent fungicides were applied on June 6 using a drop sprayer directly over the row at 20 gal/A. Foliar fungicides were applied on a 14-21 day schedule on June 26, July 1, July 8, July 24, Aug. 7, Aug. 25, Sept. 2, and Sept. 16 using a four row tractor-mounted boom sprayer with three TX8 nozzles per row calibrated to deliver 15 gal/A per plot.

Early and late leaf spot were visually rated on Sept. 21 using the Florida leaf spot scoring system (1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation; 5 = lesions noticeable in upper canopy with some defoliation; 6 = lesions numerous with significant defoliation; 7 = lesions numerous with heavy defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation; 9 = very few remaining leaves covered with lesions; 10 = completely dead plants).

Counts of stem rot (SR) loci (1 locus was defined as < 1 foot of consecutive symptoms and signs of the disease) were made on Sept. 23 immediately after plot inversion. Plots were harvested on Sept. 29 and yields were reported at 7.91% 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 2015 peanut production season, temperatures were near average and monthly rainfall totals were near average during June, July, August, and September. the poorest leaf spot control was observed with the Bravo WS/Muscle ADV treatment program. With the exception of Tilt-Bravo/Elatus/Bravo, Tilt-Bravo(1,2)/A16649 + Elatus(3,5)/Bravo(4,6,7), Tilt-Bravo(1)/A16649 + Elatus(2,4)/Bravo(6,7), and Bravo WS + Alto(1.5)/A19649 + Elatus(3,5)/Bravo WS(7), all of the remaining treatment programs gave similar results as that observed with the season-long Bravo WS treatment. Stem rot incidence was much lower than had previously been observed. However, among the treatment programs, the lowest incidence of stem rot was with the Elatus/Bravo WS, A19649 + Elatus/Bravo WS, and Bravo WS + Alto(1.5)/A19649 + Elatus(3,5)/Bravo WS(7) programs. Stem rot among the remaining programs was similar to that obtained with the Bravo only program. The lowest yield was with the Bravo only full-season treatment program. With the exception of Tilt-Bravo/Elatus/Bravo WS, Bravo WS/ Muscle ADV, Bravo WS/Bravo WS + Convoy, and Bravo/Fontelis, all of the remaining programs yielded higher the Bravo only program.

EVALUATION OF THE NEW FUNGICIDE ELATUS 45WG AND THE EXPERIMENTAL FUNGICIDE A19649 FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

Treatment and Rate/A	Application Timing	Disease ratings		Yield lb/A
		Leaf Spot[1]	Stem Rot[2]	
Tilt-Bravo 24.0 fl oz Elatus 45WG 9.5 oz Bravo WS 24.0 fl oz	1,2 3,5 6,7	2.5 cde[3]	1.2 abc	4905 bcd
Elatus 45WG 9.5 oz Bravo WS 24.0 fl oz	1,3,5 2,4,6,7	2.7 bcde	0.8 bc	4993 abc
Tilt-Bravo 4.3SE 24.0 fl oz A16649 3.42 fl oz + Elatus 45WG 9.5 oz Bravo WS 24.0 fl oz	1,2 3,5 4,6,7	2.3 e	1.7 abc	5163 abc
Tilt-Bravo 4.3SE 36.0 fl oz A16649 3.42 fl oz + Elatus 45WG 9.5 oz Bravo WS 24.0 fl oz	1 2,4 6,7	2.4 de	2.2 ab	5058 abc
Bravo WS 24.0 fl oz + Alto 0.83SL 5.5 fl oz A16649 3.42 fl oz + Elatus 45WG 9.5 oz Bravo WS 24.0 fl oz	1 2,4 6,7	2.6 bcde	1.3 abc	5292 ab
A19649 3.42 fl oz + Elatus 45WG 7.14 oz Bravo WS 24.0 fl oz	1,2,5 7	2.6 bcde	0.5 c	5066 abc
A19649 3.42 fl oz + Elatus 45WG 7.14 oz Bravo WS 24.0 fl oz	1.5, 4,6 7	3.3 a	2.5 a	5566 a
Bravo WS 24.0 fl oz + Alto 0.83SL 5.5 fl oz A16649 3.42 fl oz + Elatus 45WG 9.5 oz Bravo WS 24.0 fl oz	1.5 3,5 7	2.4 de	0.8 bc	5018 abc
Bravo WS 24.0 fl oz Priaxor 8.0 fl oz	1,2,4,6,7 3,5	2.7 bcde	1.2 abc	5195 abc
Bravo WS 24.0 fl oz Provost 433SC 8.0 fl oz	1,2,7 3,4,5,6	2.8 bcd	2.0 abc	5026 abc
Bravo WS 24.0 fl oz Muscle ADV 32.0 fl oz	1,2,7 3,4,5,6	3.2 a	2.2 ab	4792 bcd
Bravo WS 24.0 fl oz Bravo WS 24.0 fl oz + Convoy 26.0 fl oz	1,2,4,6,7 3,5	3.0 ab	2.3 ab	4614 cd
Bravo WS 24.0 fl oz Fontelis 16.0 fl oz	1,2,6,7 3,4,5	2.9 abc	2.2 ab	4759 bcd
Bravo WS 24.0 fl oz	1-7	3.0 ab	2.7 a	4380 d
LSD (P ≤ 0.05)		*0.4*	*1.6*	*599*

[1] Early and late leaf spot were assessed using the Florida leaf spot scoring system.
[2] Stem rot incidence is expressed as the number of disease loci per 60 foot of row at inversion.
[3] Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

COMPARISON OF FUNGICIDE R_x PROGRAMS FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate and compare four different fungicide R_x programs for control of early and late leaf spot, stem rot and yield response in an irrigated peanut production system in southeast Alabama.

Methods: Peanut cultivar 'Georgia 09B' was planted on May 26 at the Wiregrass Research and Extension Center in Headland, Ala., in a field with a history of peanut production. Seed were sown at a rate of approximately five seed per foot of row, and recommendations of the Alabama Cooperative Extension System for tillage, fertility, weed, and nematode control were followed. The soil type was a Dothan sandy loam (OM<1%). On May 20, 1 qt/A of Sonalan + 0.45 oz/A of Strongarm were applied and incorporated to the test area for pre-emergent weed control. On May 20, 3 oz/A of Valor were applied to test area after planting for weed control. On June 26, 1.5 pt/A of 2,4 DB was applied for weed control. Thrips were controlled with an in-furrow application of 5.0 lb/A of Thimet 20G at planting.

Plots, which consisted of four 30-foot rows spaced 3-feet apart, were arranged in a randomized complete block with six replicates. Plots were located under a central pivot irrigation system and irrigated 0.5 inch on July 7 and 1 inch on July 31, Aug. 4, Aug. 19, Septe. 4, and Sept. 17. Rainfall recorded during the growing season was as follows (in inches): May = 4.76, June = 5.28, July = 5.19, August = 6.03 and September = 8.03. Foliar fungicides were applied on a 14-28 day schedule on July 8, July 15, July 21, July 29, Aug. 4, Aug. 17, Sept. 9, Sept. 17, Sept. 21, and Oct. 6 using a four row tractor-mounted boom sprayer with three TX8 nozzles per row calibrated to deliver 15 gal/A per plot.

Early and late leaf spot were visually rated on Aug. 11, Aug. 25, Sept. 8, Sept. 22, Oct. 8, and Oct. 19 using the Florida leaf spot scoring system (1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation; 5 = lesions noticeable in upper canopy with some defoliation; 6 = lesions numerous with significant defoliation; 7 = lesions numerous with heavy defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation; 9 = very few remaining leaves covered with lesions; 10 = completely dead plants), to determine Area Under the Disease Progress Curve (AUDPC).

Counts of stem rot (SR) loci (1 locus was defined as ≤ 1 foot of consecutive symptoms and signs of the disease) were made on Oct. 20 immediately after plot inversion. Plots were harvested on Oct. 23 and yields were reported at 7.86% moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

Results: During the 2015 production season, temperatures were near normal and monthly rainfall totals were near normal during June, July, August, and September. Early leaf spot appeared early and rapidly progressed until September when late leaf spot became

dominant. Stem rot incidence was higher than in previous years due to normal rainfall and elevated soil temperatures. Leaf spot intensity was lower for all fungicide programs than the untreated control, which suffered considerable premature defoliation. Severity of leaf spot among all treatments regardless of input was reduced when compared with the untreated control. Among the low risk index programs, when compared with Bravo WS alone, all gave better leaf spot control with the best control observed with the Headline/Convoy + Bravo + Topsin/Convoy + Headline/Topsin + Bravo program. Among the medium risk programs, all gave better leaf spot control than did the Bravo applied five times with Proine/Provost/Bravo providing the best control. Among the high risk programs all provided better control than that observed with the Bravo full-season treatment with the Tilt-Bravo/Abound + Alto/Tilt-Bravo/Bravo program having the best leaf spot control. When looking at AUDPC to determine disease severity all the treatment programs had indices that were significantly lower than the Bravo low risk program. With the exception of all high risk programs, indices for all other treatments were similar. Stem rot incidence was higher than in previous years and all risk programs had significantly lower stem rot incidence than did the untreated control. The highest incidence of stem rot was observed in the Bravo only low and medium risk index programs. Among the other risk programs all provided greater levels of stem rot control compared with the Bravo only 5-treatment program but not the four treatment program. With the exception of the Bravo only low risk 4-application treatment, yield for all treatment programs were significantly higher than the untreated control. Among the low risk programs, all yielded higher than the low risk Bravo only program. Among the medium risk programs, all yielded higher than the Bravo only 5-treatment program with the exception of the Muscle ADV/Fontleis/Bravo program. Yield among the high risk index programs was similar to that obtained with the Bravo only full-season treatment.

COMPARISON OF FUNGICIDE R_x PROGRAMS FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

Treatment and Rate/A	Application Timing	Risk Index	Disease ratings			Yield lb/A
			Leaf Spot[1]	AUDPC	Stem Rot[2]	
Untreated Control	---		9.0 a[3]	348.0 a	10.7 a	2904 e
Bravo WS 24.0 fl oz Provost 433SC 10.7 fl oz	1,7 3,5	low	5.8 cd	234.4 de	3.2 d	4375 abc
Proline 480SC 5.7 fl oz Provost 433 SC 10.7 fl oz Bravo WS 24.0 fl oz	1 2.5,4,5.5 7	med	3.8 i	174.2 j	2.6 d	4404 ab
Proline 480SC 5.7 fl oz Provost 433 SC 10.7 fl oz Bravo WS 24.0 fl oz	1.5 3,4,5,6 7	high	3.8 hi	177.7 ij	2.8 d	4153 abc
Headline 2.09SC 9.0 fl oz Artisan + Bravo WS 26 + 16 fl oz Topsin + Bravo WS 5 + 16 fl oz	2 3.5, 5 6.5	low	4.9 f	191.4 hij	4.6 cd	4211 abc
Headline 2.09SC 9.0 fl oz Convoy + Bravo + Topsin 21+16+5 fl oz Convoy + Headline 21 + 9.0 fl oz Convoy + Bravo WS 16 + 24 fl oz Topsin + Bravo WS 5 + 16 fl oz	1.5 2.5 4 5.5 7	med	3.9 hi	176.0 j	2.5 d	4859 a
Headline 2.09SC 9.0 fl oz Convoy + Bravo + Topsin 13+16+5 fl oz Convoy + Bravo 13 + 24 fl oz Convoy + Headline 13 + 9 fl oz Bravo WS 24.0 fl oz	1.5 3,6 4 5 7	high	4.6 fg	199.6 gh	3.4 d	4199 abc
Tilt-Bravo 36.0 fl oz Abound 2SC + Bravo WS 18.2 + 24 fl oz Bravo WS 24.0 fl oz	1 3.5 7	low	6.2 cd	219.1 ef	6.0 bc	4037 bc
Tilt-Bravo 36.0 fl oz Abound 2SC + Alto 18.2 + 5.5 fl oz Tilt-Bravo 24.0 fl oz Bravo WS 24.0 fl oz	1 3,5.5 4 7	med	4.4 f-i	194.5 hi	4.5 cd	4445 ab
Tilt-Bravo 24.0 fl oz Abound 2SC + Alto 18.2 + 5.5 fl oz Bravo WS 24.0 fl oz	1,2,4 3,5 6,7	high	4.0 g-i	182.2 hij	4.2 cd	4308 abc
Muscle ADV 32.0 fl oz Fontelis 12.0 fl oz Bravo 24.0 fl oz	1 3,5 7	low	6.3 c	244.3 cd	4.1 cd	4203 abc
Muscle ADV 32.0 fl oz Fontelis 16.0 fl oz Bravo 24.0 fl oz	1, 4 2.5,4.5 7	med	5.6 de	213.9 fg	3.0 d	4308 abc
Muscle ADV 32.0 fl oz Fontelis 16.0 fl oz Bravo 24.0 fl oz	1,2 3,4,5 6,7	high	4.5 f-h	191.8 hij	4.3 cd	4493 ab
Bravo WS 24.0 fl oz	1,3,5,7	low	7.2 b	277.1 b	6.2 bc	3186 de
Bravo WS 24.0 fl oz	1,2.5,4,5.5,7	med	7.3 b	259.1 c	7.3 b	3589 cde
Bravo WS 24.0 fl oz	1-7	high	5.0 ef	213.4 fg	4.2 cd	3864 bcd
LSD (P ≤ 0.05)			*0.7*	*17.6*	*2.4*	*798*

[1] Early and late leaf spot were assessed using the Florida leaf spot scoring system.
[2] Stem rot (SR) incidence is expressed as the number of disease loci per 60 foot of row.
[3] Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

EVALUATION OF CONVOY AND ARTISAN APPLIED MID-SEASON FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate Convoy and Artisan applied alone as a soil-borne fungicide and compare them against other currently registered fungicides applied in a similar way for control of stem rot and yield response in an irrigated peanut production system in southeast Alabama.

Methods: Peanut cultivar 'Georgia 09B' was planted on May 19 at the Wiregrass Research and Extension Center in Headland, Ala., in a field with a history of peanut production. Seed were sown at a rate of approximately five seed per foot of row, and recommendations of the Alabama Cooperative Extension System for tillage, fertility, weed, and nematode control were followed. The soil type was a Dothan sandy loam (OM<1%). On May 12, 1 qt/A of Sonalan + 0.45 oz/A of Strongarm were applied and incorporated to the test area for pre-emergent weed control. On May 19, 3 oz/A of Valor + 1.5 pt/A of Dual were applied to test area after planting for weed control. On Sept.4, 2 oz/A of Blackhawk was applied for late season insect control. Thrips were controlled with an in-furrow application of 5.0 lb/A of Thimet 20G at planting.

Plots, which consisted of four 30-foot rows spaced 3-feet apart, were arranged in a randomized complete block with six replicates. Plots were located under a central pivot irrigation system and irrigated 0.75 inches on July 15 and 1.0 inch on July 30, Aug. 6, and Aug. 13. Rainfall recorded during the growing season was as follows (in inches): May = 4.76, June = 5.28, July = 5.19, August = 6.03 and September = 8.03.Foliar fungicides were applied on a 14-day schedule on June 29, July 14, July 28, Aug. 11, Aug. 25, Sept. 11, and Sept. 25 using a four row tractor-mounted boom sprayer with three TX8 nozzles per row calibrated to deliver 15 gal/A per plot for leaf spot control. Soil-borne fungicides were applied on July 21 and Aug. 11 for stem rot control.

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

Counts of stem rot (SR) loci (1 locus was defined as ≤ 1 foot of consecutive symptoms and signs of the disease) were made on Oct. 13 immediately after plot inversion. Plots were harvested on Oct. 16 and yields were reported at 9.05% moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected

least significant difference (LSD) test ($P \leq 0.05$).

Results: During the 2015 peanut production season, temperatures were near normal and monthly rainfall totals were near average during June, July, August, and September. Early leaf spot appeared early and progressed rapidly during the season until September when late leaf spot became dominant. Stem rot incidence was lower than in previous years due to average rainfall and elevated soil temperatures. Leaf spot intensity was controlled with a 7 spray full-season application of chlorothalonil and there was no difference among any of the treatment programs (data not shown). When the fungicides were applied at 63 and 84 DAP, there was very little effect on the incidence of stem rot in any of the treated plots. However, all of the mid-season applications reduced stem rot in comparison to the season-long Echo only treatment. Because of the low leaf spot severity and the low incidence of stem rot, very little impact on yield was observed and there was no significant differences among any of treatment programs.

EVALUATION OF CONVOY AND ARTISAN APPLIED MID-SEASON FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

Treatment and Rate/A	Application Timing	Disease ratings				Yield lb/A
		Stem Rot	Stem Rot	Stem Rot[1]	Stem Rot	
Echo 720 24.0 fl oz	1-7	1.4 ab[2]	1.8 a	2.2 a	4.7 a	5751 a
Echo 720 24.0 fl oz Convoy 32.0 fl oz Convoy 32.0 fl oz	1-7 63 DAP 84 DAP	0.5 bc	1.2 a	2.3 a	2.5 b	5816 a
Echo 720 24.0 fl oz Artisan 32.0 fl oz Artisan 32.0 fl oz	1-7 63 DAP 84 DAP	0.2 c	1.2 a	2.2 a	2.7 b	6324 a
Echo 720 24.0 fl oz Provost 433SC 8.0 fl oz Provost 433SC 8.0 fl oz	1-7 63 DAP 84 DAP	0.5 bc	1.2 a	2.2 a	2.5 b	5671 a
Echo 720 24.0 fl oz Fontelis 16.0 fl oz Fontelis 16.0 fl oz	1-7 63 DAP 84 DAP	0.5 bc	1.0 a	1.8 a	2.3 b	6114 a
Echo 720 24.0 fl oz Abound 2.08SC 18.5 fl oz Abound 2.08SC 18.5 fl oz	1-7 63 DAP 84 DAP	1.7 a	1.7 a	3.0 a	3.3 b	6227 a
LSD (P ≤ 0.05)		*0.9*	*1.1*	*1.3*	*1.2*	*741*

[1] Stem rot (SR) incidence is expressed as the number of disease loci per 60 foot of row.
[2] Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

EVALUATION OF ALTERNATIVES TO CHLOROTHALONIL FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate low cost alternatives to chlorothalonil fungicide and compare them against a currently registered chlorothalonil fungicide for control of early and late leaf spot and stem rot and yield response in an irrigated peanut production system in southeast Alabama.

Methods: Peanut cultivar 'Georgia 09B' was planted on May 26 at the Wiregrass Research and Extension Center in Headland, Ala., in a field with a history of peanut production. Seed were sown at a rate of approximately five seed per foot of row, and recommendations of the Alabama Cooperative Extension System for tillage, fertility, weed, and nematode control were followed. The soil type was a Dothan sandy loam (OM<1%). On May 20, 1 qt/A of Sonalan + 0.45 oz/A of Strongarm were applied and incorporated to the test area for pre-emergent weed control. On May 20, 3 oz/A of Valor were applied to test area after planting for weed control. On June 26, 1.5 pt/A of 2,4 DB was applied for weed control. Thrips were controlled with an in-furrow application of 5.0 lb/A of Thimet 20G at planting.

Plots, which consisted of four 30-foot rows spaced 3-feet apart, were arranged in a randomized complete block with six replicates. Plots were located under a central pivot irrigation system and irrigated 1.0 inch on July 13 and Aug. 10. Rainfall recorded during the growing season was as follows (in inches): May = 4.76, June = 5.28, July = 5.19, August = 6.03 and September = 8.03. Foliar fungicides were applied on a 14 day schedule on July 8, July 20, Aug. 4, Aug. 18, Sept. 4, Sept. 21, and Oct. 6 using a four row tractor-mounted boom sprayer with three TX8 nozzles per row calibrated to deliver 15 gal/A per plot.

Early and late leaf spot were visually rated on Oct. 13 using the Florida leaf spot scoring system (1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation; 5 = lesions noticeable in upper canopy with some defoliation; 6 = lesions numerous with significant defoliation; 7 = lesions numerous with heavy defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation; 9 = very few remaining leaves covered with lesions; 10 = completely dead plants).

Counts of stem rot (SR) loci (1 locus was defined as ≤ 1 foot of consecutive symptoms and signs of the disease) were made on Oct. 20 immediately after plot inversion. Plots were harvested on Oct. 23 and yields were reported at 7.66% moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

Results: During the 2015 peanut production season, temperatures were near normal and monthly rainfall totals were near average during June, July, August, and September. Early leaf spot appeared early and rapidly progressed until September when late leaf spot became dominant. Stem rot incidence was higher than in previous years due to average rainfall and higher soil temperatures. Leaf spot intensity rating was lower for all fungicide programs than the untreated control. Of the programs tested, only the Mancozeb program had higher leaf spot intensity than did the season-long Echo 720 standard. Better leaf spot control was obtained with Mancozeb + Topsin than any other programs except for CuproFix Ultra + Topsin and CurproFix + Topsin/Mancozeb + Muscle. Among the remaining programs, Mancozeb + Topsin/Mancozeb + Muscle and Absolute/Echo 720, gave significantly better leaf control than the season-long Echo 720. Lowest incidence of stem rot was observed with the CuproFix Ultra + Topsin/Mancozeb + Muscle, and Absolute/Muscle ADV/Echo programs. When compared to the season-long Echo 720 standard, none of the remaining programs significantly reduced stem rot incidence. With the exception of the full-season Mancozeb, Mancozeb + Topsin, and Echo 720 standard, all other fungicide programs yielded higher the untreated control. Elast full-season, Elast/Elast + Custodia, Elast/Muscle ADV, CuproFix Ultra + Topsin yielded higher than the full-season Echo 720 standard. All other fungicide programs had similar yields.

EVALUATION OF ALTERNATIVES TO CHLOROTHALONIL FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

Treatment and Rate/A	Application Timing	Disease ratings		Yield lb/A
		Leaf Spot[1]	Stem Rot[2]	
Untreated Control	---	8.3 a[3]	13.2 a	2799 e
Elast 400F 15.0 fl oz	1-7	4.2 de	6.0 bcd	4025 ab
Elast 400F 15.0 fl oz Elast 400F 15.0 fl oz + Custodia 15.5 fl oz	1,2,4,6,7 3,5	4.2 de	5.7 bcd	4001 ab
Elast 400F 15.0 fl oz Muscle ADV 3.48SC 32.0 fl oz	1,2,7 3,4,5,6	4.7 c	4.7 bcd	4001 ab
Mancozeb 2.0 lb	1-7	6.2 b	6.8 bc	3420 bcde
Mancozeb 2.0 lb + Topsin 4.5F 10.0 fl oz	1-7	3.2 h	7.3 b	3025 de
Mancozeb 2.0 lb + Topsin 4.5F 10.0 fl oz Mancozeb 2.0 lb + Muscle 3.6F 7.2 fl oz	1,2,7 3,4,5,6	3.7 fg	5.7 bcd	3961 ab
CuproFix Ultra 2.0 lb + Topsin 4.5F 10.0 fl oz	1-7	3.4 gh	6.2 bcd	4033 ab
CuproFix Ultra 2.0 lb + Topsin 4.5F 10.0 fl oz Mancozeb 2.0 lb + Muscle 3.6F 7.2 fl oz	1,2,7 3,4,5,6	3.4 gh	3.5 d	4098 a
Absolute 500F 3.5 fl oz Echo 720 24.0 fl oz	1,2 3,4,5,6,7	4.0 ef	7.3 b	3452 abcd
Absolute 500F 3.5 fl oz Muscle ADV 3..48SC 32.0 fl oz Echo 720 24.0 fl oz	1,2 3,4,5,6 7	4.2 de	4.3 cd	3694 abc
Echo 720 24.0 fl oz	1-7	4.5 cd	7.3 b	3299 cde
LSD (P ≤ 0.05)		*0.3*	*2.8*	*649*

[1]Early and late leaf spot were assessed using the Florida leaf spot scoring system
[2]Stem rot (SR) incidence is expressed as the number of disease loci per 60 foot of row.
[3]Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

EVALUATION OF EXPERIMENTAL PEANUT VARIETIES USING DIFFERENT FUNGICIDE INPUTS FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate two experimental peanut cultivars and compare them against peanut cultivar 'Georgia 06G' at varying fungicide inputs for control of early and late leaf spot and stem rot and yield response in an irrigated peanut production system in southeast Alabama.

Methods: Peanut cultivar 'Georgia 06G,' 'MRS 37', and 'MRS 38' were planted on May 26 at the Wiregrass Research and Extension Center in Headland, Ala., in a field with a history of peanut production. Seed were sown at a rate of approximately five seed per foot of row, and recommendations of the Alabama Cooperative Extension System for tillage, fertility, weed, and nematode control were followed. The soil type was a Dothan sandy loam (OM<1%). On May 12, 1 qt/A of Sonalan + 0.45 oz/A of Strongarm were applied and incorporated to the test area for pre-emergent weed control. On May 19, 3 oz/A of Valor + 1.8 pt of Dual were applied to test area for weed control. On Sept. 4, 2.0 oz/A of Blackhawk were applied for insect control. Thrips were controlled with an in-furrow application of 5.0 lb/A of Thimet 20G at planting.

