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FINAL
2004

Report to the
Southeastern Peanut Research Initiative
Final Report for 2004 Project, April 7, 2005
On Progress on Research Supported by the Grant

"Integrated Management of Viral and Fungal Diseases and Insect Pests of Peanut Affecting Yield, Quality, and Net Returns under Various Cropping Systems"

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Update:

A. Tests were conducted in Tifton in which the cultivars/breeding lines Georgia Green, DP-1, C-11-239, Georgia 01R, Hull, and C-99R were combined with strip-till vs. conventional tillage for management of spotted wilt and leaf spot. All cultivar and tillage treatments were subjected to three fungicide treatments. One treatment consisted of a total of 6 applications: Headline, Folicur, Folicur, Folicur, Folicur, Bravo, with initial application at 45 days after planting. The second treatment received 3 sprays: Headline, Folicur, Folicur with initial application at 45 days after planting. The final treatment received two sprays, Headline, Folicur, with initial application at 60 days after planting. All plots were being evaluated multiple times for leaf spot, and was evaluated for white mold incidence after the plots were inverted. Spotted wilt pressure was too low to allow rating in this test. Leaf Spot pressure was intense. Leaf spot ratings were lower in the strip-till plots than conventional tillage plots for all entries. Leaf spot ratings on Oct 1 (final rating for Georgia Green) were lower for all other entries than for Georgia Green within the respective fungicide treatments. Leaf spot ratings were lowest in DP-1. Leaf spot ratings were similar for Georgia 01R and C-11-2-39. In nontreated plots across both tillage treatments, yields ranged from 2112 lb/A for Georgia Green to over 3000 lb/A for DP-1, C-11-2-39, and C99R. All cultivars responded to fungicide inputs with regard to yield. Highest yields in the full-fungicide treatment were 4714 lb/A for DP-1, with all of C-11-2-39, Georgia 01R, and Hull having yields of 4000 lb/A or more, and Georgia Green having yiled of 3488 lb/A.

B. A field test was conducted in Tifton in which Cultivars Georgia Green, Georgia 01R, and Tifrunner (C-34-24) were combined with in-furrow applications of i) Admire; ii) Thimet; and iii) Temik in addition to a non-treated check. One set of Thimet and Temik treatments also received foliar applications of Provado. Thrips damage ratings were made approximately 4 and 6 weeks after planting, and foliar samples were taken to determine thrips species and approximate numbers in each treatment at 4 and 6 weeks after treatment. Five spotted wilt ratings were made, with final ratings on August 23. Final spotted wilt ratings were lower and pod yields were higher in Tifrunner and Georgia 01R than in Georgia Green. Use of Thimet, Temik, or the high rate of Admire in-furrow reduced final spotted wilt ratings in Georgia Green and to a lesser degree on Georgia 01R. There was no additional reduction of spotted wilt with any insecticide treatment on Tifrunner. Across cultivars use of Thimet

or the high rate of Admire increased yield compared to that of the non-treated plots. of the high A high rate of Admire insecticide applied in-furrow may help reduce severity of spotted wilt in Georgia Green. With greater resistance in Georgia 01R or TifRunner, little response has been observed to any of the insecticide treatments. In the mid-1990's we found that Admire applied in-furrow provided excellent thrips control, but still signficantly INCREASED spotted wilt incidence on Georgia Runner peanuts. With new cultivars such as Georgia 01R and Tifrunner with greater resistance to spotted wilt than in even Georgia Green, we may be able to use Admire for thrips control. These results indicate as well, that insecticide choice matters very little for spotted wilt management in a variety with field resistance to spotted wilt that is as high as that in Tifrunner. This test has also been part of the undergraduate research project of Mr. Russ Griffin, a student in the UGA Tifton Campus program.

C. Multiple field tests were conducted by with Ph.D. student Jason Woodward to test components of the fungal risk index. Most of those tests involved components such as cultivar, rotation, tillage and other that affect one or more fungal disease as well as spotted wilt.

D. Field tests have been established at the Wiregrass Research & Extension Center in Headland, AL and Gulf Coast REC in Fairhope, AL with 8 commercial cultivars to evaluate aldicarb and phorate insecticides for thrips and TSWV control. Plant stand counts have been made and thrips damage ratings will be made within the next two weeks. Data on TSW incidence will be taken at 50-80-110 and pre-harvest. Data will also be taken of leafspot, white mold and other soil diseases. Multiple tests have been established at WREC, GCREC and at the Plant Breeding Unit of E. V. Smith Research Station in Tallassee, AL to evaluate leafhoppers and other insect pests in Carver, C-99R and Georgia Green peanut cultivars.

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NATIONAL PEANUT BOARD/SOUTHEAST PEANUT RESEARCH INITIATIVE QUARTERLY PROGRESS REPORT FOR WORK DONE UNDER RESEARCH AGREEMENT	Quarter ending December 31, 2004

INSTITUTION: University of Florida

PROJECT TITLE: Integrated Management of Viral and Fungal Diseases and Insect Pests of Peanut Affecting Yield, Quality and Net Returns Under Various Cropping Systems.

RES. AGR. NO: PROJECT LEADER: Dr. Raymond N. Gallaher

EXPIRATION DATE: December 31, 2004

SPRI CONTACT: Emory Murphy NPB CONTACT: Stephen O'Brien

FINAL REPORT:

Strip-Till Peanut in Double Cropping Systems with Winter Crops and Rotations with Summer Crops, 2004, University of Florida, IFAS, Agronomy Department & Plant Science Research and Education Center, Citra, FL

Raymond N. Gallaher, University of Florida, Gainesville.
Bob Kemerait, University of Georgia
John A. Baldwin, University of Georgia

Raymond N. Gallaher,
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University of Florida
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December 20, 2004

TITLE: Integrated Management of Viral and Fungal Diseases and Insect Pests of Peanut Affecting Yield, Quality and Net