Plots, which consisted of four 30-foot rows spaced 3-feet apart, were arranged in a randomized complete block with six replicates. Plots were located under a central pivot irrigation system and irrigated 0.75 in on July 15 and 1.0 inch on July 30, Aug. 6, and Aug. 13. Rainfall recorded during the growing season was as follows (in inches): May = 4.76, June = 5.28, July = 5.19, August = 6.03 and September = 8.03. Foliar fungicides were applied on a 14 day schedule on June 29, July 13, July 28, Aug. 11, Aug. 25, Sept. 11, Sept. 25, and Oct. 8 using a four row tractor-mounted boom sprayer with three TX8 nozzles per row calibrated to deliver 15 gal/A per plot.

Early and late leaf spot were visually rated on Oct. 13 using the Florida leaf spot scoring system (1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation; 5 = lesions noticeable in upper canopy with some defoliation; 6 = lesions numerous with significant defoliation; 7 = lesions numerous with heavy defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation; 9 = very few remaining leaves covered with lesions; 10 = completely dead plants).

Counts of stem rot (SR) loci (1 locus was defined as ≤ 1 foot of consecutive symptoms and signs of the disease) were made on Oct. 20 immediately after plot inversion. Plots were harvested on Oct. 23 and yields were reported at 9.65% moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

Results: During the 2015 peanut production season, temperatures were near normal and monthly rainfall totals were near average during June, July, August, and September. Early leaf spot appeared early and rapidly progressed until September when late leaf spot became dominant. Stem rot incidence was similar to that observed in previous years due to above average rainfall and reduced soil temperatures. 'Georgia 06G' had the highest leaf spot severity among the untreated plots and was higher when compared to all the fungicide application plots. Among the treated plots, the lowest leaf spot severity was with 'Georgia 06G' treated with Echo 720/Abound/Echo + Convoy. Among the remaining treated plots, all had similar results. Stem rot incidence was highest in the untreated 'Georgia 06G' plots. When compared with 'Georgia 06G' both MRS 37 and MRS 38 had lower stem rot indices among all treatment programs. Yield among both MRS 37 and MRS 38 were similar however when compared to that observed with 'Georgia 06G', 'Georgia 06G' was higher across all treatment programs with the exception of the untreated plots.

EVALUATION OF EXPERIMENTAL PEANUT VARIETIES USING DIFFERENT FUNGICIDE INPUTS FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

Cultivar	Treatment and Rate/A	Application Timing	Disease ratings		Yield lb/A
			Leaf Spot[1]	Stem Rot[2]	
MRS 37	Untreated Control	---	5.3 b[3]	2.5 b	5227 ef
	Echo 720 24.0 fl oz	1-7	3.2 ef	2.0 bc	5397 def
	Echo 720 24.0 fl oz Muscle ADV 32.0 fl oz	1,2,7 3,4,5,6	3.7 cd	1.0 cde	5614 c-f
	Echo 720 24.0 fl oz Abound 2.08SC 18.5 fl oz Echo 24.0 fl oz + Convoy 21 fl oz	1,2,7 3,5 4,6	3.4 def	0.7 de	5939 a-d
MRS 38	Untreated Control	---	5.2 b	1.7 bcd	5130 f
	Echo 720 24.0 fl oz	1-7	3.4 def	0.8 cde	5735 b-e
	Echo 720 24.0 fl oz Muscle ADV 32.0 fl oz	1,2,7 3,4,5,6	4.0 c	1.0 cde	5711 b-f
	Echo 720 24.0 fl oz Abound 2.08SC 18.5 fl oz Echo 24.0 fl oz + Convoy 21 fl oz	1,2,7 3,5 4,6	3.5 de	0.2 e	5518 d-f
GA 06G	Untreated Control	---	5.7 a	5.0 a	5413 def
	Echo 720 24.0 fl oz	1-7	3.1 ef	1.7 bcd	6155 a-c
	Echo 720 24.0 fl oz Muscle ADV 32.0 fl oz	1,2,7 3,4,5,6	3.7 cd	1.5 bcd	6340 a
	Echo 720 24.0 fl oz Abound 2.08SC 18.5 fl oz Echo 24.0 fl oz + Convoy 21 fl oz	1,2,7 3,5 4,6	3.1 f	1.7 bcd	6228 ab
LSD ($P \leq 0.05$)			*0.4*	*1.3*	*581*

[1]Early and late leaf spot were assessed using the Florida leaf spot scoring system
[2]Stem rot (SR) incidence is expressed as the number of disease loci per 60 foot of row.
[3]Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

EVALUATION OF OMEGA 500F AND CUSTODIA FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

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

Objective: To evaluate Omega 500F and Custodia and compare them against a currently registered fungicides for control of early and late leaf spot and stem rot and yield response in an irrigated peanut production system in southeast Alabama.

Methods: Peanut cultivar 'Georgia 09B' was planted on May 26 at the Wiregrass Research and Extension Center in Headland, Ala., in a field with a history of peanut production. Seed were sown at a rate of approximately five seed per foot of row, and recommendations of the Alabama Cooperative Extension System for tillage, fertility, weed, and nematode control were followed. The soil type was a Dothan sandy loam (OM<1%). On May 20, 1 qt/A of Sonalan + 0.45 oz/A of Strongarm were applied and incorporated to the test area for pre-emergent weed control. On May 20, 3 oz/A of Valor were applied to test area after planting for weed control. On June 26, 1.5 pt/A of 2,4 DB was applied for weed control. Thrips were controlled with an in-furrow application of 5.0 lb/A of Thimet 20G at planting.

Plots, which consisted of four 30-foot rows spaced 3-feet apart, were arranged in a randomized complete block with six replicates. Plots were located under a central pivot irrigation system and irrigated 1.0 inch on July 13 and Aug. 10. Rainfall recorded during the growing season was as follows (in inches): May = 4.76, June = 5.28, July = 5.19, August = 6.03 and September = 8.03. Foliar fungicides were applied on a 14 day schedule on July 7, July 20, Aug. 5, Aug. 19, Sept. 6, Sept. 23, and Oct. 7 using a four row tractor-mounted boom sprayer with three TX8 nozzles per row calibrated to deliver 15 gal/A per plot.

Early and late leaf spot were visually rated on Oct. 12 using the Florida leaf spot scoring system (1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation; 5 = lesions noticeable in upper canopy with some defoliation; 6 = lesions numerous with significant defoliation; 7 = lesions numerous with heavy defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation; 9 = very few remaining leaves covered with lesions; 10 = completely dead plants).

Counts of stem rot (SR) loci (1 locus was defined as ≤ 1 foot of consecutive symptoms and signs of the disease) were made on Oct. 19 immediately after plot inversion. Plots were harvested on Oct. 22 and yields were reported at 8.43% moisture. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

Results: During the 2015 growing season, temperatures were near normal and monthly rainfall totals were near average during June, July, August, and September. Early leaf spot appeared early and intensified into September when late leaf spot became dominant. Stem

rot incidence was higher than in previous years due to average rainfall and higher soil temperatures. Leaf spot intensity was lower for all fungicide programs than the untreated control (data not shown). Among the fungicide programs, the best leaf spot control was obtained with Equus 720 SST/Headline(12 fl oz), Equus 720 SST/Headline (9 fl oz) + Omega, and Equus 720 SST/Headline(12 fl oz) + Omega. Among the remaining fungicide programs, only Equus 720 SST/Abound (9 fl oz) gave poorer leaf spot control compared with the season-long Equus 720 SST standard. Better stem rot control was obtained with Equus 720 SST/Custodia and Equus 720 SST/Artisan except for Equus 720 SST/Abound (12 fl oz) + Omega, Equus 720 SST/Abound (12 fl oz), Equus 720 SST/Omega, Equus 720 SST/Headline (9 fl oz) + Omega, Equus 720 SST/Headline (12 fl oz), + Omega, and Equus 720 SST/Abound (9 fl oz) + Omega. With the exception of Equus 720 SST/Headline (6 fl oz), Equus 720 SST/Headline (9 fl oz), Equus 720 SST/ Headline (12 fl oz), Equus 720 SST/Abound (9 fl oz), and Equus 720 SST/Provost, all other programs reduced stem rot compared to the season-long Equus 720 SST standard. Highest yield was with Equus 720 SST/Custodia. All other fungicide programs except Equus 720 SST/Headline (6 fl oz), Equus 720 SST/Headline (9 fl oz), Equus 720 SST/ Headline (12 fl oz), Equus 720 SST/Omega, Equus 720/Headline (12 fl oz) + Omega, and Equus 720 SST/Abound (9 fl oz) + Omega yielded higher than the season-long Equus 720 SST standard.

EVALUATION OF OMEGA 500F AND CUSTODIA FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, WREC

Treatment and Rate/A	Application Timing	Disease ratings		Yield lb/A
		Leaf Spot[1]	Stem Rot[2]	
Equus 720 SST 24.0 fl oz Headline 2.09SC 6.0 fl oz	1,2,6,7 3,4,5	3.1 def[3]	5.5 ab	3332 f
Equus 720 SST 24.0 fl oz Headline 2.09SC 9.0 fl oz	1,2,6,7 3,4,5	3.0 d-g	4.7 a-e	3993 de
Equus 720 SST 24.0 fl oz Headline 2.09SC 12.0 fl oz	1,2,6,7 3,4,5	2.8 efg	5.1 abc	3614 ef
Equus 720 SST 24.0 fl oz Abound 2.08SC 9.0 fl oz	1,2,6,7 3,4,5	3.9 a	4.8 a-d	4590 a-d
Equus 720 SST 24.0 fl oz Abound 2.08SC 12.0 fl oz	1,2,6,7 3,4,5	3.7 ab	3.0 cdef	4864 ab
Equus 720 SST 24.0 fl oz Omega 500F 16.0 fl oz	1,2,6,7 3,4,5	3.5 abc	3.3 b-f	3598 ef
Equus 720 SST 24.0 fl oz Headline 2.09SC 6.0 fl oz + Omega 500F 16.0 fl oz	1,2,6,7 3,4,5	3.1 def	4.7 a-e	4267 bcd
Equus 720 SST 24.0 fl oz Headline 2.09SC 9.0 fl oz + Omega 500F 16.0 fl oz	1,2,6,7 3,4,5	2.6 fg	2.8 def	4792 ab
Equus 720 SST 24.0 fl oz Headline 2.09SC 12.0 fl oz + Omega 500F 16.0 fl oz	1,2,6,7 3,4,5	2.5 g	3.7 b-f	4041 cde
Equus 720 SST 24.0 fl oz Abound 2.08SC 9.0 fl oz + Omega 500F 16.0 fl oz	1,2,6,7 3,4,5	3.1 def	3.8 b-f	4041 cde
Equus 720 SST 24.0 fl oz Abound 2.08SC 12.0 fl oz + Omega 500F 16.0 fl oz	1,2,6,7 3,4,5	3.0 d-g	2.5 ef	4622 abc
Equus 720 SST 24.0 fl oz Custodia 15.52 fl oz	1,2,7 3,4,5,6	3.6 abc	2.0 f	4945 a
Equus 720 SST 24.0 fl oz Provost 433SC 8.0 fl oz	1,2,7 3,4,5,6	3.2 cde	4.8 a-d	4308 bcd
Equus 720 SST 24.0 fl oz Artisan 26.0 fl oz	1,2,4,6,7 3,5	3.8 ab	1.7 f	4799 ab
Equus 720 SST 24.0 fl oz	1-7	3.4 bcd	6.1 a	3477 ef
LSD ($P \leq 0.05$)		*0.4*	*2.3*	*623*

[1] Early and late leaf spot were assessed using the Florida leaf spot scoring system.
[2] Stem rot (SR) incidence is expressed as the number of disease loci per 60 foot of row.
[3] Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

DISEASE CONTROL AND YIELD RESPONSE WITH RECOMMENDED FUNGICIDE PROGRAMS COMPARED ON TWO PEANUT VARIETIES, WREC

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

Objective: Compare the effectiveness of recommended fungicide programs for the control of leaf spot diseases and white mold as well as assess their impact on the yield of two peanut varieties.

Production Methods: The study area at the Wiregrass Research and Extension Center, which is maintained in a peanut-cotton rotation, was turned with a moldboard plow and worked to seed bed condition with a disk harrow. On Apr. 20, rows were formed with a KMC strip till rig with rolling baskets. On May 19, the peanut varieties 'Georgia 06G' and Tifguard were planted at a rate of 6 seed per foot in a Dothan fine sandy loam (OM<1%) soil. Thimet 20G at 5 pounds per acre was applied in-furrow for thrips control. Weed control was obtained with a pre-plant incorporated application of 0.45 ounces per acre of Strongarm + 1 quart per acre of Sonalan followed by an at-plant application of 3 ounces per acre of Valor + 24 fluid ounces per acre of Dual Magnum II on May 19. Soil fertility recommendations of the Alabama Cooperative Extension System were followed. The test area received 0.75 inches of water on July 15 followed by 1.0 inches of water on July 30, Aug. 6, and Aug. 13. A factorial design arranged as a split-plot was used with peanut cultivar as whole plots and fungicide treatments as sub-plots. Whole plots were randomized in four complete blocks. Sub-plots consisted of four 30-foot rows spaced 3-feet apart that were randomized within each whole plot. Fungicides were applied on 1 = July 1, 1.5 = July 7, 2 = July 15, 3 = July 28, 4 = Aug. 12, 5 = Aug. 26, 6 = Sept. 11, and 7 = Sept. 25 with a tractor mounted boom sprayer with three TX-8 nozzles per row calibrated to deliver 15 gallons of spray volume per acre at 45 psi.

Disease Assessment: On Oct. 12, early and late leaf spot diseases were rated together using the 1-10 Florida peanut leaf spot scoring system where 1 = no disease, 2 = very few leaf spots, 3 = few leaf spots in lower and upper canopy, 4 = some leaf spotting and ≤ 10% defoliation, 5 = leaf spots noticeable and ≤ 25% defoliation, 6 = leaf spots numerous and ≤ 50% defoliation, 7 = leaf spots very numerous and ≤ 75% defoliation, 8 = numerous leaf spots on few remaining leaves and ≤ 90% defoliation, 9 = very few remaining leaves covered with leaf spots and ≤ 95% defoliation, and 10 = plants defoliated or dead. On Oct. 15, white mold hit counts (1 hits was defined as ≤ 1 foot of consecutive white mold-damaged plants per row) were made immediately after plot inversion. Plots were combined several days after inversion. Yields are reported at 8.96% moisture. Significance of interactions was evaluated using PROC GLIMMIX in SAS. Statistical analyses were calculated on rank transformations for non-normal data for leaf spot intensity, white mold incidence, and yield. Non-transformed data are reported. Means were separated using Fisher's least significant difference (LSD) test ($P \leq 0.05$).

Weather: Monthly rainfall totals were below the 30-year average for May, July, and October

but above average for June, August, and September, while temperatures were above the 30-year average only in June and July.

Results: Since there were no significant variety × fungicide program interactions for leaf spot intensity, white mold incidence, and yield, data for each of these variables were pooled. On both peanut varieties, leaf spot symptoms were limited light to moderate leaf spotting with little premature defoliation. With the exception of Priaxor/Muscle ADV/ Priaxor/Echo 720, better leaf spot control was obtained with Echo 720/Provost than all remaining fungicide programs. Leaf spot control similar to that noted with the season-long Echo 720 standard was provided by the Echo 720/Convoy + Echo 720, Echo 720/ Artisan + Echo 720, Echo 720/Muscle ADV, Echo 720/Fontelis, Echo 720/Abound + Alto, and Tilt-Bravo/Elatus/Bravo WeatherStik programs. While overall white mold pressure was low, disease incidence was greater for the Echo season-long standard and Echo/Provost programs compared with all remaining fungicide programs, which had similarly low white mold indices. Yield response obtained with Echo 720/Abound + Alto, and Tilt-Bravo/Elatus/Bravo WeatherStik, and Echo 720/Artisan + Echo 720 was similar to the highest yielding program Echo/Fontelis. Lowest yields were recorded for the season-long Echo 720 standard. Despite similar stem rot incidence and leaf spot intensity, 'Georgia 06G' had greater yield than Tifguard.

Summary: While leaf spot intensity was low and probably had no impact on yield, differences the level of control differed by fungicide program with the Echo 720/Provost giving the best control (Table 1). Higher yield were obtained with the Echo 720/Fontelis than most of the other fungicide programs.

DISEASE CONTROL AND YIELD RESPONSE WITH RECOMMENDED FUNGICIDE PROGRAMS COMPARED ON TWO PEANUT VARIETIES, WREC

Factorial analysis (*F* values)	Application Timing[1]	Leaf Spot Intensity [2]	White Mold incidence[3]	Yield lb/A
Variety	--	4.50[4]	0.11	13.49**
Fungicide program	--	4.35***	7.99***	3.94***
Variety x fungicide program	--	1.38	1.08	0.27
Peanut variety				
Georgia-06G	--	3.1 a[5]	1.8 a	6206 a
Tifguard	--	3.3 a	1.6 a	5859 b
Fungicide program				
Echo 720 6F 1.5 pt	1-7	3.3 a	4.2 a	5542 c
Priaxor 4.17SC 6 fl oz Muscle ADV 3.84F 32 fl oz Priaxor 4.17SC 6 fl oz Echo 720 6F 1.5 pt	1.5 3,5 4,6 7	3.1 bc	1.5 b	6029 b
Echo 720 6F 1.5 pt Provost 433SC 10.7 fl oz	1,2,7 3,4,5,6	2.9 c	2.7 a	6070 b
Echo 720 6F 1.5 pt Echo 720 6F 1.5 pt + Convoy 3.8F 26 fl oz	1,2,4,6,7 3,5	3.4 a	1.2 b	5965 b
Echo 720 1.5 pt Artisan 3.6E 26 fl oz + Echo 720 6F 1.5 pt	1,2,4,6,7 3,5	3.3 a	0.8 b	6050 ab
Echo 720 6F 1.5 pt Muscle ADV 3.84F 2 pt	1,2,7 3,4,5,6	3.3 a	1.6 b	5976 b
Echo 720 6F 1.5 pt Fontelis 1.67SC 1 pt	1,2,6,7 3,4,5	3.2 ab	1.2 b	6308 a
Echo 720 6F 1.5 pt Abound 2.08SC 18.2 fl oz + Alto 0.83SC 5.5 fl oz	1,2,4,6,7 3,5	3.2 ab	1.5 b	6199 ab
Tilt-Bravo SE 4.3F 1.5 pt Elatus 45W 9.5 oz Bravo WeatherStik 6F 1.5 pt	1,2 3,5 6,7	3.4 a	0.8 b	6173 ab

[1] Fungicide application dates were 1 = July 1, 1.5 = July 7, 2 = July 15, 3 = July 28, 4 = Aug. 12, 5 = Aug. 26, 6 = Sept. 11, and 7 = Sept. 25

[2] Leaf spot diseases were rated on Oct. 12 using the Florida 1 to 10 leaf spot rating scale.

[3] White mold incidence is expressed as the number of hits per 60 foot of row.

[4] Significance of F values at the 0.05, 0.01, and 0.001 levels is indicated by *, **, or ***, respectively.

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

STANDARD- AND HIGH-INPUT FUNGICIDE PROGRAMS IMPACT DISEASE CONTROL AND YIELDS OF SELECTED PEANUT VARIETIES, WREC

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

Objective: Compare the yields and level of leaf spot and white mold control obtained with a standard and high input fungicide program on selected commercial peanut cultivars at the Wiregrass Research and Extension Center in southeast Alabama.

Production Methods: The study area at the Wiregrass Research and Extension Center, which is maintained in a one-year out peanut-cotton rotation, was turned with a moldboard plow and worked to seed bed condition with a disk harrow. Rows were laid off with a KMC strip till rig with rolling baskets. On May 21, the peanut varieties 'Georgia 06G' and Tifguard were planted at a rate of 6 seed per foot in a Dothan fine sandy loam (OM<1%) soil. Thimet 20G at 5 pounds per acre was applied in-furrow for thrips control. Weed control was obtained with a pre-plant incorporated application of 0.45 ounces per acre of Strongarm + 1 quart per acre of Sonalan followed by an at-plant application of 3 ounces per acre of Valor + 24 fluid ounces per acre of Dual Magnum II on May 19. Soil fertility recommendations of the Alabama Cooperative Extension System were followed. The test area received 0.75 inches of water on July 15 followed by 1.0 inches of water on July 30, Aug. 6, and Aug. 13. A factorial design, arranged in split-plot, with peanut cultivar as whole plots and fungicide treatments as sub-plots was used. Whole plots were randomized in four complete blocks. Sub-plots, which consisted of four 30-foot rows spaced 3-foot apart, were randomized within each whole plot. While the standard fungicide program consisted of seven applications of 1.5 pints per acre of Bravo Weather Stik 6F, the high input program included two initial applications of 1.5 pints per acre of Bravo Weather Stik 6F followed by 1.1 pint per acre of Abound 2SC, 1.5 pints per acre of Bravo Weather Stik 6F + 21 fluid ounces per acre of Convoy, 1.1 pints per acre of Abound 2SC, 1.5 pints per acre of Bravo Weather Stik 6F + 21 fluid ounces per acre of Convoy, and two final applications of 1.5 pints per acre of Bravo Weather Stik 6F. Fungicides were applied on 1 = July 1, 1.5 = July 7, 2 = July 15, 3 = July 28, 4 = Aug. 12, 5 = Aug. 26, 6 = Sept. 11, and 7 = Sept. 25 with a tractor mounted boom sprayer with three TX-8 nozzles per row calibrated to deliver 15 gallons of spray volume per acre at 45 psi.

Disease Assessment: Early and late leaf spot diseases were rated together using the 1-10 Florida peanut leaf spot scoring system where 1 = no disease, 2 = very few leaf spots, 3 = few leaf spots in lower and upper canopy, 4 = some leaf spotting and ≤ 10% defoliation, 5 = leaf spots noticeable and ≤ 25% defoliation, 6 = leaf spots numerous and ≤ 50% defoliation, 7 = leaf spots very numerous and ≤ 75% defoliation, 8 = numerous leaf spots on few remaining leaves and ≤ 90% defoliation, 9 = very few remaining leaves covered with leaf spots and ≤ 95% defoliation, and 10 = plants defoliated or dead on Aug. 5, Aug. 18, Sept. 2, Sept. 17, Sept. 30, and Oct. 5 with late leaf spot being the primary disease observed at the final rating date. Defoliation values were calculated from leaf spot intensity ratings using the formula

[% Defoliation = 100/(1+e(-(Florida scale value-6.0672)/0.7975)]. White mold hit counts (1 hit was defined as ≤ 1 foot of consecutive white mold-damaged plants per row) were made immediately after plot inversion on Oct. 12 for all varieties except for 'Georgia-12Y,' which was inverted on Oct. 20. Plots were mechanically combined several days after inversion. Yields were reported at 8.6% moisture. Significance of interactions was evaluated using PROC GLIMMIX in SAS. Statistical analyses were calculated on rank transformations for non-normal data for leaf spot defoliation, white mold incidence and yield, which were back transformed for presentation. Means were separated using Fisher's least significant difference (LSD) test ($P \leq 0.05$) unless otherwise indicated.

Weather: Rainfall totals during the study period were above to well above the historical average for June, August, and September but below average for May and July. Temperatures were at or above the season average throughout the production season.

Results: While both early and late leaf spot were noted, much of the defoliation observed, particularly on 'FloRun 107, 'Georgia-13M,' and 'TUFRunner 51' was attributed to the latter disease. On 'Georgia-13M,' greater late leaf spot defoliation levels were recorded for the standard and hi-input fungicide programs when compared with either fungicide program on any of the other varieties except for the hi-input fungicide program on 'TUFRunner 511.' With the standard fungicide program, 'TUFRunner 727' and 'Georgia-06G' suffered a similarly low level of defoliation. With 'Florida-07,' 'Georgia-06G,' 'Tifguard,' 'TUFRunner 727,' and 'TUFRunner 511' had lower defoliation ratings for the standard than hi-input fungicide program. Overall white mold pressure was low, however, disease incidence as indicated by a significant variety × fungicide interaction ($P \leq 0.10$) differed by fungicide program and variety. Significant reductions in white mold incidence were obtained with the hi-input compared with the standard fungicide programs on the varieties 'FloRun 107,' 'Georgia-09B, and 'TUFRunner 727' but not on the remaining varieties where similar disease indices were noted for both fungicide programs. Yields were higher for 'TUFRunner 511 than all other varieties except for 'Georgia-06G' and 'Georgia-09B,' while the low yields posted for 'Georgia-13M' were matched by 'Tifguard' and 'FloRun 107.'

Summary: The hi-input fungicide program failed to provide better leaf spot or white mold control or increase yields compared with the less costly standard fungicide program. On several varieties, the hi-input fungicide program gave the poorest leaf spot control. Results demonstrated that expensive fungicide programs are not cost-effective when white mold pressure is low. Also, the combination of Abound 2SC and Convoy + Bravo WeatherStik mid-summer fungicide treatments is more effective in controlling white mold than leaf spot diseases. Replacement of one of the above fungicides with Elatus or Fontelis would likely have resulted in better leaf spot control and possibly higher yields.

Sizable differences in yield were noted among peanut varieties. The only new release that excelled was 'TUFRunner 511,' which outyielded all varieties except for 'Georgia-06G' and 'Georgia-09B.' Performance of 'Georgia-13M' was disappointing. Not only were yields much lower than most of the varieties screened except for 'Tifguard,' serious late leaf spot defoliation developed just prior to inversion.

TABLE 1: IMPACT OF FUNGICIDE INPUTS ON LEAF SPOT DEFOLIATION, WHITE MOLD INCIDENCE, AND YIELD OF NINE COMMERCIAL PEANUT VARIETIES REC

Source (F values)	Leaf Spot Defoliation[1]		White Mold incidence[2]		Yield lb/A
Peanut Variety	18.62***[3]		0.46		2.10^
Fungicide program	8.69**		13.72***		0.16
Variety x fungicide	2.44**		2.06^		1.71
Peanut Variety	***Standard***	***Hi-Input***	***Standard***	***Hi-Input***	
Florida-07	3.8 ef[4]	4.6 cde	1.0 b-e	1.2 b-e	5903 bcd
FloRun 107	5.9 cd	10.8 bc	1.5 abc	0.5 e	5772 cde
Georgia-06G	2.7 fg	6.3 bcd	1.5 a-d	0.7 cde	6236 ab
Georgia-09B	4.9 b-e	7.4 b	2.8 a	0.5 e	6078 abc
Georgia-12Y	4.4 ef	4.3 cde	1.0 b-e	1.2 b-e	5933 bc
Georgia-13M	23.1 a	41.5 a	1.3 b-e	1.0 b-e	5401 e
Tifguard	3.8 ef	5.4 bcd	1.5 bcd	1.2 d-e	5469 de
TUFRunner 511	5.1 b-e	18.6 a	1.2 b-e	0.8 b-e	6429 a
TUFRunner 727	2.1 g	4.3 cde	1.8 ab	0.5 e	5909 bcd
Fungicide program					
Standard	---		---		5883 a
Hi-Input	---		---		5924 a

[1] Leaf spot diseases were rated using the Florida 1 to 10 leaf spot rating scale on Oct. 5.
[2] White mold incidence is expressed as the number of hits per 60 foot of row.
[3] Significance of F values at the 0.10, 0.05, 0.01, and 0.001 levels is indicated by ^, *, **, or ***, respectively.
[4] Means in each column followed by the same letter are not significantly different according Fisher's least significant difference (LSD) test ($P \leq 0.05$) unless otherwise indicated.

INTERACTION OF PLANTING DATE, CULTIVAR, AND SEEDING RATE ON THRIPS DAMAGE, TSW AND WHITE MOLD INCIDENCE, LEAF SPOT INTENSITY, AND YIELD OF THREE PEANUT CULTIVARS IN A DRYLAND PRODUCTION SYSTEM, WREC

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

Objective: Determine the impact of seeding rate on stand density, thrips feeding damage, occurrence of tomato spotted wilt (TSW), leaf spot, white mold, as well as the yield of selected commercial peanut cultivars in a dryland production system at the Wiregrass Research and Extension Center in Headland, Ala.

Production Methods: The study area at the Wiregrass Research and Extension Center, which is maintained in a peanut-cotton rotation, was turned with a moldboard plow and worked to seed bed condition with a disk harrow. Rows were laid off on Apr. 20 with a KMC strip till rig with rolling baskets. On Apr. 24 and May 26, the peanut varieties 'Georgia-06G', 'Georgia-09B', and 'Georgia-12Y' were planted at rates of 3, 4, 6, and 8 seed per foot of row on single rows using conventional tillage practices in a Dothan fine sandy loam (OM<1%) soil at the Wiregrass Research and Extension Center. Thimet 20G at 5 pounds per acre was applied in-furrow for thrips control. Weed control was obtained with a pre-plant, incorporated application of 1 quart per acre Sonalan HFP + 0.45 ounces per acre Strongarm followed by a broadcast application of 3 ounces per acre Valor on Apr. 26. Soil fertility recommendations of the Alabama Cooperative Extension System were followed. The study area was not irrigated. A factorial design arranged in a split-split plot had planting date as whole plots, peanut cultivar as the split-plot, and seeding rates as the split-split plot treatment. Whole plots were randomized in four complete blocks. Individual split-split plots, which consisted of four 30-foot rows spaced 3-feet apart, were randomized within each whole plot. Chlorothalonil at 1.5 pints per a was applied for leaf spot control on June 24, July 7, July 21, Aug. 4, Aug. 20, Sept. 3, and Sept. 17 with a tractor mounted boom sprayer with 3 TX-8 nozzles per row at 15 gallons of spray volume per acre at 45 psi. Stand counts were recorded on May 11 for the first date of planting (DOP) and June 12 for the second DOP. 'Georgia-06G' and 'Georgia-09B' were inverted at the first DOP on Sept. 9 with 'Georgia-12Y' being inverted on Sept. 18. For the second DOP, all varieties were dug on Oct. 8.

Insect and Disease Assessment: Final tomato spotted wilt (TSW) hit counts (one hit was defined a ≤ 1 foot of consecutive symptomatic plants per row) were made on Aug. 31 and Oct. 5 for the first and second DOP, respectively. Early and late leaf spot were rated together on Aug. 31 and Oct. 5 for the first and second DOP, respectively, using the 1-10 Florida peanut leaf spot scoring system where 1 = no disease, 2 = very few leaf spots, 3 = few leaf

spots in lower and upper canopy, 4 = some leaf spotting and ≤ 10% defoliation, 5 = leaf spots noticeable and ≤ 25% defoliation, 6 = leaf spots numerous and ≤ 50% defoliation, 7 = leaf spots very numerous and ≤ 75% defoliation, 8 = numerous leaf spots on few remaining leaves and ≤ 90% defoliation, 9 = very few remaining leaves covered with leaf spots and ≤ 95% defoliation, and 10 = plants defoliated or dead. White mold hit counts (1 hit was defined as ≤ 1 foot of consecutive white mold-damaged plants per row) were made immediately after plot inversion on for the first DOP for 'Georgia-06G' and 'Georgia-09B' on Sept. 9 along with 'Georgia-12Y' on Sept. 18, and second DOP on Oct. 8 for all three cultivars. Yields for 'Georgia-06G' and 'Georgia-09B' are reported at 8.01% and 9.11% moisture for the first and second DOP, respectively, while the moisture levels for 'Georgia-12Y' at the first and second DOP are 11.43% and 9.11%, respectively. Significance of interactions was evaluated using PROC GLIMMIX procedure in SAS. Statistical analyses for stand density, leaf spot intensity, along with TSW and white mold incidence were done on rank transformations for non-normal data. Data were back transformed for presentation. Means were separated using Fisher's least significant difference (LSD) test ($P \leq 0.05$) or at as otherwise indicated ($P \leq 0.10$).

Weather: Rainfall was below average in May, July, and October but at or above average in June, August, and September, while temperatures were seasonal during the study period.

Results: Seedling populations differed by planting date, seeding rate, and variety (Table 1). For all varieties at both planting dates, plant populations rose in proportion with increasing seeding rates (Table 2). At the two higher seeding rates, similar plant populations were noted for all varieties at each planting date except for the lower values noted for 'Georgia-06G' at the second DOP. Highest seedling populations at the 4 seed/ft rate were noted for 'Georgia-09B' and 'Georgia-12Y' at the first DOP with 'Georgia-06G' having the lowest populations at the second DOP. 'Georgia-09B' at the first DOP along with 'Georgia-12Y' at both planting dates at 3 seed/ft had similar plant populations.

TABLE 1. F-VALUES FROM GENERALIZED LINEAR MIXED MODEL ANALYSIS FOR EFFECTS OF PLANTING DATE, PEANUT CULTIVAR, AND SEEDING RATE ON STAND DENSITY, THRIPS FEEDING DAMAGE, TSW INCIDENCE, LEAF SPOT INTENSITY, STEM ROT INCIDENCE, AND YIELD AT THE WREC IN 2015

Source of Variation (F values)	Plant Population	TSW[1]	Leaf Spot	White Mold	Yield
Planting Date	152.21*** [2]	3.18^	1.51	20.31**	8.57*
Variety	198.20***	6.95***	42.34***	63.60***	0.58
Planting Date × Variety	85.72***	3.16*	5.49**	17.56***	0.01
Seeding Rate	867.24***	1.26	3.40*	5.09**	0.42
Planting Date × Seeding Rate	7.56***	0.62	1.10	2.55^	1.79
Variety x Seeding Rate	2.38*	0.84	0.16	2.40*	0.40
Planting Date × Variety × Seeding Rate	5.24***	0.31	0.40	1.65	1.22

[1] TSW = tomato spotted wilt.
[2] Significance at the 0.10, 0.05, 0.01, and 0.001 levels is indicated by ^, *, **, or ***, respectively.

TABLE 2. INTERACTION OF PLANTING DATE, SEEDING RATE, AND VARIETY ON PLANT POPULATIONS[1]

Planting Date	Seeding Rate (# Seed / ft row)			
Apr. 24		Georgia-06G	Georgia-09B	Georgia-12Y
	3	2.19 ij[2]	2.49 gh	2.58 g
	4	2.95 ef	3.24 c	3.28 c
	6	3.83 b	4.02 b	4.03 b
	8	4.81 a	4.96 a	4.89 a
May 26				
	3	1.59 k	2.31 hi	2.64 fg
	4	2.04 jk	2.81 f	3.02 de
	6	2.62 g	4.02 b	3.93 b
	8	3.19 cd	4.68 a	4.76 a

[1] Plant populations are expressed as the number of plants per 100 row feet.
[2] Means followed by the same letter are not significantly different according to analysis of variance and the Fisher's least significant difference (LSD) test ($P \leq 0.05$).

The incidence of TSW on 'Georgia-06G,' 'Georgia-09B,' and 'Georgia-12Y,' which was very low, was not a surprise as all three varieties have partial resistance to this disease. Due to a significant planting date × variety interaction, data for these two variables are separated (Table 1). Planting date had no influence on the very low incidence of TSW observed on 'Georgia-06G' and 'Georgia-12Y' (Fig.1). For 'Georgia-09B,' disease incidence was higher in the second than first DOP. Normally, TSW incidence is noticeably higher in late April than late May planted peanuts. Due in large part to low TSW pressure, seeding rate had no impact on the incidence of this disease (Table 3). Previous research has shown that reducing seeding rate sharply increases the risk of damaging TSW outbreaks.

Figure 1. Interaction of planting date and variety on the TSW incidence. Means followed by the same letter are not significantly different according to Fisher's LSD ($P \leq 0.05$).

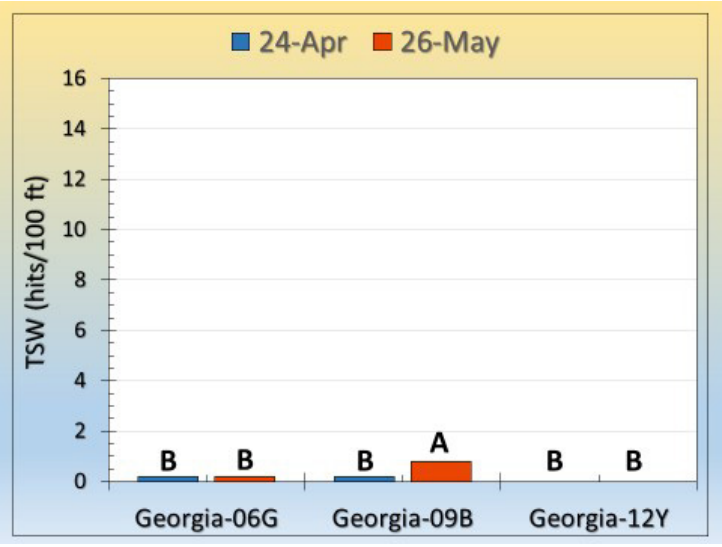
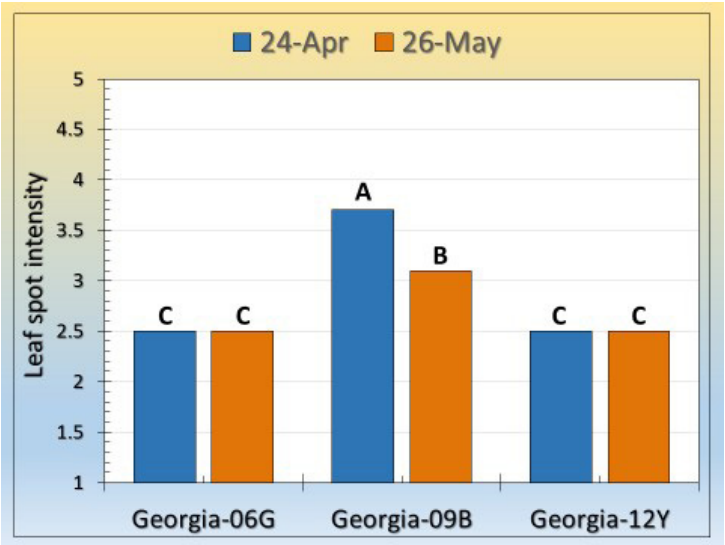
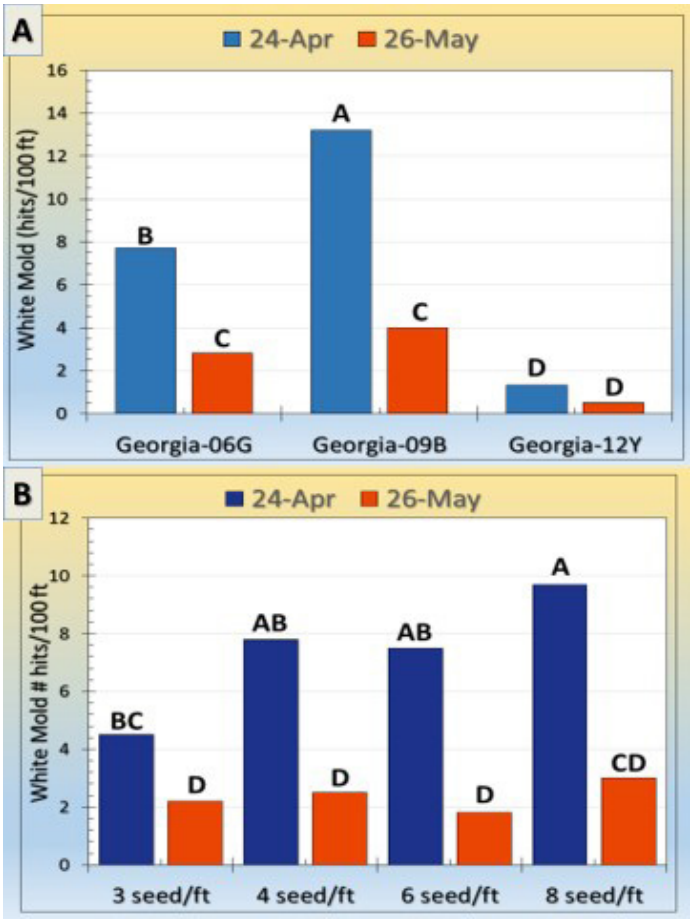


Figure 2. Leaf spot intensity as influence by planting date and variety. Means followed by the same letter are not significantly different according to Fisher's LSD (P ≤ 0.05).



Leaf spot intensity differed by planting date and variety (Table 1). While leaf spot intensity was higher on 'Georgia-09B' at the first and second DOP (Fig. 2), planting date had no impact on this disease on 'Georgia-06G' or 'Georgia-12Y.' Overall, leaf spot intensity was lower on 'Georgia-06G' and 'Georgia-12Y' than 'Georgia-09B.' Alabama field trials have consistently shown that 'Georgia-09B' is more susceptible to leaf spot diseases compared with 'Georgia-06G' and 'Georgia-12Y.' Seeding rate also influenced leaf spot intensity with lower ratings noted at the lowest compared with the two highest seeding rates (Table 3).

Figure 3. White mold incidence as influenced by an interaction between A) planting date and variety and B) planting date and seeding rate. Means followed by the same letter are not significantly different according to Fisher's LSD ($P \leq 0.05$).



White mold incidence differed by planting date and variety, planting date and seeding rate, and variety and seeding rate (Table 1). As had been previously reported, white mold incidence was higher at the first (April) than second DOP (May) for 'Georgia-06G' and 'Georgia-09B' but not 'Georgia-12Y,' which had similarly low disease indices at both planting dates (Fig. 3A). While disease incidence was higher on 'Georgia-09B' than 'Georgia-06G' at the first DOP, white mold damage levels were similar at the second DOP. White mold incidence was impacted by seeding rate at the first but not the second DOP (Fig. 3B). At the first DOP, few white mold hits were noted at the 3 than the 8 seed/ft seeding rates, while the ratings at 4 and 6 seed/ft were intermediate between the former and latter seeding rates. For the second seeding rate, similarly lower white mold indices were recorded across all seeding rates. As noted above, disease incidence was consistently lower at all seeding rates at the second than first DOP. White mold incidence rose with increasing seeding rates on 'Georgia-06G' and 'Georgia-09B' but not 'Georgia-12Y,' where similarly low disease indices were recorded at all seeding rates (Fig. 4). On both of the former varieties, lower disease indices were obtained at the 3 than the 8 seed/ft seeding rates.

Figure 4. White mold incidence as influenced by an interaction between variety and seeding rate. Means followed by the same letter are not significantly different according to Fisher's LSD ($P \leq 0.05$).

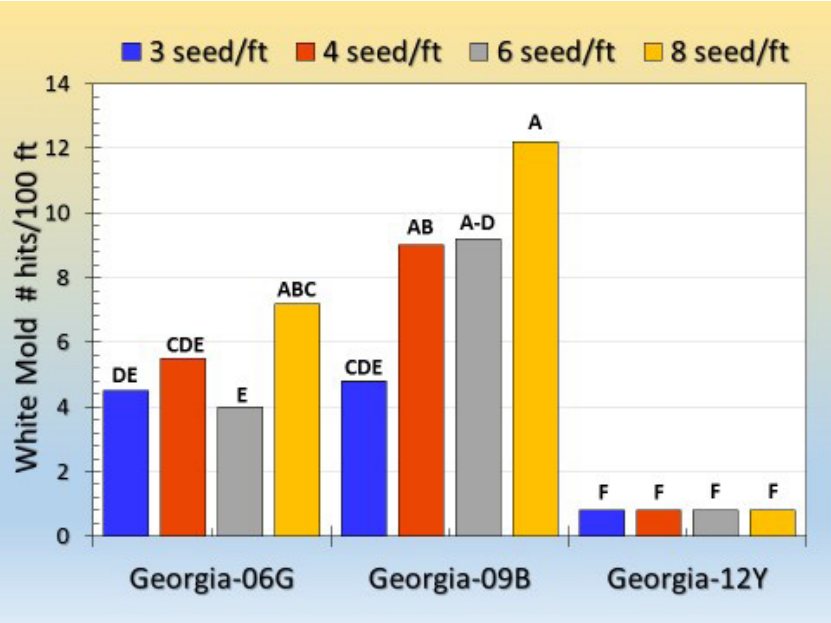


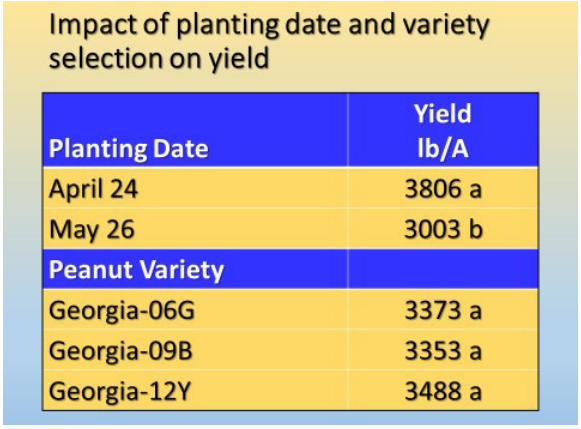
TABLE 3. IMPACT OF SEEDING RATE ON TSW INCIDENCE, LEAF SPOT INTENSITY, AND YIELD

Seeding Rate # seed/ft	TSW[1]	Leaf Spot	Yield lb/A
3	0.22 a[3]	2.6 b	3433 a
4	0.11 a	2.8 ab	3306 a
6	0.17 a	2.9 a	3404 a
8	0.03 a	3.0 a	3475 a

1 TSW and white mold incidence is expressed as the number of hits per 60 foot of row.
2 Leaf spot intensity was rated using the Florida 1 to 10 leaf spot rating scale.
3 Means in each column that are followed by the same letter are not significantly different according to Fisher's LSD ($P \leq 0.05$).

Yields were higher at the first than with the second planting date (Fig. 5). Typically, a better rainfall distribution for early than later planted peanuts results in higher yields. Despite differences in leaf spot intensity and white mold incidence, all varieties had similar mean yields (Fig. 5). Finally, seeding rate had no impact on yield (Table 3).

Figure 5. Yield as influenced by planting date and variety. Means followed by the same letter are not significantly different according to Fisher's LSD (P≤0.05).



Summary

Planting date and seeding rate had a greater impact on white mold and to a lesser extent leaf spot diseases on the three peanut varieties than TSW, which caused minimal damage. Most notably, white mold incidence was much higher at the first DOP (late-April) than second DOP (late-May) planted peanuts. This result squares with previous Alabama trials that the earlier the planting date, the higher the white mold risk and the greater the need for protective fungicide treatments. At the first but not second DOP, a 50% reduction in seeding rates also resulted in a reduction in the level of white mold damage. The most effective control for white mold would be planting the peanut variety 'Georgia-12Y.' Regardless of planting date or seeding rate, this peanut suffered significantly less damage than either 'Georgia-06G' or 'Georgia-09B' with the latter variety proving to be most susceptible to white mold.

Leaf spot intensity was impacted by planting date and seeding rate. On 'Georgia-09B' but not the other two varieties, leaf spot ratings were greater at the first than second DOP. Previous Alabama trials have shown that leaf spot usually intensified as planting dates advance from late April to early June. As was noted above for white mold, leaf spot intensity declined as seeding rates dropped 50% below the recommended 6 seed/ft seeding rate.

In contrast to white mold and leaf spot, variety selection and seeding rate did not impact yield in dryland peanuts. Surprisingly, similar yields were obtained with a 50% reduction as well as recommended seeding rate of 6 seed/ft. These same results have previously been observed in irrigated peanut trials in Alabama. In contrast, yield of 'Georgia-06G,' 'Georgia-09B,' and 'Georgia-12Y' had similar yields, despite the latter variety suffering significantly less white mold damage than the two former varieties. The yield advantage from planting dryland peanuts early was clearly demonstrated in this study.

IMPACT OF PLANTING DATE, VARIETY, AND INSECTICIDE TREATMENT ON THRIPS POPULATIONS AND FEEDING INJURY, DISEASES, AND YIELD IN IRRIGATED PEANUTS, WREC

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

Objective: Compare the efficacy of seed and in-furrow treatments, and early post insecticide treatments as influenced by planting date for the control of thrips as well as on the incidence of tomato spotted wilt (TSW) and white mold, leaf spot intensity, and yield response of a TSW susceptible and resistant peanut variety in an irrigated production system.

Production Methods: The study area at the Wiregrass Research and Extension Center, which is maintained in a peanut-cotton rotation, was turned with a moldboard plow and worked to seed bed condition with a disk harrow. Rows were laid off with a KMC strip till rig with rolling baskets. The peanut varieties 'Georgia-06G' and 'Flavorunner 458' were planted at rates of 6 seed per foot of row using conventional tillage practices on Apr. 23 (first date of planting [DOP]) and May 20 (second DOP) in a Dothan fine sandy loam (OM<1%) soil at the Wiregrass Research and Extension Center. Weed control was obtained with a pre-plant, incorporated application of 1 qt/A Sonalan HFP + 0.45 oz Strongarm on Apr. 17 followed by pre-emergent, broadcast application of 3 oz/A Valor on Apr. 21 (first DOP) and May 20 (second DOP). Soil fertility recommendations of the Alabama Cooperative Extension System were followed. The study area received 1.0 inches of water on July 16, July 29, and Aug. 4. A split-split plot design with planting date as whole plots, peanut variety as the split-plot, and seed treatment or at-plant treatments as the split-split plot, and split-split plot early-post foliar-applied insecticide treatment was used. The at-plant insecticide programs included a 4 of/ cwt seed Dynasty PD negative control, 4 oz/100 cwt seed CruiserMaxx, 5 lb/A, Thimet 15G applied in-furrow, 14 fl oz/A Velum Total applied in-furrow over the seed. The early-post insecticide treatment was 6 oz/A Orthene 97S banded at 30 DAP. The 14 and 30 DAP. Applications of Orthene 97S were made on May 26 at the first DOP and on June 22 at the second DOP. Individual split-split plots, which consisted of four-30 foot rows spaced 3 feet apart were randomized within each plot. Chlorothalonil at 1.5 pt/A was applied for leaf spot control on June 24, July 7, July 21, Aug. 4, Aug. 20, and Sept. 4 on early-planted and July 7, July 21, Aug. 4, Aug. 20, Sept. 4, Sept. 21 for the late-planted peanuts with a tractor mounted boom sprayer with 3 TX-8 nozzles per row at 15 gallons of spray volume per acre at 45 psi. Stand counts were recorded on May 11 and June 7 at the first DOP and second DOP, respectively, from the second row of each plot as the actual number of plants emerged. The first and second plantings were mechanically harvested on Sept. 9 and Oct. 8.

Insect and Disease Assessment: Terminals from 10 shoots collected from seedlings in the two middle harvest rows in each plot on May 28 for the first DOP and on July 1 for the second DOP in a plastic bag containing an alcohol-based kill solution. The alcohol solution was strained through filter paper and the thrips adults and juveniles were counted using a low power

microscope. Thrips damage rating (TDR) on the leaves was assessed on a 0 to 10 scale where 0 = no visible leaf scarring, 1=10% leaf area scarred, 2 = 20% leaf area scarred, 3 = 30% leaf area scarred, 4 = 40% leaf area scarred, to 10 = 100% leaf area affected and plants near death on June 3 for the first DOP and June 24 for the second DOP. Final TSW hit counts (one hit was defined a ≤ 1 foot of consecutive symptomatic plants per row) were made on Aug. 31 and Sept. 21 for the first and second DOP, respectively. Early and late leaf spot were rated together on Aug. 31 and Sept. 21 for the first and second planting dates, respectively, using the 1-10 Florida peanut leaf spot scoring system where 1 = no disease, 2 = very few leaf spots, 3 = few leaf spots in lower and upper canopy, 4 = some leaf spotting and ≤ 10% defoliation, 5 = leaf spots noticeable and ≤ 25% defoliation, 6 = leaf spots numerous and ≤ 50% defoliation, 7 = leaf spots very numerous and ≤ 75% defoliation, 8 = numerous leaf spots on few remaining leaves and ≤ 90% defoliation, 9 = very few remaining leaves covered with leaf spots and ≤ 95% defoliation, and 10 = plants defoliated or dead. White mold hit counts (1 hit was defined as ≤ 1 foot of consecutive white mold-damaged plants per row) were made immediately after plot inversion on for the first and second planting dates on Sept. 14 and Oct. 12, respectively. Yields are reported at 8.25% and 8.45% moisture for the first and second, respectively. Significance of interactions was evaluated using PROC GLIMMIX procedure in SAS. Statistical analyses for thrips counts, thrips damage, stand density, leaf spot intensity, along with TSW and white mold incidence were done on rank transformations for non-normal data, which were back transformed for presentation. Means were separated using Fisher's least significant difference (LSD) test ($P \leq 0.05$).

Weather: Rainfall was below average in May, July, and October but at or above average in June, August, and September, while temperatures were seasonal during the study period.

Results: Stand count differed by planting date, variety, and seed and at-plant treatments but not early post insecticide treatment (Table 1). With a few exceptions, the seed/at-plant treatments did not greatly impact peanut seeding stand counts (Table 2). At the first DOP on Flavorunner 458, the CruiserMaxx-treated seed came up to a thicker stand than with the Dynasty PD negative control as well as Thimet 20G and Velum Total. When compared with Dynasty PD, lower stand counts were obtained with Velum Total on 'Georgia-06G' at the first DOP and Thimet 20G on Flavorunner 458 at the second DOP. Similarly high stand counts were obtained for the Orthene 97S-treated and non-Orthene treated controls (data not shown).

TABLE 2. PEANUT SEEDING STAND DENSITY AS IMPACTED BY PLANTING DATE AND INSECTICIDE TREATMENT

Insecticide treatment and rate	*APRIL 23*		*MAY 20*[1]	
	Georgia-06G	Flavorunner 458	Georgia-06G	Flavorunner 458
Dynasty PD 3 oz/cwt	94.4 bc[2]	85.5 ef	97.5 bc	95.9 bc
CruiserMaxx 4 oz/cwt	96.4 bc	110.3 a	93.4 cd	97.6 bc
Thimet 20G 5 lb/A	93.5 cd	77.8 f	97.4 bc	85.4 ef
Velum Total 18 fl oz/A	87.3 de	84.6 ef	98.8 b	97.8 bc

[1] Numbers of seedlings per 30 row foot was rated on one of two harvest rows on May 11 and June 7 for the first and second DOP, respectively.
[2] Means in each column that are followed by the same letter are not significantly different according to Fisher's LSD ($P \leq 0.05$).

Thrips adult and juvenile populations greatly differed by planting date and seed/at-plant treatments on both 'Georgia-06G' and 'Flavorunner 458.' At both planting dates, highest adult and juvenile counts were recorded about 30 DAP and then declined appreciable by the second sampling date (Fig. 1). Minimal differences in adult and juvenile thrips counts were noted at either the first or second DOP between the second and third sampling dates. At the first DOP on 'Georgia-06G,' fewer adult and juvenile thrips were collected on the Thimet 20G-treated peanuts compared with the Dynasty PD and CruiserMaxx seed treatments (Table 3). In addition, Thimet 15G gave better thrips protection than Velum Total alone but not in combination with the early-post application of Orthene 97S. At the first DOP, similarly high adult and juvenile thrips counts were recorded for all treatments. With one exception, no differences in adult and juvenile thrips counts were observed among any treatments at the first sampling date on either 'Georgia-06G' or 'Flavorunner 458.' The early-post application of Orthene 97S did not improve thrips control with any of the seed or at-plant treatments on either peanut variety.

Figure 1. Influence of seed, at-plant, and early-post treatments on adult and juvenile thrips populations on A) April- and B) May-planted 'Georgia-06G' and C) April- and D) May-planted 'Flavorunner 458' peanut varieties.

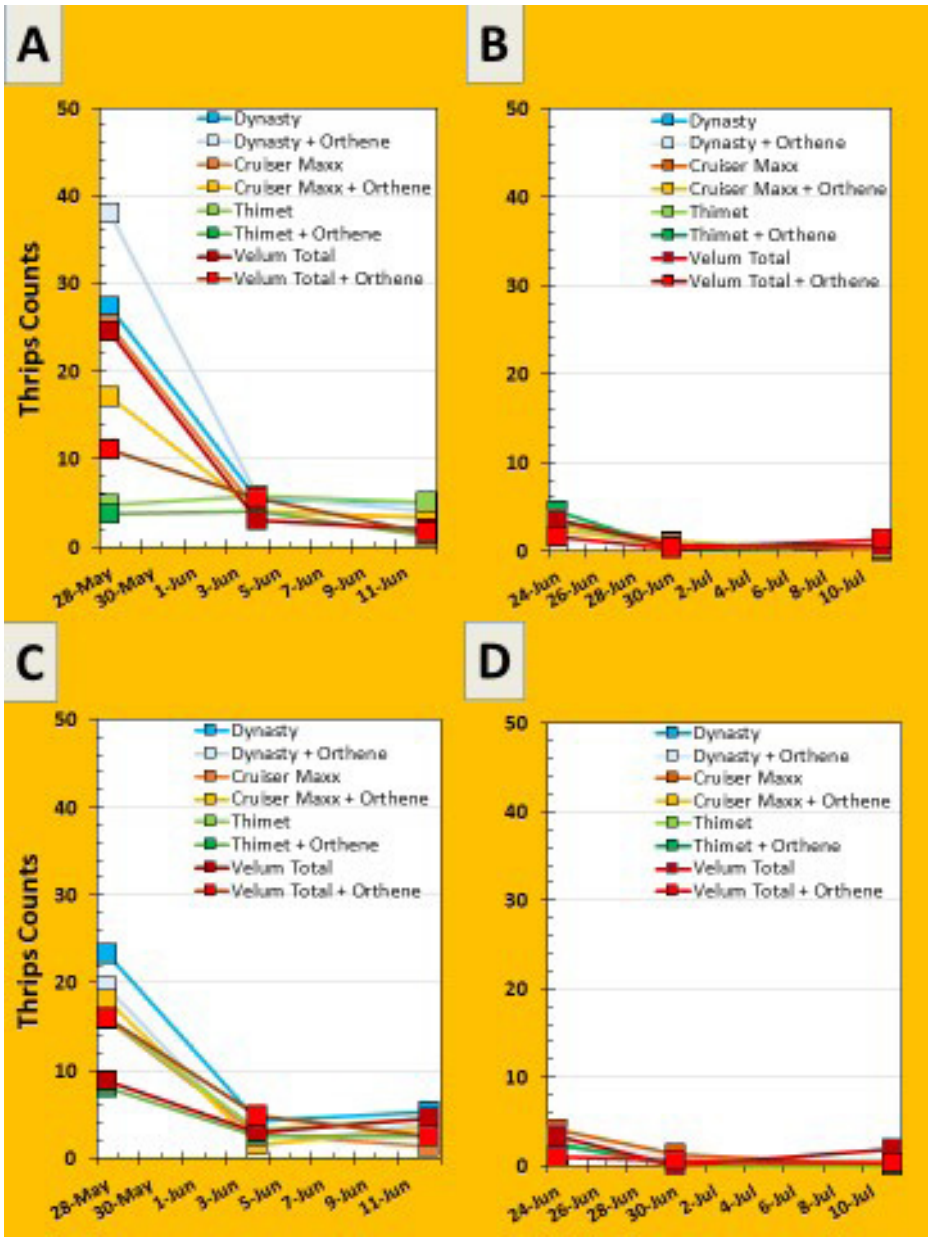
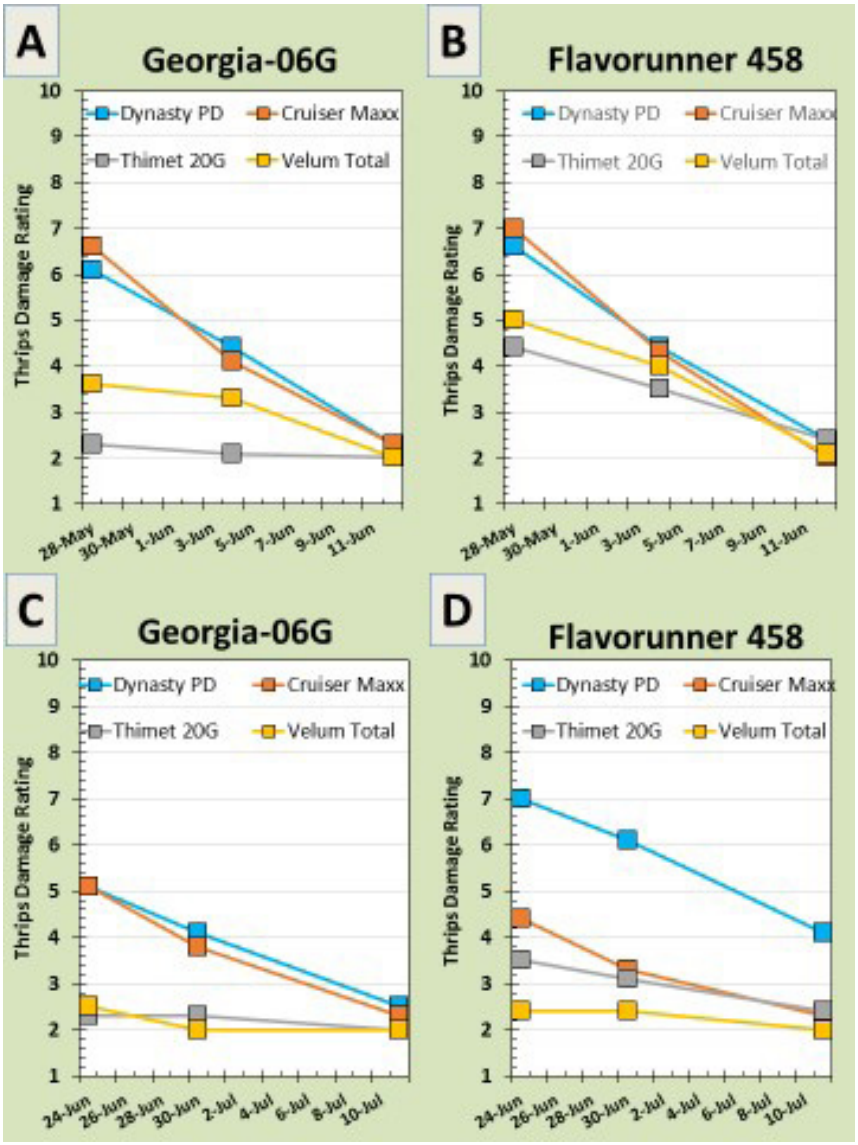


Figure 3. Thrips counts for the seed and at-plant treatments over time as influenced by planting date and peanut variety.

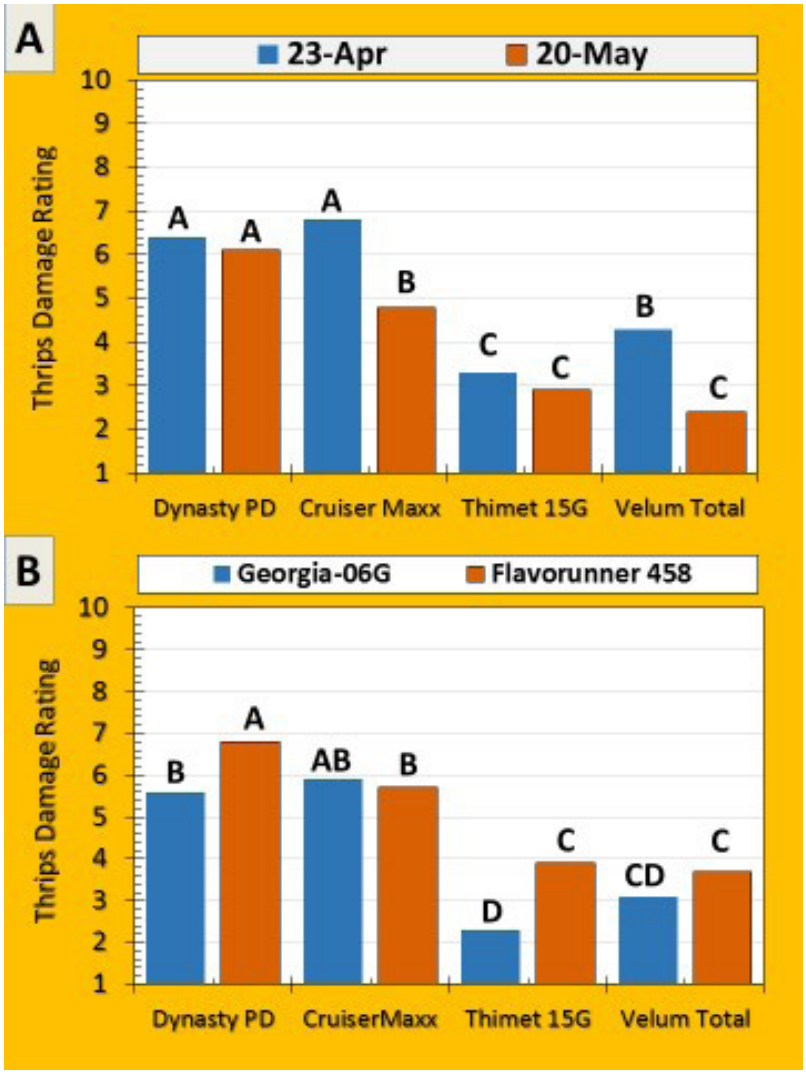


At both planting dates, the level of thrips feeding damage recorded for each treatment declined over the two to three week rating period to the point that there were no differences between seed and at-plant treatments, except for Dynasty PD at the second DOP on Flavorunner (Fig. 3A-D). Thrips damage levels were marginally higher on Flavorunner 458 than Georgia-06G for several seed and at-plant treatments.

Thrips feeding damage to the shoot terminals and juvenile leaves was influenced by planting date and seed/at-plant treatment as well as variety and seed/at-plant treatment (Table 1). At both planting dates, thrips feeding injury to the shoot terminals and juvenile leaves was lower for Thimet 20G and Velum Total than for the fungicide seed treatment Dynasty PD (Fig. 2A). At the first DOP, Thimet 20G gave better protection

than did Velum Total, while both treatments proved equally protective at the second DOP. When compared with Dynasty PD, a reduction in thrips damage was noted with CruiserMaxx insecticide seed treatment at the second but not the first DOP where similarly high damage ratings for the former and latter treatments were noted. At the first and second DOP, CruiserMaxx gave less effective thrips protection than either Velum Total or Thimet 20G. While lower thrips damage levels were recorded for Dynasty PD and Thimet 20G on Georgia-06G than Flavorunner 458, similar thrips damage was recorded for CruiserMaxx and Velum Total on both peanut varieties (Fig. 2B).

Figure 2. Thrips damage to the shoot terminals and juvenile leaves as impacted by and interaction of planting date and treatment and B) peanut variety and treatment. Means followed by the same letter are not significantly different according to Fisher's LSD ($P \leq 0.05$).



Thrips feeding injury differed by seed and at-plant treatments with the early-post insecticide treatment (Table 1). While a reduction in thrips damage was obtained with the combination of Dynasty PD + an the early-post application of Orthene 97S compared with Dynasty PD alone, no improvement in thrips protection was obtained noted with CruiserMaxx, Thimet 20G, and Velum Total with the addition of the early-post application of Orthene 97S (Fig. 3).

Figure 4. Interaction of seed and at-plant treatments with early post applications of Orthene 97S on the level of thrips feeding injury on the shoot terminals and juvenile leaves. Means followed by the same letter are not significantly different according to Fisher's LSD (*P*≤0.05).

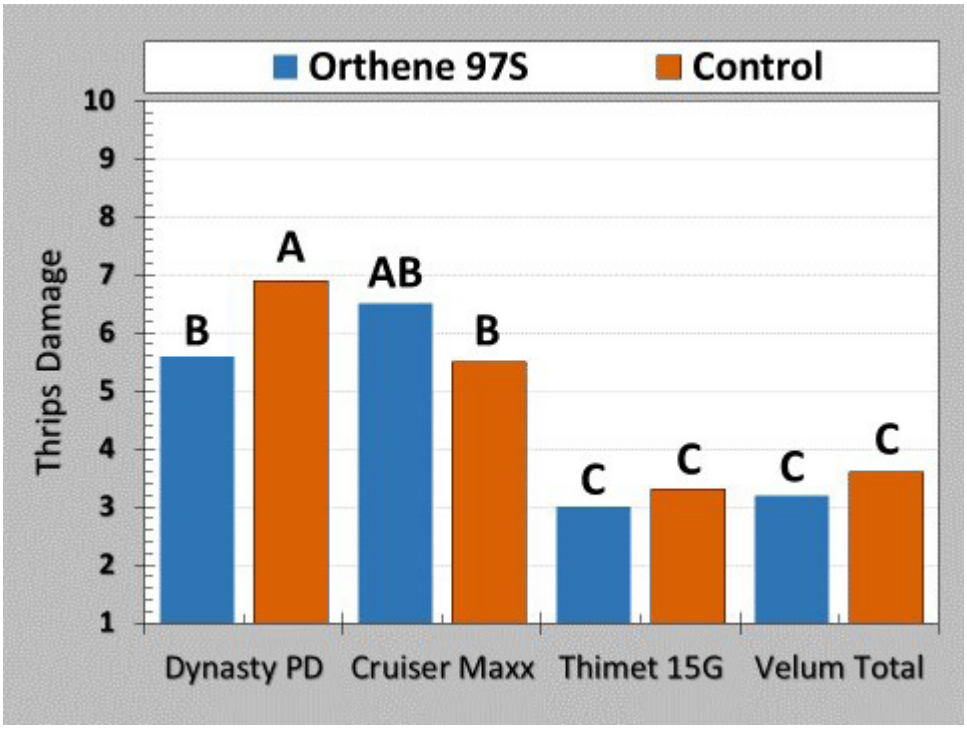


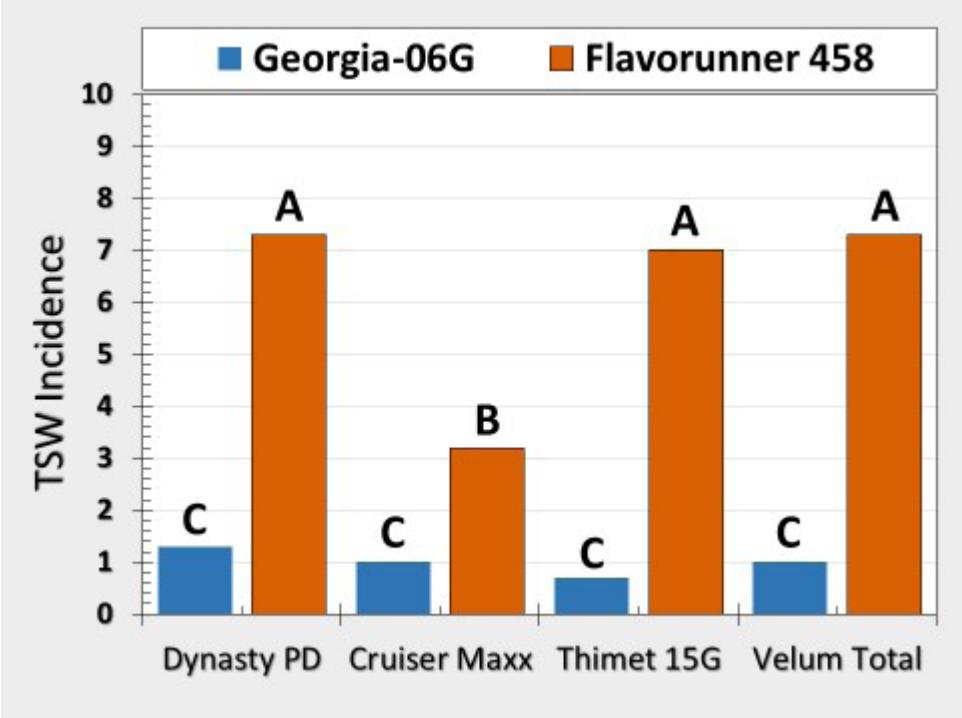
TABLE 4. LEAF SPOT INTENSITY AS INFLUENCED BY PLANTING DATE, VARIETY, AND TREATMENT

	APRIL 23[1]		*MAY 20*[1]	
Insecticide treatment and rate	**Georgia-06G**	**Flavorunner 458**	**Georgia-06G**	**Flavorunner 458**
Dynasty PD 3 oz/cwt	4.3 ab[2]	4.2 abc	3.9 b-e	4.6 a
CruiserMaxx 4 oz/cwt	4.3 ab	4.3 ab	4.1 bcd	4.1 bcd
Thimet 20G 5 lb/A	3.1 g	4.1 bcd	3.8 cde	4.1 bcd
Velum Total 18 fl oz/A	3.3 fg	3.9 b-e	3.6 efg	3.7 def

[1] Leaf spot intensity was rated on a 1 to 10 scale.
[2] Means in each column that are followed by the same letter are not significantly different according to Fisher's LSD (*P*≤0.05).

Leaf spot intensity differed by planting date, variety, along with seed/at-plant treatments (Table 1). Few differences in leaf spot intensity ratings were noted between 'Georgia-06G' and 'Flavorunner 458' (Table 4). Lower leaf spot ratings were noted at the first PD on 'Georgia-06G' for at-plant Thimet 20G and Velum Total compared with Dynasty PD and CruiserMaxx seed treatments. In addition, a reduction in leaf spot ratings was found at the second planting date on Flavorunner 458 with Velum Total, CruiserMaxx, and Thimet 20G than Dynasty PD. 'Flavorunner 458' and 'Georgia-06G' had similar leaf spot ratings across all seed and at-plant treatments at the first and second planting dates, respectively.

Figure 5. Influence of variety and treatment on the TSW incidence. Incidence of TSW was assess on Aug. 31 and Sept. 21 for the first and second DOP, respectively. Means followed by the same letter are not significantly different according to Fisher's LSD ($P \leq 0.05$).

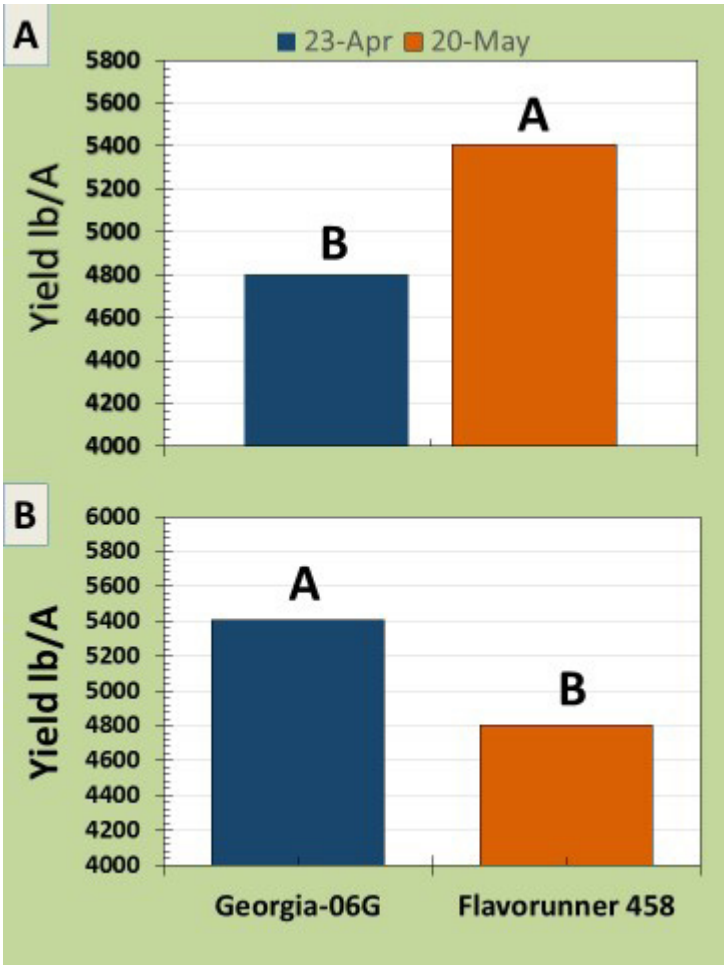


Overall incidence of TSW was not very high, even on the susceptible variety 'Flavorunner 458.' Planting date did not impact TSW incidence (data not shown). Disease incidence, which was impacted by peanut variety and treatment (Table 1), was higher on 'Flavorunner 458' than on 'Georgia-06G' (Fig. 5). A significant variety x treatment interaction illustrates that TSW incidence differed by variety and treatment. On 'Flavorunner 458' but not 'Georgia-06G,' TSW incidence was influenced by treatment on 'Flavorunner 458' but not on 'Georgia-06G,' which had similarly low disease indices for Dynasty PD and CruiserMaxx seed treatments as well as Thimet 20G and Velum Total at-plant, in-furrow treatments. On 'Flavorunner 458,' TSW incidence was lower for CruiserMaxx than the remaining three treatments, which all had similarly high disease ratings. Finally, similar TSW indices were recorded for the Orthene 97S-treated and non-Orthene 97S-treated control (data not shown).

As was the case with TSW, overall white mold pressure was lower than anticipated, particularly on 'Flavorunner 458.' Similar white mold ratings were noted at both planting dates and for all treatments (data not shown). In addition, the post-plant insecticide treatment did not impact white mold incidence (data not shown).

Greater yields were noted at the second than the first DOP (Fig. 6A). Yield was greater for 'Georgia-06G' than 'Flavorunner 458' (Fig. 6B). Velum Total-treated peanuts had greater yields than the remaining three treatments (Fig. 7A). Yield for CruiserMaxx and Thimet 20G, which were similar, were significantly higher compared with the Dynasty PD fungicide seed treatment. No yield gains were noted with the Orthene 97S early post insecticide treatment than with the non-insecticide treated control.

Figure 6. Influence of A) planting date and B) variety on pod yield. Means followed by the same letter are not significantly different according to Fisher's LSD ($P \leq 0.05$).

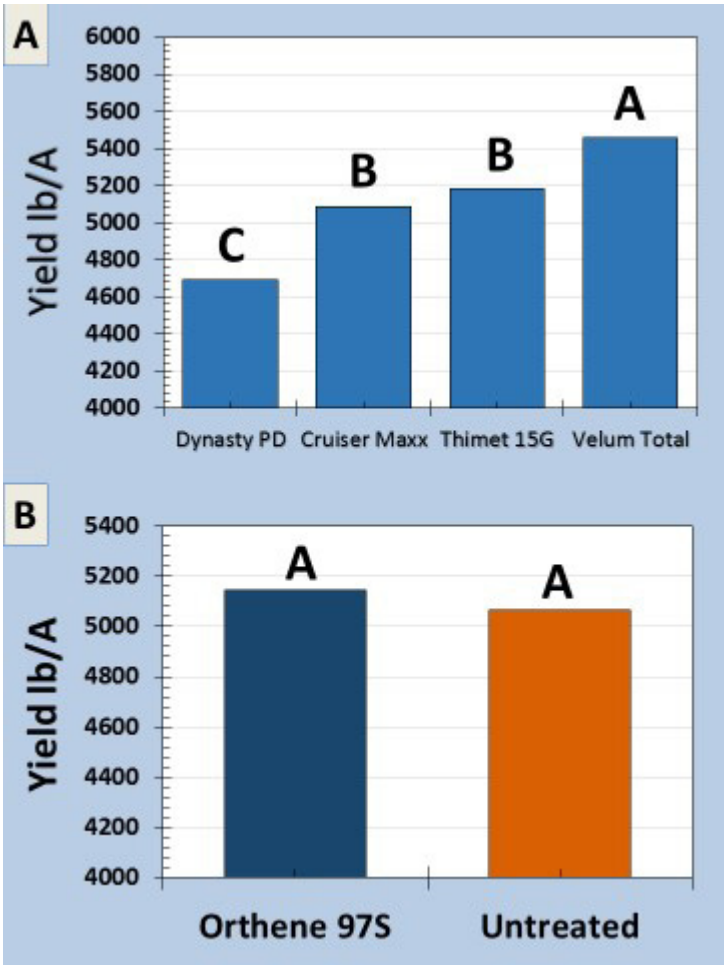


Summary: As expected, highest thrips populations, which were noted at the first DOP on the May 28 sampling date rapidly declined and remained low through all the second DOP sampling dates. Greatest reduction in thrips populations, particularly at the first DOP, were obtained with Thimet 20G and Velum Total + the early post Orthene 97S application. Generally, Velum Total proved less effective than Thimet 20G than Thimet 20G but more efficacious than CruiserMaxx and the Dynasty PD fungicide seed treatment control, which will give no thrips protection.

Thrips damage levels were not linked with thrips populations. While few thrips were collected at any of the three sampling dates from the second DOP, surprisingly high thrips damage were observed, particularly on the Dynasty PD control. It is worth noting that the seedling peanuts, regardless of treatment, largely recovered from thrips damage within 45 days after planting. If these had been dryland, seedling recovery from thrips damage may have been delayed. Thimet 20G followed closely by Velum Total gave the best thrips protection, while CruiserMaxx often proved no more effective than the Dynasty PD control in reducing the level of thrips feeding injury to the shoots and juvenile leaves.

The least trips damage was consistently noted with Thimet 20G and to a lesser extent Velum Total. Possibly due to lower thrips populations, Velum Total and CruiserMaxx gave better thrips protection at the second than the first DOP. Thimet 20G activity was not impacted by planting date. As indicated by higher thrips damage ratings for the Dynasty PD seed treatment, 'Flavorunner 458' may be more sensitive to thrips damage than 'Georgia-06G.' Thimet 20G also had lower thrips damage ratings for 'Georgia-06G' than 'Flavorunner 458.' For most Alabama producers, Thimet 20G would be the treatment of choice for thrips control on their peanuts.

Figure 7. Influence of A) seed and at-plant treatments and B) early-post insecticide treatments on yield. Means followed by the same letter are not significantly different according to Fisher's LSD (*P*≤0.05).



Despite the presence of the TSW-susceptible variety Flavorunner 458, disease incidence was surprisingly low, particularly in the April-planted peanuts. Typically, TSW incidence is usually higher in mid- to late-April than later planted peanuts. Incidence of TSW was lower in 'Georgia-06G' than 'Flavorunner 458' and was not impacted by the seed or at-plant treatments. With 'Flavorunner 458,' reduced TSW levels were noted with the CruiserMaxx compared with the Dynasty PD seed treatment as well as the at-plant Thimet 20G and Velum Total treatments. Previously, there were concerns that CruiserMaxx would increase TSW incidence but that did not happen. Also, Thimet 20G, which has previously been shown to reduce TSW incidence in peanut, failed to reduce the occurrence of that disease.

In contrast to recent Alabama studies, leaf spot incidence was not impacted by planting date. Recent Alabama studies have shown that leaf spot-incited defoliation is often intensifies at later compared with earlier planting dates. Velum Total, which contains the fungicide fluopyram, provided some additional protection from leaf spot at the first DOP

on ‘Georgia-06G.’ At the second DOP on Flavorunner, a reduction in leaf spot intensity were obtained not only with Velum Total but also CruiserMaxx and Thimet 20G when compared with the Dynasty PD control.

As was previously noted with TSW, overall white mold incidence was low, although greater disease incidence was noted at the first than second DOP. This result is consistent with previous observations that the risk of significant white mold damage is highest in April planted peanuts and declines significantly as planting dates advance towards June. Greater white mold damage on ‘Flavorunner 458’ than Georgia-06G’ also was expected as the absence of a treatment or insecticide response on disease incidence.

When compared with the Dynasty PD fungicide seed treatment, which served as a negative control, yield gains were obtained with CruiserMaxx, Thimet 20G, and Velum Total, with the latter treatment having the significantly greater yields. The yield gains obtained with Velum Total suggest that there may be significant root-knot nematode pressure or the minor reduction in leaf spot intensity resulted in sizable yield gain as the level of thrips protection did not surpass that obtained with Thimet 20G. The yield gain with CruiserMaxx, when compared with Dynasty PD was surprising due its lack of efficacy against thrips. Overall, Thimet 20G and Velum Total gave the good thrips protection but the latter may be the treatment of choice in fields with damaging peanut root-knot populations and an increased risk of leaf spot diseases.

TABLE 1. F-VALUES FROM GENERALIZED LINEAR MIXED MODEL ANALYSIS FOR EFFECTS OF PLANTING DATE, PEANUT VARIETY SELECTION, AND INSECTICIDE ON THRIPS COUNTS, THRIPS FEEDING DAMAGE, TSW INCIDENCE, LEAF SPOT INTENSITY, STEM ROT INCIDENCE, AND YIELD AT THE WREC IN 2015

Source of Variation	Stand count	Thrips count	Thrips damage rating	Tomato spotted wilt incidence	Leaf spot	White mold	Yield
Planting Date	3.11	152.45***[1]	7.42	0.05	0.20	4.71	25.39*
Variety	7.29**	2.62	14.56***	126.44***	13.61***	22.11***	209.48***
Planting date × Variety	0.13	1.42	1.50	0.46	0.40	0.63	3.37
Seed/At-Plant Treatment	17.20***	11.03***	55.09***	4.74**	13.33***	0.10	10.59***
Planting date × Seed/At-Plant Treatment	15.33***	10.90***	4.54**	0.49	1.76	0.03	0.47
Variety × Seed/At-Plant Treatment	18.84***	2.63	3.43*	4.73**	2.21	0.36	2.32
Planting date × Variety × Seed/At-Plant Treatment	2.78*	3.09*	2.23	0.77	3.85*	2.61	2.13
Early-Post Insecticide	1.27	1.06	2.29	1.02	0.98	0.84	0.65
Planting date × Early-Post Insecticide	0.00	0.24	0.88	0.11	0.98	1.35	0.09
Variety × Early-Post Insecticide	0.92	0.22	0.42	0.46	0.66	5.11*	0.73
Planting Date × Variety × Early-Post Insecticide	0.49	0.33	0.01	0.46	0.01	0.63	0.02
Seed/At-Plant Treatment × Early-Post Insecticide	0.04	0.76	3.54*	0.54	1.02	0.19	0.38
Planting date × Seed/At-Plant Treatment × Early-Post Insecticide	0.61	0.53	1.89	2.36	0.94	1.20	0.30
Variety × Seed/At-Plant Treatment × Early-Post Insecticide	0.52	2.97*	0.38	1.19	0.44	0.06	1.13
Planting Date × Variety × Seed/At-Plant Treatment × Early-Post Insecticide	1.10	3.08*	0.65	0.99	0.14	1.54	1.45

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

TABLE 3. INTERACTION OF PLANTING DATE, VARIETY, AND INSECTICIDE PROGRAM ON ADULT AND JUVENILE THRIPS COUNTS AT THE FIRST SAMPLING DATE

Insecticide treatment and rate	*APRIL 23*[1]				*MAY 20*			
	Georgia-06G		Flavorunner 458		Georgia-06G		Flavorunner 458	
	Orthene	None	Orthene	None	Orthene	None	Orthene	None
Dynasty PD 3 oz/cwt	38.0 a[2]	27.3 ab	19.5 abc	23.3 ab	3.3 g-k	3.5 e-k	3.0 h-k	2.3 ijk
CruiserMaxx 4 oz/cwt	17.0 abc	25.3 ab	18.0 abc	15.8 abc	2.3 ijk	3.5 e-k	2.5 ijk	4.0 e-k
Thimet 20G 5 lb/A	3.8 f-k	4.7 c-i	8.0 a-e	16.0 abc	4.5 d-j	3.0 g-k	2.5 ijk	2.5 ijk
Velum Total 14 fl oz/A	11.0 b-h	24.5 ab	16.0 a-f	8.8 b-h	1.5 jk	3.5 e-k	1.0 h	3.3 e-k

[1] Terminals and juvenile leaves were collected on June 3 and June 24 for the first and second DOP, respectively.
[2] Means followed by the same letter are not significantly different according to Fisher's LSD ($P \leq 0.05$).

DISEASE AND YIELD RESPONSE OF IRRIGATED RUNNER-MARKET-TYPE PEANUT VARIETIES IN SOUTHEAST ALABAMA, WREC

A. K. Hagan, H. L. Campbell, and B. Gamble

Objective: Yields and reaction of commercial peanut varieties and selected breeding lines to TSW, leaf spot, white mold in an irrigated production system.

Production Methods: The study site was subsoiled on March 3, disked and turned with a moldboard plow on March 17, and rows were laid off on May 13 with a KMC strip till rig with rolling baskets. Peanut cultivars were planted on May 13 at a rate of approximately 6 seed per foot of row in a fine Dothan sandy loam (OM<1%) at the Wiregrass Research and Extension Center in Headland, Ala. Gypsum, at a rate of 600 pounds per acre, was applied on a 14-inch band over the row middle on June 25. A pre-plant incorporated application of 1.0 quart per acre Sonalan + 0.45 ounces per acre Strongarm on May 4 was followed by an early-post broadcast application of 3 ounces per acre Valor on May 14 for weed control. Escape weeds were plowed with flat sweeps or pulled by hand. The study site received the following amounts of water (in inches) on these days: July 13 (0.5), July 23 (1.0), July 30 (0.6), Aug. 7 (0.5) and Aug. 11 (1.0). The two fungicides were used: 1.5 pint per acre Chloronil 720, applied on June 16, June 30, July 23, Aug. 17, Sept. 3 and Sept. 19 (two later digging dates only), and 18.5 fluid ounces per acre Equation 2.08SC broadcast on July 10 and Aug. 4. Fungicides were broadcast with a four-row tractor mounted sprayer with three TX8 nozzles per row calibrated to deliver 15 gallons per acre spray volume. Plots consisted of two 20–foot rows, spaced 3 feet apart, arranged in a randomized complete block, with four replications.

Disease Assessment: Tomato spotted wilt (TSW) hit counts (1 hit was defined as ≤ 1 feet of consecutive severely TSW-damaged plants per row) were made on Sept. 3. Early and late leaf spot (LS) were rated together on Oct. 5, Oct. 14 and Oct. 19 for the mid-season, late, and very late maturing cultivars, respectively, using the Florida 1 to 10 scale where 1 = no disease, 2 = very few lesions in canopy, 3 = few lesions noticed in lower and upper canopy, 4 = some lesions and ≤ 10% defoliation, 5 = lesions noticeable and ≤ 25% defoliation, 6 = lesions numerous and ≤ 50% defoliation, 7 = lesions very numerous and ≤ 75% defoliation, 8 = numerous lesions on few remaining leaves and ≤ 90% defoliation, 9 = very few remaining leaves covered with lesions and ≤ 95% defoliation, and 10 = plants defoliated or dead. White mold hits counts (1 hit was defined as ≤ 1 foot of consecutive stem rot damaged plants per row) were made immediately after plot inversion on Oct. 7, Oct. 14 and Oct. 19 for the mid-season, late, and very late maturing cultivars, respectively. Plots were combined three to five days after inversion. Yields are reported at 7% moisture. Statistical analysis on leaf spot intensity as well as TSW and white mold incidences was done on rank transformations of data, but back transformed data are presented. Means were separated using Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

Weather: Monthly rainfall totals were below the 30 year average for May, July, and October but above average for June, August, and September, while temperatures were above the 30 year average only in June and July.

Results: Significant differences in TSW and white mold incidence as well as leaf spot intensity and yield were noted between the commercial peanut varieties and breeding lines. Incidence of TSW was greater on 'TUFRunner 511' than all varieties and breeding lines except for '13AU/NPRL-10,' 'Georgia-14N,' 'Florida-07,' and 'TUFRunner 727,' while twelve selections had TSW indices as low as those recorded for 'FloRun 107.' Late leaf spot was the primary leaf spot disease, particularly on those varieties with the higher leaf spot ratings. 'Georgia-13M' suffered heavier leaf spot-related leaf spotting and defoliation than all varieties except for '13AU/NPRL-10,' 'TUFRunner 511,' and 'TUFRunner 297.' Similarly low leaf spot intensity levels were noted on nine varieties and breeding lines. While overall stem rot incidence was low and unlikely to impact yield, eight varieties and breeding lines had lower ratings for this disease than 'Florida-07.' 'TUFRunner 297' out yielded all varieties and breeding lines except for 'TUFRunner 511,' 'Georgia-06G,' 'Georgia-12Y' and 'C1801-040.' Similarly low yields to those recorded for Georgia-14N were obtained for the breeding lines '13AU/NPRL-10,' '13AU/NPRL-12,' and 'C1801-985' as well as the commercial varieties 'TIF NV-High O/L,' 'Tifguard,' and 'Florida-07.'

Summary: Among newly released varieties, 'TUFRunner 297' showed excellent yield potential and TSW resistance but may have issues with late leaf spot. 'Georgia-13M' had good TSW resistance but proved highly susceptible to late leaf spot, while the root-knot resistant 'Georgia-14N,' which displayed good disease resistance, had yields that were well below 'Georgia-06G' and comparable to the relatively low-yielding Tifguard. The few varieties that matched the yield potential of current standard 'Georgia-06G' included 'TUFRunner 297,' 'TUFRunner 511,' and 'Georgia-12Y.' Aside from the above disease issues already mentioned for 'TUFRunner 297,' 'TUFRunner 511' not only displayed some sensitivity to late leaf spot but also proved more susceptible to TSW than the majority of varieties screened.

DISEASE AND YIELD RESPONSE OF IRRIGATED RUNNER-MARKET TYPE PEANUT VARIETIES IN SOUTHEAST ALABAMA, WREC

Peanut variety and breeding line[1]	Maturity group	TSW[2] # hits/100 ft	Leaf spot intensity[3]	White mold[4] # hits/100 ft	Yield lb/A
C1801-040	Late	0.8 d[5]	4.2 f	0.0 b	7306 abc
C1801-985	Late	1.3 cd	4.2 f	0.0 b	5985 gh
Florida-07	Late	6.3 a-d	4.6 cde	2.5 a	6320 e-h
FloRun 107	Mid-season	0.5 d	4.8 bcd	2.0 ab	6715 b-f
Georgia-06G	Mid-season	2.5 b-d	4.8 abc	1.3 ab	7361 ab
Georgia-09B	Mid-season	3.3 b-d	4.4 ef	1.3 ab	6679 c-f
Georgia-12Y	Very late	0.8 d	4.3 f	0.0 b	6918 a-e
Georgia-13M	Mid-season	2.0 b-d	5.9 a	0.0 b	6320 e-g
Georgia-14N	Mid-season	6.3 abc	4.2 f	0.8 ab	5674 h
Tifguard	Mid-season	0.8 d	4.2 f	0.0 b	6302 e-h
TIF NV-High O/L	Mid-season	1.3 cd	4.3 f	0.0 b	6123 fgh
TUFRunner 297	Mid-season	2.0 b-d	5.0 abc	0.0 b	7503 a
TUFRunner 511	Mid-season	12.5 a	5.3 abc	1.3 ab	7056 a-d
TUFRunner 727	Mid-season	5.8 a-d	4.4 def	0.8 ab	6500 d-g
13AU/NPRL-10	Mid-season	7.5 ab	5.9 ab	0.8 ab	5799 h
13AU/NPRL-12	Mid-season	0.8 d	4.3 f	0.0 b	5997 gh

[1] All cultivars are runner-market types.
[2] Tomato spotted wilt (TSW) and stem rot incidence is expressed as the number of disease loci per 100 foot of row.
[3] Leaf spot disease intensity was rated using the Florida 1 to 10 scale.
[4]White mold incidence is expressed as the number of disease loci per foot of row.
[5] Means in each column followed by the same letter are not significantly different according Fisher's least significant difference (LSD) test ($P \leq 0.05$).

YIELDS AND DISEASE RESPONSE OF IRRIGATED RUNNER- AND VIRGINIA-MARKET TYPE PEANUT BREEDING LINES COMPARED WITH COMMERCIAL STANDARDS, WREC

A. K. Hagan, H. L. Campbell, and B. Gamble

Objective: Compare the yield response and reaction of runner- and Virginia-market type breeding lines to TSW, leaf spot, white mold with that of selected commercial standards in an irrigated production system.

Production Methods: The study site was subsoiled on March 3, disked and turned with a moldboard plow on March 17, and rows were laid off on May 13 with a KMC strip till rig with rolling baskets. Peanut cultivars were planted on May 13 at a rate of approximately 6 seed per foot of row in a fine Dothan sandy loam (OM<1%) at the Wiregrass Research and Extension Center in Headland, Ala. Gypsum, at a rate of 600 pounds per acre, was applied on a 14-inch band over the row middle on June 25. A pre-plant incorporated application of 1.0 quart per acre Sonalan + 0.45 ounces per acre Strongarm on May 4 was followed by an early-post broadcast application of 3 ounces per acre Valor on May 14 for weed control. Escape weeds were plowed with flat sweeps or pulled by hand. The study site received the following amounts of water (in inches) on these days: July 13 (0.5), July 23 (1.0), July 30 (0.6), Aug. 7 (0.5) and Aug. 11 (1.0). The two fungicides were used: 1.5 pint per acre Chloronil 720, applied on June 16, June 30, July 23, Aug. 17, Sept. 3 and Sept. 19 (two later digging dates only), and 18.5 fluid ounces per acre Equation 2.08SC broadcast on July 10 and Aug. 4. Plots consisted of two 20–foot rows, spaced 3 feet apart, arranged in a randomized complete block, with four replications.

Disease Assessment: Tomato spotted wilt (TSW) hit counts (1 hit was defined as ≤ 1 foot of consecutive severely TSW-damaged plants per row) were made on Sept. 3. Early and late leaf spot (LS) were rated together on Sept. 24, Oct. 5 and Oct. 14 for the early, mid-season, and late maturing cultivars, respectively, using the Florida 1 to 10 scale where 1 = no disease, 2 = very few lesions in canopy, 3 = few lesions noticed in lower and upper canopy, 4 = some lesions and ≤ 10% defoliation, 5 = lesions noticeable and ≤ 25% defoliation, 6 = lesions numerous and ≤ 50% defoliation, 7 = lesions very numerous and ≤ 75% defoliation, 8 = numerous lesions on few remaining leaves and ≤ 90% defoliation, 9 = very few remaining leaves covered with lesions and ≤ 95% defoliation, and 10 = plants defoliated or dead. White mold hit counts (1 hit was defined as ≤ 1 foot of consecutive diseased plants per row) were made immediately after plot inversion on Sept. 24, Oct. 7, Oct. 14 for the early, mid-season, and late maturing cultivars, respectively. Plots were combined about 3 to 5 days after inversion. Yields are reported at 7% moisture. Statistical analysis on leaf spot intensity as well as TSW and white mold incidence was done on rank transformations of data, but back transformed data are presented. Means were separated using Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

Weather: Monthly rainfall totals were below the 30 year average for May, July, and October but above average for June, August, and September, while temperatures were above the 30 year average only in June and July.

Results: Greater TSW incidence was observed in 'TxL 080243-06' than all other breeding lines except for 'TxL 080256-02,' 'N11020oJ,' and 'N11034o1' as well as Bailey and 'Georgia-06G' commercial standards. The low TSW incidence recorded for 'GA 122701' was matched the ratings for 'UF15031,' 'GA 122703' and 'GA 122704'as well as Virginia- and runner-market type commercial standards Bailey and 'Georgia-06G,' respectively. Late leaf spot was the primary leaf spot disease, particularly on those breeding lines and commercial standard 'Georgia-06G' that had higher disease ratings. High leaf spot ratings recorded for the breeding lines 'N11034o' and 'ARSOK-V31' were matched by '13AU/NPRL-10' and 'TxL 080256-02.' Surprisingly the level of leaf spotting and premature defoliation observed on the runner commercial standard 'Georgia-06G' exceeded that of nine runner-market type breeding lines and the Virginia-market type standard Bailey. While overall white mold pressure was insufficient to impact yield, disease incidence was greater on 'ARSOK-V31' than seven breeding lines, and both the runner- and Virginia-market type commercial standards. The exceptionally high yields obtained with 'UF15032' were matched by 'UF15033,' 'UF15031,' and runner-market-type standard 'Georgia-06G,' which yielded well despite high leaf spot ratings. The low yields recorded for Virginia-market type breeding line 'TxL 080243-06'were similar to those noted for 'N11020oJ,' 'N11028o1,' 'ARSOK-V31,' 'TxL 080256-02,' and 'N11034o1' Virginia-market type breeding lines, as well as Bailey.

Summary: The 'UF 15031,' 'UF 15032,' and 'UF 15033'breeding lines equaled but did not significantly exceed those reported for the runner-market type standard 'Georgia-06G.' The former two breeding lines also had significantly lower ratings for late leaf spot. None of the remaining runner- or Virginia-market type breeding lines matched the yields posted by the three UF breeding lines. Yield for Bailey, which generally has excellent yield potential and a good disease resistance package, did not yield with the latter four runner breeding lines and commercial standard. Yields for Bailey and the other Virginia lines were comparable. Late leaf spot seriously damaged several breeding lines as did TSW.

YIELDS AND DISEASE RESPONSE OF IRRIGATED RUNNER- AND VIRGINIA-MARKET TYPE PEANUT BREEDING LINES COMPARED WITH COMMERCIAL STANDARDS, WREC

Peanut variety and breeding line	Market Type[1]	Maturity group	TSW[2] # hits/100 ft	Leaf spot intensity[3]	White mold[4] # hits/100 ft	Yield lb/A
Bailey	V	Early	3.3 f-i[5]	3.4 i	0.0 b	5305 e-h
Georgia 06G	R	Mid-season	3.3 f-i	5.1 bcd	0.8 b	7382 ab
UF15031	R	Mid-season	2.5 ghi	4.3 fg	0.0 b	6881 a-d
UF15032	R	Mid-season	7.5 c-f	4.6 def	0.0 b	7901 a
UF15033	R	Mid-season	4.5 e-h	4.7 cd	1.3 ab	7025 abc
GA 122701	R	Late	0.0 i	4.2 g	1.3 ab	6021 c-f
GA 122703	R	Late	0.8 hi	4.3 fg	1.3 ab	6092 c-f
GA 122704	R	Late	0.8 hi	4.4 efg	0.8 b	6340 b-e
N11020oJ	V	Early	22.5 ab	3.1 i	2.0 ab	4782 gh
N11028o1	V	Early	11.3 b-e	4.1 gh	0.8 b	5241 e-h
N11034o1	V	Early	17.0 abc	6.3 a	2.0 ab	5215 e-h
TxL 080256-02	R	Early	17.5 a-d	5.5 abc	2.5 ab	5233 e-h
TxL 080243-06	R	Early	33.8 a	5.0 cd	2.5 ab	4223 h
ARSOK-R35	R	Early	8.8 b-f	4.4 efg	1.3 ab	5738 d-g
ARSOK-R60A	R	Early	5.8 d-h	3.7 hi	0.0 b	5486 efg
ARSOK-V31	V	Early	10.8 b-e	6.1 a	8.8 a	5089 fgh
13AU/NPRL-10	R	Mid-season	5.8 d-g	5.9 ab	0.8 b	5452 efg
13AU/NPRL-12	R	Mid-season	8.3 c-g	4.4 fg	0.0 b	6292 b-e

[1] R = runner and V = Virginia-market-type peanut varieties and breeding lines.
[2] Tomato spotted wilt (TSW) and white mold incidence is expressed as the number of hits per 100 foot of row.
[3] Leaf spot diseases were rated using the Florida 1 to 10 scale.
[4] White mold incidence is rated as the number of hits per 100 foot of row
[5] Means in each column followed by the same letter are not significantly different according Fisher's least significant difference (LSD) test ($P \leq 0.05$).

COMPARISON OF FUNGICIDE R_x PROGRAMS FOR PEANUT DISEASE CONTROL IN SOUTHWEST ALABAMA, GCREC

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

Objective: To evaluate fungicide R_x programs and compare them for control of late leaf spot, rust, and stem rot and yield response in a dry-land peanut production system in southeast Alabama.

Methods: Peanut cultivar 'Georgia 09B' was planted on May 27 at the Gulf Coast Research and Extension Center near Fairhope, Ala., at a rate of five seed per foot of row in a field that had previously been cropped to peanut. Recommendations of the Alabama Cooperative Extension System for fertility and weed control were followed. The soil type was a Malbis fine sandy loam (Organic matter <1%). Thrips were controlled with an in-furrow application of 6-7 bl/A of Thimet 20G at planting. 5.0 lb/A of Rhizobium inoculant was also applied at planting. On May 29, after planting, 1 qt/A of RoundUp + 1 qt/A of Prowl H_2O were applied to the test area for weed control. On June 17, 8 oz/A of Gramoxone + 1.5 pt/A of Storm + Induce at 1 pt/100 gal of H_2O were applied for post-emergent weed control. On July 8, 0.225 oz/A of Strongarm + 2 oz/A of Cadre + Induce at 1 qt/100 gal of H_2O were applied for weed control. On Aug. 25, 8 oz/A of Intrepid + 6 oz/A of Sniper were applied for insect control.

Plots, which consisted of four 30-foot rows on 38-inch centers, were arranged in a randomized complete block with six replications. Plots were not irrigated. Early emergent sprays were applied directly over the row on July 2. Foliar fungicides were applied at 14-day intervals on July 7, July 13, July 21, Aug. 4, Aug. 24, Sept. 1, Sept. 14, and Sept. 30 as a full canopy spray using a four-row ATV mounted CO_2 sprayer with three TX8 nozzles per row calibrated to deliver 15 gal/A per plot.

Late leaf spot and rust were visually rated on Oct. 14 using the Florida leaf spot scoring system (1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation; 5 = lesions noticeable in upper canopy with some defoliation; 6 = lesions numerous with significant defoliation; 7 = lesions numerous with heavy defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation; 9 = very few remaining leaves covered with lesions; 10 = completely dead plants) and the ICRISAT rust rating scale (1 = no disease, ...9 = plants severely affected, 80-100% leaves withering).

Counts of stem rot loci (SR) were made on Oct. 15 immediately after plot inversion by determining the number of disease loci (1 foot is defined as ≤ 1 foot of consecutive stem rot damaged plants per row). Plots were harvested on Oct. 23 and yields were reported at <10% moisture. Significance of treatment effects were tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

Results: During the 2015 peanut production season, temperatures were near average and monthly rainfall totals were near normal during May, June, July and August. Leaf spot did not progress as rapidly as had been observed in previous years. Rust appeared in late August

but failed to intensify during September. Stem rot incidence was similar to that observed in previous years. Overall the worst leaf spot control was with the Low index Muscle ADV/ Fontelis/Bravo program and the best control was with the Proline/Provost/Bravo high index program. When compared with the other low index programs, the best leaf spot control was with the Bravo/Provost low index program. Among the medium index programs the best control was with the Proline/Provost/Bravo program. Among the high index programs, the Proline/Provost/Bravo program gave the best control while all other programs gave similar leaf spot control. AUDPC (Area Under the Disease Progress Curve) results followed the results observed for leaf spot control. Rust severity was higher among the Artisan Rx and the Bravo only programs while all other index programs had lower rust severity. Stem rot incidence was low and the incidence among all index programs was similar. Among the index programs, the lowest yield was recorded in the Bravo medium index program and the highest was recorded with the Muscle/Fontelis/Bravo program. Yield for all other programs was similar.

COMPARISON OF FUNGICIDE R_x PROGRAMS FOR PEANUT DISEASE CONTROL IN SOUTHEAST ALABAMA, GCREC

Treatment and Rate/A	Application Timing	Risk Index	Disease ratings				Yield lb/A
			Leaf Spot[1]	AUDPC	Rust [2]	Stem Rot[3]	
Bravo WS 24.0 fl oz Provost 433SC 10.7 fl oz	1,7 3,5	low	2.8 def[4]	120.8 def	1.1 cd	2.1 ab	6427 abc
Proline 480SC 5.7 fl oz Provost 433 SC 10.7 fl oz Bravo WS 24.0 fl oz	1 2.5,4,5.5 7	med	2.7 ef	113.9 ef	1.0 d	2.3 ab	6499 abc
Proline 480SC 5.7 fl oz Provost 433 SC 10.7 fl oz Bravo WS 24.0 fl oz	1.5 3,4,5,6 7	high	2.5 f	110.9 f	1.0 d	1.8 ab	6609 ab
Headline 2.09SC 9.0 fl oz Artisan + Bravo WS 26 + 16 fl oz Topsin + Bravo WS 5 + 16 fl oz	2 3.5, 5 6.5	low	3.5 abc	138.4 bc	2.5 abc	3.0 a	6109 bc
Headline 2.09SC 9.0 fl oz Convoy + Bravo+Topsin 21+16+5 fl oz Convoy + Headline 21 + 9.0 fl oz Convoy + Bravo WS 16 + 24 fl oz Topsin + Bravo WS 5 + 16 fl oz	1.5 2.5 4 5.5 7	med	3.3 bc	127.1 cde	2.0 a-d	2.8 a	5919 cd
Headline 2.09SC 9.0 fl oz Convoy + Bravo + Topsin 13+16+5 fl oz Convoy + Bravo 13 + 24 fl oz Convoy + Headline 13 + 9 fl oz Bravo WS 24.0 fl oz	1.5 3,6 4 5 7	high	3.2 bcd	131.0 bcd	2.0 a-d	2.1 ab	5934 cd
Tilt-Bravo 36.0 fl oz Abound 2SC + Bravo WS 18.2 + 24 fl oz Bravo WS 24.0 fl oz	1 3.5 7	low	3.7 ab	137.7 bc	1.1 cd	2.3 ab	6580 ab
Tilt-Bravo 36.0 fl oz Abound 2SC + Alto 18.2 + 5.5 fl oz Tilt-Bravo 24.0 fl oz Bravo WS 24.0 fl oz	1 3,5.5 4 7	med	3.2 bcd	128.7 bcd	1.1 cd	1.3 b	6702 ab
Tilt-Bravo 24.0 fl oz Abound 2SC + Alto 18.2 + 5.5 fl oz Bravo WS 24.0 fl oz	1,2,4 3,5 6,7	high	3.3 bc	136.4 bc	1.8 bcd	2.0 ab	6492 abc
Muscle ADV 32.0 fl oz Fontelis 12.0 fl oz Bravo 24.0 fl oz	1 3,5 7	low	4.0 a	154.2 a	3.3 a	1.3 b	6113 bc
Muscle ADV 32.0 fl oz Fontelis 16.0 fl oz Bravo 24.0 fl oz	1, 4 2.5,4.5 7	med	3.1 cde	129.1 bcd	1.1 cd	1.3 b	6794 a
Muscle ADV 32.0 fl oz Fontelis 16.0 fl oz Bravo 24.0 fl oz	1,2 3,4,5 6,7	high	3.5 abc	141.7 ab	1.7 cd	2.1 ab	6343 abc
Bravo WS 24.0 fl oz	1,3,5,7	low	3.7 ab	138.8 bc	3.1 ab	2.0 ab	6167 bc
Bravo WS 24.0 fl oz	1,2.5,4,5.5,7	med	3.2 bcd	132.2 bcd	2.1 a-d	2.7 ab	5452 d
Bravo WS 24.0 fl oz	1-7	high	3.3 bc	134.1 bcd	2.2 a-d	2.2 ab	6294 abc
LSD (P ≤ 0.05)	---	---	*0.5*	*13.5*	*1.4*	*1.4*	*618*

[1] Late leaf spot were assessed using the Florida leaf spot scoring system (1 = no disease; 10 = completely dead plants).
[2] Stem rot (SR) incidence is expressed as the number of disease loci per 60 foot of row.
[3] Mean separation within columns was according to Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

EVALUATION OF EXPERIMENTAL FUNGICIDES SA-0040304, SA-0040302, SA-0450107, AND SA-0040309 FOR PEANUT DISEASE CONTROL IN SOUTHWEST ALABAMA, GCREC

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

Objective: To evaluate the experimental fungicides SA-0040304, SA-0040302, SA-045107, and SA-0040309 and compare them against other currently registered products for control of late leaf spot, rust, and stem rot and yield response in a dry-land peanut production system in southeast Alabama.

Methods: Peanut cultivar 'Georgia 09B' was planted on May 27 at the Gulf Coast Research and Extension Center near Fairhope, Ala. at a rate of five seed per foot of row in a field that had previously been cropped to peanut. Recommendations of the Alabama Cooperative Extension System for fertility and weed control were followed. The soil type was a Malbis fine sandy loam (Organic matter <1%). Thrips were controlled with an in-furrow application of 6-7 bl/A of Thimet 20G at planting. 5.0 lb/A of Rhizobium inoculant was also applied at planting. On May 29, after planting, 1 qt/A of RoundUp + 1 qt/A of Prowl H_2O were applied to the test area for weed control. On June 17, 8 oz/A of Gramoxone + 1.5 pt/A of Storm + Induce at 1 pt/100 gal of H_2O were applied for post-emergent weed control. On July 8, 0.225 oz/A of Strongarm + 2 oz/A of Cadre + Induce at 1 qt/100 gal of H_2O were applied for weed control. On Aug. 25, 8 oz/A of Intrepid + 6 oz/A of Sniper were applied for insect control.

Plots, which consisted of four 30-foot rows on 38 in. centers, were arranged in a randomized complete block with six replications. Plots were not irrigated. Early emergent sprays were applied directly over the row on July 2. Foliar fungicides were applied at 14-day intervals on July 7, July 13, July 21, Aug. 4, Aug. 24, Sept. 1, Sept. 14, and Sept. 30 as a full canopy spray using a four-row ATV mounted CO_2 sprayer with three TX8 nozzles per row calibrated to deliver 15 gal/A per plot.

Late leaf spot and rust were visually rated on Oct. 14 using the Florida leaf spot scoring system (1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation; 5 = lesions noticeable in upper canopy with some defoliation; 6 = lesions numerous with significant defoliation; 7 = lesions numerous with heavy defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation; 9 = very few remaining leaves covered with lesions; 10 = completely dead plants) and the ICRISAT rust rating scale (1 = no disease, ...9 = plants severely affected, 80-100% leaves withering).

Counts of stem rot loci (SR) were made on Oct. 15 immediately after plot inversion by determining the number of disease loci (1 foot is defined as ≤ 1 foot of consecutive stem rot damaged plants per row). Plots were harvested on Oct. 23 and yields were reported at <10% moisture. Significance of treatment effects were tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

Results: During the 2015 peanut production season, temperatures were near average and monthly rainfall totals were near normal during May, June, July, and August. Leaf spot did not progress as rapidly as had been observed in previous years. Rust appeared in late August but failed to intensify during September. Stem rot incidence was similar to that observed in previous years. Leaf spot control was reduced among all the treatment programs compared with the untreated control. Among the treatment programs, the least severity was observed in the Echo/Provost which was similar to that observed in the Echo/Abound + Alto program. Among the remaining programs, all gave leaf spot control that was similar to that observed with the Echo only full-season treatment. All treatment programs reduced rust when compared with the untreated control. However, all of the treatment programs had similar rust control as that observed with Echo only. Reduced stem rot incidence was observed in the plots with Echo/Abound + Alto and Echo/Artisan. All other programs had stem rot incidence that was similar to that observed in the untreated control. Highest yield was with the SA-0040312/Muscle ADV/Echo program. Among the remaining programs all had similar yield as that obtained with the season-long Echo only treatment.

EVALUATION OF EXPERIMENTAL FUNGICIDES SA-0040304, SA-0040302, SA-0450107, AND SA-0040309 FOR PEANUT DISEASE CONTROL IN SOUTHWEST ALABAMA, GCREC

Treatment and Rate/A	Application Timing	Disease ratings			Yield lb/A
		Leaf Spot[1]	Rust[2]	Stem Rot[3]	
Untreated Control	---	4.5 a[4]	4.1 a	3.7 a	5238 c
SA-0040304 32.0 fl oz Muscle ADV 32.0 fl oz Echo 720 24.0 fl oz	1,2 3,4,5,6 7	3.4 bcd	2.3 bc	3.0 ab	5490 bc
SA-0040304 32.0 fl oz Muscle ADV 32.0 fl oz Echo 720 24.0 fl oz	1.5 3,4,5,6 7	3.4 bcd	2.0 bc	3.9 a	5666 bc
Muscle ADV 32.0 fl oz Echo 720 24.0 fl oz	1,2,7 3,4,5,6	3.6 bc	2.0 bc	1.7 ab	5827 abc
Muscle ADV 32.0 fl oz SA-0040304 32.0 fl oz Muscle ADV 32.0 fl oz Echo 720 24.0 fl oz	EE 1,2 3,4,5,6 7	3.2 cd	1.8 bc	2.0 ab	6247 ab
Headline 2.09SC 9.0 fl oz Muscle ADV 32.0 fl oz Echo 720 24.0 fl oz	1.5 3,4,5,6 7	3.3 bcd	2.0 bc	3.7 a	5842 abc
SA-0040312 16.0 fl oz Muscle ADV 32.0 fl oz Echo 720 24.0 fl oz	1,2 3,4,5,6 7	3.3 bcd	1.2 c	1.0 b	6614 a
SA-0450107 30.0 fl oz Muscle ADV 32.0 fl oz Echo 720 24.0 fl oz	1,2 3,4,5,6 7	3.4 bcd	2.7 b	2.0 ab	6171 ab
SA-0040309 21.0 fl oz Muscle ADV 32.0 fl oz Echo 720 24.0 fl oz	1,2 3,4,5,6 7	3.3 bcd	1.7 bc	1.8 ab	6041 abc
Echo 720 24.0 fl oz Provost 433SC 8.0 fl oz	1,2,7 3,4,5,6	2.6 e	1.0 c	2.7 ab	6240 ab
Echo 720 24.0 fl oz Abound 2.08SC 18.2 fl oz + Alto 5.5 fl oz	1,2,4,6,7 3,5	3.0 de	1.2 c	0.8 b	6209 ab
Echo 720 24.0 fl oz Echo 720 16.0 fl oz + Artisan 26.0 fl oz	1,2,4,6,7 3,5	3.3 bcd	1.7 bc	1.0 b	6217 ab
Echo 720 24.0 fl oz Fontelis 16.0 fl oz	1,2,6,7 3,4,5	3.3 bcd	1.8 bc	1.8 bc	6262 ab
Echo 720 24.0 fl oz	1-7	3.7 b	2.3 c	3.2 ab	5765 bc
LSD (P≤0.05)		*0.5*	*1.4*	*2.6*	*945*

[1]Late leaf spot were assessed using the Florida leaf spot scoring system (1 = no disease; 10 = completely dead plants).
[2]Rust was rated using the ICRISAT 1-9 rust rating scale
[3]Stem rot (SR) incidence is expressed as the number of disease loci per 60 foot of row.
[4]Numbers followed by the same letter do not differ significantly.

EVALUATION OF EQUATION, TOPGUARD EQ, AND PROSARO FOR PEANUT DISEASE CONTROL IN SOUTHWEST ALABAMA, GCREC

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

Objective: To evaluate Equation, Topguard EQ, and Prosaro and compare them against other currently registered products for control of late leaf spot, rust, and stem rot and yield response in a dry-land peanut production system in southeast Alabama.

Methods: Peanut cultivar 'Georgia 09B' was planted on May 27 at the Gulf Coast Research and Extension Center near Fairhope, Ala., at a rate of five seed per foot of row in a field that had previously been cropped to peanut. Recommendations of the Alabama Cooperative Extension System for fertility and weed control were followed. The soil type was a Malbis fine sandy loam (Organic matter <1%). Thrips were controlled with an in-furrow application of 6-7 bl/A of Thimet 20G at planting. 5.0 lb/A of Rhizobium inoculant was also applied at planting. On May 29, after planting, 1 qt/A of RoundUp + 1 qt/A of Prowl H_2O were applied to the test area for weed control. On June 17, 8 oz/A of Gramoxone + 1.5 pt/A of Storm + Induce at 1 pt/100 gal of H_2O were applied for post-emergent weed control. On July 8, 0.225 oz/A of Strongarm + 2 oz/A of Cadre + Induce at 1 qt/100 gal of H_2O were applied for weed control. On Aug. 25, 8 oz/A of Intrepid + 6 oz/A of Sniper were applied for insect control.

Plots, which consisted of four 30-foot rows on 38-inch centers, were arranged in a randomized complete block with six replications. Plots were not irrigated. Early emergent sprays were applied directly over the row on July 2. Foliar fungicides were applied at 14-day intervals on July 7, July 13, July 21, Aug. 4, Aug. 24, Sept. 1, Sept. 14, and Sept. 30 as a full canopy spray using a four-row ATV mounted CO_2 sprayer with three TX8 nozzles per row calibrated to deliver 15 gal/A per plot.

Late leaf spot and rust were visually rated on Oct. 14 using the Florida leaf spot scoring system (1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation; 5 = lesions noticeable in upper canopy with some defoliation; 6 = lesions numerous with significant defoliation; 7 = lesions numerous with heavy defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation; 9 = very few remaining leaves covered with lesions; 10 = completely dead plants) and the ICRISAT rust rating scale (1 = no disease, ...9 = plants severely affected, 80-100% leaves withering).

Counts of stem rot loci (SR) were made on Oct. 15 immediately after plot inversion by determining the number of disease loci (one foot is defined as ≤ 1 foot of consecutive stem rot damaged plants per row). Plots were harvested on Oct. 23 and yields were reported at <10% moisture. Significance of treatment effects were tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

Results: During the 2015 peanut production season, temperatures were near average and monthly rainfall totals were near normal during May, June, July, and August. Leaf spot

did not progress as rapidly as had been observed in previous years. Rust appeared in late August but failed to intensify during September. Stem rot incidence was similar to that observed in previous years. All fungicide programs had significantly lower leaf spot ratings than the untreated control. When compared with the season-long Echo 720 standard, Echo 720/Topguard EQ treatment program gave poorer leaf spot control, while all remaining fungicide programs, including those with Equation gave similar to superior disease control. The Proline/Echo 720/Provost provedmore effective than any other program in controlling leaf spot diseases except for Proline/Echo 720/Prosaro. Rust severity was highest in the untreated control. Rust control obtained with all the fungicide programs was similar to the Echo 720 standard. Among all fungicide programs, only the Echo/Topguard EQ program had significantly lower stem rot indices than the untreated control. When compared with the Echo 720 standard, no differences in stem rot control were observed among any of the remaining fungicide programs. Although yields for all fungicide programs were higher than the untreated control, only Priaxor/Muscle/Priaxor/ Echo 720, Echo 720/Equation at 24.0 fl oz, and Echo 720/Abound had significantly higher yields when compared with the Echo 720 standard. Yield among the remaining programs was similar to the full-season Echo 720 standard and Proline/Echo 720/Provost program.

EVALUATION OF EQUATION, TOPGUARD EQ, AND PROSARO FOR PEANUT DISEASE CONTROL IN SOUTHWEST ALABAMA, GCREC

Treatment and Rate/A	Application Timing	Disease ratings			Yield lb/A
		Leaf Spot[1]	Rust[2]	Stem Rot[3]	
Untreated Control	---	4.8 a[4]	2.5 a	3.3 ab	5299 d
Echo 720 24.0 fl oz Equation 12.0 fl oz	1,2,4,6,7 3,5	3.6 bc	1.3 b	1.7 abc	5888 abc
Echo 720 24.0 fl oz Equation 24.5 fl oz	1,2,4,6,7 3,5	3.5 bcd	1.3 b	1.1 b	6019 a
Echo 720 24.0 fl oz Topguard EQ 7.0 fl oz	1,2,4,6,7 3,5	3.7 b	1.2 b	0.8 c	5689 a-d
Echo 720 24.0 fl oz Abound 2.08SC 24.5 fl oz	1,2,4,6,7 3,5	3.2 cd	1.0 b	1.8 abc	5972 ab
Proline 480SC 5.7 fl oz Echo 720 24.0 fl oz Provost 433SC 10.7 fl oz	EE 1,2,7 3,4,5,6	2.6 f	1.0 b	2.7 abc	5414 cd
Proline 480SC 5.7 fl oz Echo 720 24.0 fl oz Prosaro 10.0 fl oz	EE 1,2,7 3,4,5,6	2.7 ef	1.0 b	1.7 abc	5781 a-d
Proline 5.7 fl oz Echo 720 24.0 fl oz Prosaro 10.0 fl oz Abound 2.08SC 18.5 fl oz	EE 1,7 2,4,6 3,5	3.2 cd	1.2 b	1.1 bc	5942 ab
Echo 720 24.0 fl oz Muscle ADV 32.0 fl oz	1,2,7 3,4,5,6	3.2 cd	1.2 b	3.5 a	5658 a-d
Echo 720 24.0 fl oz Echo 720 24.0 fl oz + Artisan 26.0 fl oz	1,2,4,6,7 3,5	3.6 bc	1.3 b	1.5 abc	5773 a-d
Priaxor 6.0 fl oz Muscle 3.6F 7.2 fl oz Priaxor 8.0 fl oz Echo 720 24.0 fl oz	1.5 3,5 4 6,7	3.2 cd	1.0 b	2.1 abc	6117 a
Echo 720 24.0 fl oz Fontelis 16.0 fl oz	1,2,6,7 3,4,5	3.1 de	1.0 b	1.3 abc	5730 a-d
Echo 720 24.0 fl oz	1-7	3.2 cd	1.0 b	2.5 abc	5605 bcd
LSD (P ≤0.05)		*0.4*	*0.4*	*2.2*	*493*

[1]Late leaf spot were assessed using the Florida leaf spot scoring system (1 = no disease; 10 = completely dead plants).
[2]Rust was rated using the ICRISAT 1-9 rust rating scale
[3]Stem rot (SR) incidence is expressed as the number of disease loci per 60 foot of row.
[4]Numbers followed by the same letter do not differ significantly.

EVALUATION OF NEW FUNGICIDE ELATUS 45WG AND EXPERIMENTAL FUNGICIDE A-19649 FOR PEANUT DISEASE CONTROL IN SOUTHWEST ALABAMA, GCREC

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

Objective: To evaluate the experimental fungicides SA-0040304, SA-0040302, SA-045107, and SA-0040309 and compare them against other currently registered products for control of late leaf spot, rust, and stem rot and yield response in a dry-land peanut production system in southeast Alabama.

Methods: Peanut cultivar 'Georgia 09B' was planted on May 27 at the Gulf Coast Research and Extension Center near Fairhope, Ala., at a rate of five seed per foot of row in a field that had previously been cropped to peanut. Recommendations of the Alabama Cooperative Extension System for fertility and weed control were followed. The soil type was a Malbis fine sandy loam (Organic matter <1%). Thrips were controlled with an in-furrow application of 6-7 bl/A of Thimet 20G at planting. 5.0 lb/A of Rhizobium inoculant was also applied at planting. On May 29, after planting, 1 qt/A of RoundUp + 1 qt/A of Prowl H_2O were applied to the test area for weed control. On June 17, 8 oz/A of Gramoxone + 1.5 pt/A of Storm + Induce at 1 pt/100 gal of H_2O were applied for post-emergent weed control. On July 8, 0.225 oz/A of Strongarm + 2 oz/A of Cadre + Induce at 1 qt/100 gal of H_2O were applied for weed control. On Aug. 25, 8 oz/A of Intrepid + 6 oz/A of Sniper were applied for insect control.

Plots, which consisted of four 30-foot rows on 38-inch centers, were arranged in a randomized complete block with six replications. Plots were not irrigated. Rainfall recorded during the growing season (in inches) was: May = 2.6, June = 4.9, July = 6.72, August = 5.35 and September = 3.58. Early emergent sprays were applied directly over the row on July 2. Foliar fungicides were applied at 14-day intervals on July 7, July 13, July 21, Aug. 4, Aug. 24, Sept. 1, Sept. 14 and Sept. 30 as a full canopy spray using a four-row ATV mounted CO_2 sprayer with three TX8 nozzles per row calibrated to deliver 15 gal/A per plot.

Late leaf spot and rust were visually rated on Oct. 14 using the Florida leaf spot scoring system (1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation; 5 = lesions noticeable in upper canopy with some defoliation; 6 = lesions numerous with significant defoliation; 7 = lesions numerous with heavy defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation; 9 = very few remaining leaves covered with lesions; 10 = completely dead plants) and the ICRISAT rust rating scale (1 = no disease, ...9 = plants severely affected, 80-100% leaves withering).

Counts of stem rot loci (SR) were made on Oct. 15 immediately after plot inversion by determining the number of disease loci (one foot is defined as ≤ 1 foot of consecutive stem rot damaged plants per row). Plots were harvested on Oct. 23 and yields were reported at <10% moisture. Significance of treatment effects were tested by analysis of variance and

Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

Results: During the 2015 peanut production season, temperatures were near average and monthly rainfall totals were near normal during May, June, July, and August. Leaf spot did not progress as rapidly as had been observed in previous years. Rust appeared in late August in the non-fungicide treated plots but failed to intensify during September. Stem rot incidence was similar to that observed in previous years. All of the treatment programs reduced the severity of late leaf spot when compared with the non-treated control plots. When compared with the full-season Bravo only treatment, all of the treatment programs gave similar levels of leaf spot control. Rust never materialized and only appeared sporadically in the non-treated plots and there were no differences observed among any of the treatment programs. The least number of stem rot hits was observed in the Bravo/Fonelis, Elatus/Bravo, and Tilt-Bravo/Abound + Alto/Bravo treated plots. Among the remaining treatment programs including those that included Elatus 45WG or A19649, no significant reductions in stem rot incidence was observed in comparison with the untreated control plots. Highest yield was recorded with the Elatus(EE)/Elatus + A19649/Tilt-Bravo/Bravo treated plots. Yield recorded for the remaining programs was similar and no statistical differences were observed among the remaining treatment programs.

EVALUATION OF NEW FUNGICIDE ELATUS 45WG AND EXPERIMENTAL FUNGICIDE A-19649 FOR PEANUT DISEASE CONTROL IN SOUTHWEST ALABAMA, GCREC

Treatment and Rate/A	Application Timing	Disease ratings			Yield lb/A
		Leaf Spot[1]	Rust[2]	Stem Rot[3]	
Untreated Control	---	4.3 a[4]	1.3 a	3.3 a	5062 cd
Bravo WS 24.0 fl oz Fontelis 16.0 fl oz	1,2,6,7 3,4,5	2.9 cde	1.0 b	0.7 c	5620 abc
Bravo WS 24.0 fl oz Provost 433SC 8.0 fl oz	1,2,7 3,4,5,6	2.6 e	1.0 b	2.8 ab	5322 abcd
Elatus 45WG 7.14 oz Bravo WS 24.0 fl oz	1,3,5 2,4,6,7	2.9 cde	1.0 b	1.0 bc	5758 abc
Tilt-Bravo 4.3SE 24.0 fl oz Elatus 45WG 9.5 oz Bravo WS 24.0 fl oz	1,2 3,5 4,6,7	2.9 cde	1.0 b	2.3 abc	5390 abcd
Elatus 45WG 9.5 oz Tilt-Bravo 4.3SE 36.0 fl oz Elatus 9.5 oz Bravo WS 24.0 fl oz	EE 1.5 3 4,5,6,7	3.3 b	1.0 b	1.3 abc	5727 abc
Tilt-Bravo 4.3SE 24.0 fl oz Elatus 45WG 9.5 oz Bravo WS 24.0 fl oz	1,2 3,4.5 6,7	3.1 bcd	1.0 b	3.0 ab	5131 bcd
Elatus 45WG 9.5 oz Elatus 45WG 7.14 oz + A19649 3.42 fl oz Tilt-Bravo 4.3SE 36.0 fl oz Bravo WS 24.0 fl oz	EE 1.5,4.5 3 6	2.7 cd	1.0 b	1.7 abc	5957 a
Tilt-Bravo 4.3SE 24. fl oz Abound 2.08SC 18.2 fl oz + Alto 5.5 fl oz Bravo WS 24.0 fl oz	1,2 3,5 4,6,7	2.8 cde	1.0 b	1.2 bc	5154 bcd
Bravo WS 24.0 fl oz Muscle ADV 32.0 fl oz	1,2,7 3,4,5,6	2.8 cde	1.0 b	1.3 abc	5865 ab
Bravo WS 24.0 fl oz Bravo WS 24.0 fl oz + Artisan 26.0 fl oz	1,2,4,6,7 3,5	3.2 bc	1.0 b	2.7 abc	4795 cd
Priaxor 6.0 fl oz Muscle 3.6F 7.2 fl oz Priaxor 8.0 fl oz Bravo WS 24.0 fl oz	1.5 3,5 4 6,7	3.3 b	1.0 b	3.3 a	5207 abcd
Bravo WS 24.0 fl oz	1-7	3.0 bcde	1.0 b	1.5 abc	5521 abcd
LSD (P ≤0.05)		*0.4*	*0.3*	*2.1*	*789*

[1] Late leaf spot were assessed using the Florida leaf spot scoring system (1 = no disease; 10 = completely dead plants).
[2] Rust was rated using the ICRISAT 1-9 rust rating scale
[3] Stem rot (SR) incidence is expressed as the number of disease loci per 60 foot of row.
[4] Numbers followed by the same letter do not differ significantly.

CHLOROTHALONIL ALTERNATIVES COMPARED FOR DISEASE CONTROL IN PEANUT IN SOUTHWEST ALABAMA, GCREC

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

Objective: To evaluate low cost alternatives to chlorothalonil and compare them against a currently registered chlorothalonil product for control of late leaf spot, rust, and stem rot and yield response in a dry-land peanut production system in southeast Alabama.

Methods: Peanut cultivar 'Georgia 09B' was planted on May 27 at the Gulf Coast Research and Extension Center near Fairhope, Ala., at a rate of five seed per foot of row in a field that had previously been cropped to peanut. Recommendations of the Alabama Cooperative Extension System for fertility and weed control were followed. The soil type was a Malbis fine sandy loam (Organic matter <1%). Thrips were controlled with an in-furrow application of 6-7 bl/A of Thimet 20G at planting. 5.0 lb/A of Rhizobium inoculant was also applied at planting. On May 29, after planting, 1 qt/A of RoundUp + 1 qt/A of Prowl H_2O were applied to the test area for weed control. On June 17, 8 oz/A of Gramoxone + 1.5 pt/A of Storm + Induce at 1 pt/100 gal of H_2O were applied for post-emergent weed control. On July 8, 0.225 oz/A of Strongarm + 2 oz/A of Cadre + Induce at 1 qt/100 gal of H_2O were applied for weed control. On Aug. 25, 8 oz/A of Intrepid + 6 oz/A of Sniper were applied for insect control.

Plots, which consisted of four 30-foot rows on 38-inch centers, were arranged in a randomized complete block with six replications. Plots were not irrigated. Early emergent sprays were applied directly over the row on July 2. Foliar fungicides were applied at 14-day intervals on July 7, July 13, July 21, Aug. 4, Aug. 24, Sept. 1, Sept. 14, and Sept. 30 as a full canopy spray using a four-row ATV mounted CO_2 sprayer with three TX8 nozzles per row calibrated to deliver 15 gal/A per plot.

Late leaf spot and rust were visually rated on Oct. 14 using the Florida leaf spot scoring system (1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation; 5 = lesions noticeable in upper canopy with some defoliation; 6 = lesions numerous with significant defoliation; 7 = lesions numerous with heavy defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation; 9 = very few remaining leaves covered with lesions; 10 = completely dead plants) and the ICRISAT rust rating scale (1 = no disease, ...9 = plants severely affected, 80-100% leaves withering).

Counts of stem rot loci (SR) were made on Oct. 15 immediately after plot inversion by determining the number of disease loci (1 foot is defined as ≤ 1 foot of consecutive stem rot damaged plants per row). Plots were harvested on Oct. 23 and yields were reported at <10% moisture. Significance of treatment effects were tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

Results: During the 2015 peanut production season, temperatures were near average and monthly rainfall totals were near average during May, June, July, and August. Leaf spot did

not progress as rapidly during the season as had been observed in previous years. Rust appeared in late August and but never intensified in September. Stem rot incidence was similar to that observed in previous years. All fungicide programs had significantly lower leaf spot ratings than the untreated control. All fungicide programs, except for the season-long Mancozeb + Topsin program, gave similar leaf spot control as the season-long Echo 720 standard. Rust severity ratings for the untreated control and Echo 720 standard were similar to those recored for the other fungicide programs. With the exception of Mancozeb + Topsin/Mancozeb + Muscle ADV, CuproFix Ultra + Topsin/Mancozeb + Muscle, and Absolute/Echo 720, all remaining fungicide programs had significantly lower stem rot indices than the untreated control. The full-season Elast and full-season Mancozeb had significantly higher yields than the untreated control. Yield for the full-season Echo 720 standard and all other fungicide programs were similar.

CHLOROTHALONIL ALTERNATIVES COMPARED FOR DISEASE CONTROL IN PEANUT IN SOUTHWEST ALABAMA, GCREC

Treatment and Rate/A	Application Timing	Disease ratings			Yield lb/A
		Leaf Spot[1]	Rust[2]	Stem Rot[3]	
Untreated Control	---	4.9 a[4]	3.2 ab	3.7 a	4343 c
Elast 400F 15.0 fl oz	1-7	3.7 bcd	2.7 ab	1.0 b	4947 ab
Elast 400F 15.0 fl oz Elast 400F 15.0 fl oz + Custodia 15.5 fl oz	1,2,4,6,7 3,5	3.7 bcd	3.0 ab	1.7 b	4840 abc
Elast 400F 15.0 fl oz Muscle ADV 3.48SC 32.0 fl oz	1,2,7 3,4,5,6	3.4 d	1.7 b	1.5 b	4855 abc
Mancozeb 2.0 lb	1-7	3.7 bcd	2.3 ab	1.2 b	5039 a
Mancozeb 2.0 lb + Topsin 4.5F 10.0 fl oz	1-7	4.0 b	3.2 ab	1.8 b	4886 abc
Mancozeb 2.0 lb + Topsin 4.5F 10.0 fl oz Mancozeb 2.0 lb + Muscle 3.6F 7.2 fl oz	1,2,7 3,4,5,6	3.6 cd	2.5 ab	2.2 ab	4679 abc
CuproFix Ultra 2.0 lb + Topsin 4.5F 10.0 fl oz	1-7	3.7 bcd	3.5 a	1.3 b	4748 abc
CuproFix Ultra 2.0 lb + Topsin 4.5F 10.0 fl oz Mancozeb 2.0 lb + Muscle 3.6F 7.2 fl oz	1,2,7 3,4,5,6	3.7 bcd	2.7 ab	2.3 ab	4351 c
Absolute 500F 3.5 fl oz Echo 720 24.0 fl oz	1,2 3,4,5,6,7	3.8 bc	2.0 ab	3.5 a	4366 bc
Absolute 500F 3.5 fl oz Muscle ADV 3.48SC 32.0 fl oz Echo 720 24.0 fl oz	1,2 3,4,5,6 7	3.4 d	1.8 b	1.7 b	4542 abc
Echo 720 24.0 fl oz	1-7	3.5 cd	2.8 ab	1.2 b	4603 abc
LSD (P ≤0.05)		*0.4*	*1.6*	*1.6*	*594*

[1] Late leaf spot were assessed using the Florida leaf spot scoring system (1 = no disease; 10 = completely dead plants).
[2] Rust assessed using the ICRISAT 1-9 rust rating scale (1 = no disease, … 9 = plants severely affected, 80-100% leaves withering).
[3] Stem rot (SR) incidence is expressed as the number of disease loci per 60 foot of row.
[4] Numbers followed by the same letter do not differ significantly.

EVALUATION OF EXPERIMENTAL PEANUT VARIETIES USING DIFFERENT FUNGICIDE INPUTS FOR PEANUT DISEASE CONTROL IN SOUTHWEST ALABAMA, GCREC

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

Objective: To evaluate two experimental peanut cultivars and compare them against peanut cultivar 'Georgia 06G' at varying fungicide inputs for control of early and late leaf spot and stem rot and yield response in a dry-land peanut production system in southwest Alabama.

Methods: Peanut cultivar 'Georgia 06G', 'MRS 37', and 'MRS 38' were planted on May 27 at the Gulf Coast Research and Extension Center near Fairhope, Ala., at a rate of five seed per foot of row in a field that had previously been cropped to peanut. Recommendations of the Alabama Cooperative Extension System for fertility and weed control were followed. The soil type was a Malbis fine sandy loam (Organic matter <1%). Thrips were controlled with an in-furrow application of 6-7 bl/A of Thimet 20G at planting. 5.0 lb/A of Rhizobium inoculant was also applied at planting. On May 29, after planting, 1 qt/A of RoundUp + 1 qt/A of Prowl H_2O were applied to the test area for weed control. On June 17, 8 oz/A of Gramoxone + 1.5 pt/A of Storm + Induce at 1 pt/100 gal of H_2O were applied for post-emergent weed control. On July 8, 0.225 oz/A of Strongarm + 2 oz/A of Cadre + Induce at 1 qt/100 gal of H_2O were applied for weed control. On Aug. 25, 8 oz/A of Intrepid + 6 oz/A of Sniper were applied for insect control.

Plots, which consisted of four 30-foot rows on 38-inch centers, were arranged in a randomized complete block with six replications. Plots were not irrigated. Rainfall recorded during the growing season (in inches) was: May = 2.6, June = 4.9, July = 6.72, August = 5.35, and September = 3.58. Foliar fungicides were applied at 14-day intervals on July 7, July 13, July 21, Aug. 4, Aug. 24, Sept. 1, Sept. 14, and Sept. 30 as a full canopy spray using a four-row ATV mounted CO_2 sprayer with three TX8 nozzles per row calibrated to deliver 15 gal/A per plot.

Late leaf spot and rust were visually rated on Oct. 14 using the Florida leaf spot scoring system (1 = no disease; 2 = very few lesions in upper canopy; 3 = few lesions in lower and upper canopy; 4 = some lesions with slight defoliation; 5 = lesions noticeable in upper canopy with some defoliation; 6 = lesions numerous with significant defoliation; 7 = lesions numerous with heavy defoliation; 8 = very numerous lesions on few remaining leaves with heavy defoliation; 9 = very few remaining leaves covered with lesions; 10 = completely dead plants) and the ICRISAT rust rating scale (1 = no disease, ...9 = plants severely affected, 80-100% leaves withering).

Counts of stem rot loci (SR) were made on Oct. 22 immediately after plot inversion by determining the number of disease loci (1 foot is defined as ≤ 1 foot of consecutive stem rot damaged plants per row). Plots were not harvested due to excessive rainfall that occurred in the days following inversion that resulted in the plots being rendered non-harvestable. Significance of treatment effects were tested by analysis of variance and

Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

Results: During the 2015 peanut production season, temperatures were near average and monthly rainfall totals were near average during May, June, July and August. Leaf spot did not progress as rapidly during the season as had been observed in previous years. Rust appeared in late August and but never intensified in September. Stem rot incidence was similar to that observed in previous years. All fungicide programs in all three cultivars had significantly lower leaf spot ratings than the untreated control. Among the treatment programs, leaf spot control was similar across all three cultivars. Rust appeared in the untreated control plots but was less severe than had been observed in previous years. Compared to the untreated control, all three fungicide programs reduced the severity of rust and all gave similar results. Highest incidence of stem rot was observed in the non-treated 'Georgia 06G' plots. Stem rot observed in 'MRS 37' and 'MRS 38' was lower than that observed with 'Georgia 06G'.

EVALUATION OF EXPERIMENTAL PEANUT VARIETIES USING DIFFERENT FUNGICIDE INPUTS FOR PEANUT DISEASE CONTROL IN SOUTHWEST ALABAMA, GCREC

Cultivar	Treatment and Rate/A	Application Timing	Disease ratings		
			Leaf Spot[1]	Rust[2]	Stem Rot[3]
MRS 37	Untreated Control	---	4.6 a[4]	3.3 a	2.2 bcd
	Echo 720 24.0 fl oz	1-7	3.5 bcd	1.7 b	0.5 cd
	Echo 720 24.0 fl oz Muscle ADV 32.0 fl oz	1,2,7 3,4,5,6	3.4 bcd	1.0 b	1.3 bcd
	Echo 720 24.0 fl oz Abound 2.08SC 18.5 fl oz Echo 24.0 fl oz + Convoy 21 fl oz	1,2,7 3,5 4,6	3.1 d	1.2 b	0.7 cd
MRS 38	Untreated Control	---	4.8 a	3.5 a	1.5 bcd
	Echo 720 24.0 fl oz	1-7	3.3 bcd	1.2 b	0.3 d
	Echo 720 24.0 fl oz Muscle ADV 32.0 fl oz	1,2,7 3,4,5,6	3.6 bc	1.3 b	0.5 cd
	Echo 720 24.0 fl oz Abound 2.08SC 18.5 fl oz Echo 24.0 fl oz + Convoy 21 fl oz	1,2,7 3,5 4,6	3.6 bc	1.2 b	0.2 d
GA 06G	Untreated Control	---	4.8 a	3.3 a	4.3 a
	Echo 720 24.0 fl oz	1-7	3.7 b	1.7 b	2.8 ab
	Echo 720 24.0 fl oz Muscle ADV 32.0 fl oz	1,2,7 3,4,5,6	3.2 cd	1.3 b	2.5 abc
	Echo 720 24.0 fl oz Abound 2.08SC 18.5 fl oz Echo 24.0 fl oz + Convoy 21 fl oz	1,2,7 3,5 4,6	3.3 bcd	1.0 b	2.8 ab
LSD (P ≤0.05)			*0.5*	*1.1*	*2.0*

[1] Late leaf spot were assessed using the Florida leaf spot scoring system (1 = no disease; 10 = completely dead plants).
[2] Rust assessed using the ICRISAT 1-9 rust rating scale (1 = no disease, …9 = plants severely affected, 80-100% leaves withering).
[3] Stem rot (SR) incidence is expressed as the number of disease loci per 60 foot of row.
[4] Numbers followed by the same letter do not differ significantly.

YIELD RESPONSE AND EFFECTIVENESS OF RECOMMENDED FUNGICIDE PROGRAMS ON PEANUT, BARU

A. K. Hagan, H. L. Campbell, and H. B. Miller

Objective: Effectiveness of recommended fungicide programs for controlling diseases and protecting pod yields was compared on irrigated peanuts in Southwest Alabama.

Production Methods: The peanut cultivar 'Georgia-09B' was planted on June 2 at a rate of approximately 6 seed/ft in a Benndale sandy loam soil (≤1% organic material) at the Brewton Agricultural Research Unit (USDA Hardiness Zone 8a). A pre-plant incorporated application of 1.33 pt/A Dual Magnum on June 2 was followed by an early-post broadcast applications of 12 fl oz/A Gramoxone + 1 pt/A Basagran on June 17 and 0.45 oz/A Strongarm + 2 oz/A Cadre on July 8 were made for weed control. Escape weeds were plowed with flat sweeps or pulled by hand. The study site received rain on these dates (in inches): July 15 (0.5), Sept. 9 (0.6) and Sept. 16 (0.6). Echo 720 at 1.5 pt/A was applied on July 10, July 23, Aug. 6, Aug. 21, Sept. 3, Sept. 17, and Oct. 1. A non-fungicide treated control was included in the experimental design. Plots consisted of four 25–foot rows, spaced 3 feet apart, arranged in a randomized complete block, with four replications.

Disease Assessment: Early and late leaf spot were rated together on Sept. 11, Sept. 25, and Oct. 7 for the mid-season, late, and very late maturing cultivars, respectively, using the Florida 1 to 10 scale where 1 = no disease, 2 = very few lesions in canopy, 3 = few lesions noticed in lower and upper canopy, 4 = some lesions and ≤ 10% defoliation, 5 = lesions noticeable and ≤ 25% defoliation, 6 = lesions numerous and ≤ 50% defoliation, 7 = lesions very numerous and ≤ 75% defoliation, 8 = numerous lesions on few remaining leaves and ≤ 90% defoliation, 9 = very few remaining leaves covered with lesions and ≤ 95% defoliation, and 10 = plants defoliated or dead. White mold (1 hit was defined as ≤ 1 foot of consecutive white mold damaged plants per row) were made immediately after plot inversion on Oct. 16 for the mid-season, late, and very late maturing cultivars, respectively. Plots were combined on Oct. 22. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

Weather: Rainfall totals were normal for July but below the historical average for June, August, and September. Temperatures were at to slightly above the seasonal average for the study location.

Results: Significant differences in leaf spot intensity were noted between the non-fungicide treated control and all fungicide programs (Table 1). The Echo/Abound + Alto provided better leaf spot control than the Echo/Fontelis, Echo/Convoy+Echo, Echo/Artisan+Echo, and Echo/Provost programs, all of which had similarly high leaf spot intensity ratings but not Echo/Muscle ADV, Priaxor/Muscle ADV/Priaxor/Echo, and Tilt Bravo/Elatus/Bravo WeatherStik programs. With the exception of the season long Echo standard, all remaining fungicide programs reduced white mold incidence compared with the non-fungicide treated

control. Echo/Muscle ADV, Echo/Fontelis, Echo/Abound + Alto, Tilt Bravo/Elatus/Bravo WeatherStik, Echo/Provost, and Echo/Artisan + Echo had lower white mold incidence ratings than the season-long Echo standard. Yields for the Echo/Fontelis, Priaxor/Muscle ADV/Priaxor/Echo, and Echo standard did not differ from the non-fungicide treated control. Higher yields were recorded for Tilt Bravo/Elatus/Bravo WeatherStik, Echo/Provost, and Echo/Muscle ADV than the season-long Echo standard.

Summary: When compared with other fungicide programs, superior leaf spot and white mold control were obtained with the Echo/Abound + Alto and Tilt-Bravo/Elatus/Bravo WeatherStik programs with the latter program also giving a significant yield gain against the Echo standard. Good disease control and a significant yield gain were also obtained with Echo/Muscle ADV and Echo/Provost programs. Several premium fungicide programs gave good control of both diseases but failed to boost yields above those reported for the non-fungicide treated control.

TABLE 1. YIELD RESPONSE AND EFFICACY OF RECOMMENDED FUNGICIDE PROGRAMS FOR THE CONTROL OF LEAF SPOT AND WHITE MOLD ON IRRIGATED GEORGIA-09B AT THE BREWTON AG RESEARCH UNIT

Fungicide and rate/A	Application Timing	Leaf Spot Intensity [1]	White Mold[2]	Yield lb/A
Non-fungicide treated control	---	7.5 a[3]	9.5 a	3168 c
Echo 720 6F	1-7	4.3 bc	8.0 ab	3764 bc
Priaxor 6 fl oz Muscle ADV 1 qt Priaxor 6 fl oz Echo 720 6F 1.5 pt	1.5 3,5 4,6 7	3.5 cde	4.0 bc	4202 abc
Echo 720 6F 1.5 pt Provost 433SC 10.7 fl oz	1,2,7 3,4,5,6	3.9 bcd	1.5 c	5234 a
Echo 720 6F 1.5 pt Convoy + Echo 720 6F 26 fl oz + 1.5 pt	1,2,4,6,7 3,5	4.8 b	4.2 bc	4551 ab
Echo 720 1.5 pt Artisan 3.6E + Echo 720 6F 26 fl oz + 1.5 pt	1,2,4,6,7 3,5	4.1 bc	2.2 c	4494 ab
Echo 720 6F 1.5 pt Muscle ADV 1 qt	1,2,7 3,4,5,6	3.8 b-e	0.8 c	5194 a
Echo 720 6F 1.5 pt Fontelis 1 pt	1,2,6,7 3,4,5	4.8 b	2.0 c	4233 abc
Echo 720 6F Abound 2SC + Alto 0.83SL 18.2 fl oz + 5.5 fl oz	1,2,4,6,7 3,5	2.8 e	2.0 c	4983 ab
Tilt Bravo 4.3SC 1.5 pt Elatus 9.5 fl oz Bravo WeatherStik 6F 1.5 pt	1,2 3,5 6,7	3.0 de	2.2 c	5299 a

[1]Leaf spot diseases were rated using the Florida 1 to 10 scale.
[2]White mold incidence is expressed as the number of hits per 100 foot of row.
[3]Means in each column followed by the same letter are not significantly different according Fisher's least significant difference (LSD) test ($P \leq 0.05$).

YIELDS AND DISEASE REACTION OF SELECTED COMMERCIAL RUNNER- AND VIRGINIA-MARKET TYPE PEANUTS IN SOUTHWEST ALABAMA, BARU

A. K. Hagan, H. L. Campbell, and H. B. Miller

Objective: Assess the yield response and reaction of commercial runner- and Virginia-market type peanuts to diseases in an irrigated production setting.

Production Methods: Peanut cultivars were planted on June 2 at a rate of approximately 6 seed per foot in a Benndale sandy loam soil (≤ 1% organic material) at the Brewton Agricultural Research Unit (USDA Hardiness Zone 8a). A pre-plant incorporated application of 1.33 pt/A Dual Magnum on June 2 was followed by an early-post broadcast applications of 12 fl oz/A Gramoxone + 1 pt/A Basagran on 17 June and 0.45 oz/A Strongarm + 2 oz/A Cadre on July 8 were made for weed control. Escape weeds were plowed with flat sweeps or pulled by hand. The study site received the following amounts of water (in inches) on these days: July 15 (0.5), Sept. 9 (0.6), and Sept. 16 (0.6). Echo 720 at 1.5 pt/A was applied on July 10, July 23, Aug. 6, Aug. 21, Sept. 3, Sept. 17, and Oct. 1. Plots consisted of four 30–foot rows, spaced 3 feet apart, arranged in a randomized complete block, with four replications.

Disease Assessment: Early and late leaf spot were rated together on Sept, 11, Sept. 25, and Oct. 7 for the mid-season, late, and very late maturing cultivars, respectively, using the Florida 1 to 10 scale where 1 = no disease, 2 = very few lesions in canopy, 3 = few lesions noticed in lower and upper canopy, 4 = some lesions and ≤ 10% defoliation, 5 = lesions noticeable and ≤ 25% defoliation, 6 = lesions numerous and ≤ 50% defoliation, 7 = lesions very numerous and ≤ 75% defoliation, 8 = numerous lesions on few remaining leaves and ≤ 90% defoliation, 9 = very few remaining leaves covered with lesions and ≤ 95% defoliation, and 10 = plants defoliated or dead. White mold (1 hit was defined as ≤ 1 foot of consecutive white mold damaged plants per row) were made immediately after plot inversion on Oct. 16 for the mid-season, late, and very late maturing cultivars, respectively. Plots were combined on Oct. 22. Significance of treatment effects was tested by analysis of variance and Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

Weather: Rainfall totals were normal for July but below the historical average for June, August, and September. Temperatures were at to slightly above the seasonal average for the study location.

Results: The pressure from TSW was very low at this site and no differences in variety reaction to this disease were observed. While the majority of peanut varieties had similarly low leaf spot ratings, 'TUFRunner 511' and 'Georgia-13M' had higher leaf spot ratings than all varieties except for 'Georgia-09B' (Table 1). Differences in varietal reaction to white mold were noted. Disease incidence was higher in 'Georgia-13M' than the Virginia-market type variety Bailey and Sugg along with the runner-market type seeds, which all had equally low

white mold indices. Higher yields were recorded for Flo Run 107 than runner-market type peanuts 'Georgia-09B,' 'Georgia-13M,' along with the Virginia-market type variety Sugg. Yields for all remaining varieties were similar.

Summary: Among the runner-market type peanut varieties, 'Flo Run 107' had higher yields than 'Georgia-09B' and 'Georgia-13M.' No differences in yield were seen between the three Virginia-market type peanuts. 'Georgia-13M' and 'TUFRunner 511' both had higher leaf spot ratings than the majority of varieties screened and will need more intense fungicide programs to avoid yield losses due to leaf spot diseases.

TABLE 1. YIELDS AND REACTION OF RUNNER- AND VIRGINIA-MARKET PEANUT VARIETIES TO DISEASES AT BARU IN SOUTHWEST AL IN 2015

Peanut variety	Market type	Leaf Spot Intensity [1]	White Mold[2]	Yield lb/A
Bailey	Virginia	3.4 c[3]	2.0 b	4155 ab
Florida Fancy	Virginia	3.5 c	6.3 ab	4128 ab
Sugg	Virginia	3.9 bc	1.5 b	3390 b
Flo Run 107	Runner	3.9 bc	7.3 ab	4815 a
Georgia-06G	Runner	3.6 c	3.3 ab	4446 ab
Georgia-09B	Runner	4.5 ab	9.0 a	3409 b
Georgia-12Y	Runner	3.8 c	2.2 b	4308 ab
Georgia-13M	Runner	4.8 a	2.5 ab	3556 b
TUFRunner 511	Runner	5.0 a	2.0 b	4042 ab
TUFRunner 727	Runner	3.5 c	3.0 ab	4006 ab

[1] Leaf spot diseases were rated using the Florida 1 to 10 scale.
[2] White mold incidence is expressed as the number of hits per 100 foot of row.
[3] Means in each column followed by the same letter are not significantly different according Fisher's least significant difference (LSD) test ($P \leq 0.05$).

COMPARISON OF RECOMMENDED FUNGICIDES FOR CONTROL OF EARLY LEAF SPOT AND WHITE MOLD ON PEANUT, PBU

H. L. Campbell, A. K. Hagan, and J. Burkett

Objective: Compare the effectiveness of recommended fungicide programs for the control of early leaf spot and white mold as well as impact on the yield of two peanut cultivars in central Alabama.

Production Methods: Round-up was applied to the test area for burn down on May 2. The test site was disked and chiseled prior to sowing each peanut cultivar at a rate of 6 seed/foot of row in an Independence (Cahaba) loamy fine sand (OM<1%) on May 27. Weed control was obtained with a post-plant application of Dual Magnum II at 1.25 pt/A on June 12. Post emergent weed control was obtained with Storm applied at 1.5 pt/A on July 1 and with Cadre applied at 4 oz/A on July 10. Thrips control was obtained with an early post application of Orthene 90S at 0.5 lb/A. A center pivot irrigation system was used to apply water as needed. Plots, which contained four 30-foot rows spaced 3-foot apart, were arranged in a randomized complete block with four replications. Fungicides were applied on July 22, July 29, Aug. 5, Aug. 19, Sept. 2, Sept. 15, Oct. 2, and Oct. 16 with a four-row tractor mounted sprayer.

Disease Assessment: Early leaf spot (ELS) was rated on Sept. 25, Oct. 7, and Oct. 21 using the 1-10 Florida peanut leaf spot scoring system where 1 = no disease, 2 = very few lesions in canopy, 3 = few lesions noticed in lower and upper canopy, 4 = some lesions in canopy and ≤ 10% defoliation, 5 = lesions noticeable and ≤ 25% defoliation, 6 = lesions numerous and ≤ 50% defoliation, 7 = lesions very numerous and ≤ 75% defoliation, 8 = numerous lesions on few remaining leaves and ≤ 90% defoliation, 9 = very few remaining leaves covered with lesions and ≤ 95% defoliation, and 10 = plants defoliated or dead. White mold hit counts (1 hit was defined as ≤ 1 foot of consecutive white mold-damaged plants per row) were made immediately after plot inversion on Oct. 23. Combine of the plots were delayed after inversion due to excessive rainfall. Yields are reported at <10% moisture. Statistical analysis on leaf spot intensity and white mold incidence was done on rank transformations of data, which are back transformed for presentation. Means were separated using Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

Results: Monthly rainfall totals for June, July, August, and August were near the 30-year historical average while temperatures were near normal for each month during the entire production season. Weather patterns were favorable for leaf spot diseases but not white mold development. Fungicide treatment x peanut variety interactions for leaf spot intensity and yield were not noted, so pooled data are presented (Table 1). Due to the late planting date and the abundance of rainfall, ELS showed up early and progressed rapidly throughout the growing season. All treatment programs provided leaf spot control that was greater than that observed in non-treated control plots. Among the treatment programs compared, the one that included Priaxor applied three times gave the most significant early leaf spot control throughout the growing season. Of the remaining fungicide treatment programs, those that included either

Provost or Mucle ADV gave the best early leaf spot control. When compared with the season-long Echo only program, leaf spot control at the final observation was lower in all the treatment programs with the exception of the Echo/Echo + Convoy program. Stem rot never materialized in any of the plots therefore none of the treatment programs had any impact on stem rot. Early leaf spot severely impacted yield in the trial and yield was reflected in the severity of leaf spot in among the treatment programs. Earl leaf spot effect on yield was seen in the extremely low yields from the non-treated control plots. Highest yield was obtained in the plots treated with Priaxor three times during the season. When compared with the season-long Echo only treatement, yield among the remaining treatment programs was similar.

TABLE 1. RECOMMENDED FUNGICIDE PROGRAMS IMPACT EARLY LEAF SPOT CONTROL AS WELL AS YIELD RESPONSE OF TWO PEANUT VARIETIES, PBU

Peanut Cultivar Mean	Application Schedule	ELS[1]	ELS	ELS	Yield lb/A
Georgia-06G	---	2.8 b[2]	3.4 b	4.2 b	1932 a
Georgia-09B	---	3.9 a	4.8 a	5.5 a	1933
Fungicide mean (rate/A)					
Untreated Control		5.4 a	7.6 a	9.1 a	999 d
Echo 720 24.0 fl oz	1-7	3.5 bc	4.4 b	5.3 b	1913 bc
Priaxor 6.0 fl oz Muscle ADV 32.0 fl oz Priaxor 6.0 fl oz Echo 720 24.0 fl oz	1.5 3,5 4,6 7	2.2 g	2.4 f	2.7 f	3083 a
Echo 24.0 fl oz Provost 433SC 10.7 fl oz	1,2,7 3,4,5,6	2.8 f	3.0 e	3.6 e	2057 bc
Echo 720 24.0 fl oz Convoy 26.0 fl oz + Echo 720 24.0 fl oz	1,2,4,6,7 3,5	3.3 cd	4.2 b	4.9 bc	1640 c
Echo 720 24.0 fl oz Artisan 26.0 fl oz + Echo 720 16.0 fl oz	1,2,4,6,7 3,5	3.1 de	3.5 cd	4.4 d	1986 bc
Echo 720 24.0 fl oz Muscle ADV 32.0 fl oz	1,2,7 3,4,5,6	2.9 ef	3.2 de	3.8 e	2346 b
Echo 24.0 fl oz Fontelis 16.0 fl oz	1,2,6,7 3,4,5	3.2 d	3.8 c	4.6 cd	1904 bc
Echo 24.0 fl oz Abound 2.09SC 18.5 fl oz + Alto 0.83SL 5.5 fl oz	1,2,4,6,7 3,5	3.6 bc	4.4 b	4.9 bc	1677 c
Tilt-Bravo 24.0 fl oz Elatus 9.5 oz Echo 720 24.0 fl oz	1,2 3,5 4,6,7	3.6 bc	4.4 b	5.2 b	1719 c

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

Summary: Significant differences in fungicide program performance were noted in 2015. The addition of Priaxor to a treatment program had the greatest effect on early leaf spot in both 'Georgia 06G' and 'Georgia 09B' which is more susceptible to ELS. All other fungicides reduced ELS severity. The new fungicide Elatus also provided excellent leaf spot control. The relatively low incidence of white mold had little impact on yield response obtained with some fungicide programs.

YIELDS AND DISEASE REACTION OF SELECTED COMMERCIAL RUNNER- AND VIRGINIA-MARKET TYPE PEANUTS IN CENTRAL ALABAMA, PBU

H. L. Campbell, A.K. Hagan, and J. Burkett

Objective: Assess the yield response and reaction of commercial runner- and Virginia-market type peanuts to diseases in an irrigated production setting.

Production Methods: Round-up was applied to the test area for burn down on May 2. The test site was disked and chiseled prior to sowing each peanut cultivar at a rate of 6 seed/foot of row in an Independence (Cahaba) loamy fine sand (OM<1%) on May 27. Weed control was obtained with a post-plant application of Dual Magnum II at 1.25 pt/A on June 12. Post emergent weed control was obtained with Storm applied at 1.5 pt/A on July 1 and with Cadre applied at 4 oz/A on July 10. Thrips control was obtained with an early post application of Orthene 90S at 0.5 lb/A. A center pivot irrigation system was used to apply water as needed. Plots, which contained four 30-foot rows spaced 3-feet apart, were arranged in a randomized complete block with four replications. Fungicides were applied on July 22, July 29, Aug. 5, Aug. 19, Sept. 2, Sept. 15, Oct. 2, and Oct. 16 with a four-row tractor mounted sprayer.

Disease Assessment: Early leaf spot (ELS) was rated on Sept. 25, Oct. 7, and Oct. 21 using the 1-10 Florida peanut leaf spot scoring system where 1 = no disease, 2 = very few lesions in canopy, 3 = few lesions noticed in lower and upper canopy, 4 = some lesions in canopy and ≤ 10% defoliation, 5 = lesions noticeable and ≤ 25% defoliation, 6 = lesions numerous and ≤ 50% defoliation, 7 = lesions very numerous and ≤ 75% defoliation, 8 = numerous lesions on few remaining leaves and ≤ 90% defoliation, 9 = very few remaining leaves covered with lesions and ≤ 95% defoliation, and 10 = plants defoliated or dead. White mold hit counts (1 hit was defined as ≤ 1 foot of consecutive white mold-damaged plants per row) were made immediately after plot inversion on Oct. 23. Combine of the plots were delayed after inversion due to excessive rainfall. Yields are reported at <10% moisture. Statistical analysis on leaf spot intensity and white mold incidence was done on rank transformations of data, which are back transformed for presentation. Means were separated using Fisher's protected least significant difference (LSD) test ($P \leq 0.05$).

Results: Monthly rainfall totals for June, July, August, and August were near the 30-year historical average while temperatures were near normal for each month during the entire production season. Weather patterns were favorable for leaf spot diseases but not white mold development.

Weather: Rainfall totals were normal for July but below the historical average for June, August, and September. Temperatures were at to slightly above the seasonal average for the study location.

Results: The pressure from TSW was very low at this site and no differences in variety reaction to this disease was observed. Early leaf spot was very severe at this location and even though chlorothalonil was applied seven times, leaf spot severity among the cultivars was severe (Table 1). Among the cultivars, 'Georgia 09B' had the worst leaf spot severity followed closey by 'Georgia 13M.' All other cultivars had similar levels of early leaf spot defoliation. Due to heavy early leaf spot pressure, white mold never materialized and disease incidence was minimal. Early leaf severely impacted yields, but even though it had high leaf spot severity, 'Georgia-13M' yielded highest and yields obtained with 'Georgia 12Y,' 'Florunnner 107' and 'Tufrunner 511' were similar. Among the Virginia-market type varieties, Sugg yielded lowest and was similar to that seen with all other runner type varieties.

TABLE 1. YIELDS AND REACTION OF RUNNER- AND VIRGINIA-MARKET PEANUT VARIETIES TO DISEASES AT PBU IN CENTRAL AL IN 2015

Peanut variety	Market type	Leaf Spot Intensity [1]	White Mold[2]	Yield lb/A
Bailey	Virginia	5.6 bc[3]	0.3 abc	1476 c
Florida Fancy	Virginia	4.4 d	0.8 ab	2037 bc
Sugg	Virginia	5.0 cd	0.5 abc	2013 bc
Flo Run 107	Runner	7.0 a	0.8 ab	1946 bc
Georgia-06G	Runner	4.9 cd	0.7 abc	1737 c
Georgia-09B	Runner	5.2 cd	0.2 bc	2483 ab
Georgia-12Y	Runner	6.3 ab	0.2 bc	2936 a
Georgia-13M	Runner	5.5 c	1.0 a	2012 bc
TUFRunner 511	Runner	4.9 cd	0.8 ab	2499 ab
TUFRunner 727	Runner	5.5 c	0.0 c	2436 ab

[1] Leaf spot diseases were rated using the Florida 1 to 10 scale.
[2] White mold incidence is expressed as the number of hits per 100 foot of row.
[3] Means in each column followed by the same letter are not significantly different according Fisher's least significant difference (LSD) test ($P \leq 0.05$).

YIELD RESPONSE AND REACTION OF COMMERCIAL PEANUT VARIETIES TO LEAF SPOT AND WHITE MOLD IN CENTRAL ALABAMA, CREC

H. L. Campbell, A. K. Hagan, and J.A. Pitts

Objective: Assess the yield potential and reaction to leaf spot diseases and white mold of commercial runner-market type commercial peanut varieties and selected Virginia-market type varieties in a rain-fed production system at the Chilton Research and Extension Center.

Production Methods: The study site was prepared for planting with a moldboard plot and disk harrow. On May 21, runner- and Virginia-market type peanut varieties were planted at a rate of 6 seed per row foot in a Ruston fine sandy loam (OM<1%) soil at the Chilton Research and Extension Center. Weed control was obtained with a May 21 at-plant, incorporated broadcast application of 1.5 pint per acre Dual Magnum II. On June 7, Aug. 3, Aug. 14,and Aug. 27 a foliar application of Orthene 90S + Bravo WS was applied for insect control and leaf spot control. Soil fertility recommendations of the Alabama Cooperative Extension System were followed. The experimental design was a randomized complete block consisting of 4 rows 20 foot in length and spaced 42 inches apart. Plots were randomized in four complete blocks. Early leaf spot disease was rated using the 1-10 Florida peanut leaf spot scoring system where 1 = no disease, 2 = very few leaf spots, 3 = few leaf spots in lower and upper canopy, 4 = some leaf spotting and ≤ 10% defoliation, 5 = leaf spots noticeable and ≤ 25% defoliation, 6 = leaf spots numerous and ≤ 50% defoliation, 7 = leaf spots very numerous and ≤ 75% defoliation, 8 = numerous leaf spots on few remaining leaves and ≤ 90% defoliation, 9 = very few remaining leaves covered with leaf spots and ≤ 95% defoliation, and 10 = plants defoliated or dead on Oct. 1 just prior to inversion. On Oct. 1, white mold hit counts (1 hit was defined as ≤ 1 foot of consecutive white mold-damaged plants per row) were made immediately after plot inversion. Plots were combined after inversion and green weight was taken. Means were separated using Fisher's least significant difference (LSD) test ($P \leq 0.05$).

Results: Early leaf spot was the primary foliar disease observed and was much lower than that observed the previous year. Even though leaf spot severity was minor some differences sere observed between the cultivars. Among the cultivars evaluated, the lowest leaf spot ratings were observed by the Virginia cultivars 'Sugg' and 'Bailey' and the runner cultivars 'Georgia 06G,' 'Georgia 13M,''Florun 107,' and 'TUF 511.' Leaf spot rating among the remaining cultivars was similar. Incidence of white mold was also lower than the previous year, however after inversion, 'Georgia 09B' had the highest incidence of white mold hits compared with the other cultivars. Green peanut yield weights were recorded for the CREC study. Among the cultivars evaluated, 'Bailey' had the highest overall yield. Among the Virginia-market type cultivars, 'Bailey' yielded higher than 'Florida Fancy' and 'Sugg while' 'Georgia-12Y' and 'Georgia 13M' yielded highest among the runner-market type cultivars. All the remaining cultivars had similar yields.

YIELD RESPONSE AND DISEASE REACTION OF RUNNER- AND VIRGINIA-MARKET TYPE PEANUTS AT THE CHILTON RESEARCH AND EXTENSION CENTER IN 2014

Peanut variety	Market type	Leaf Spot Intensity [1]	White Mold[2]	Yield lb/A
Sugg	Virginia	1.5 b[3]	0.0 c	8755 bc
Florida Fancy	Virginia	1.8 ab	2.8 ab	8555 bc
Bailey	Virginia	1.5 b	0.5 c	10953 a
Georgia-09B	Runner	1.8 ab	4.3 a	7315 c
Georgia-06G	Runner	1.6 b	1.2 bc	7355 c
Georgia-12Y	Runner	2.0 a	0.8 bc	9394 b
Georgia-13M	Runner	1.5 b	0.8 bc	9554 ab
TUF 727	Runner	2.0 a	1.2 bc	7715 c
FloRun 107	Runner	1.6 b	1.5 bc	8655 bc
TUF 511	Runner	1.6 b	1.2 bc	8835 bc

[1]Leaf spot diseases were rated using the Florida 1 to 10 leaf spot rating scale.
[2]White mold incidence is expressed as the number of disease hits per 40 foot of row.
[3]Means in each column that are followed by the same letter are not significantly different according Fisher's least significant difference (LSD) test ($P \leq 0.05$).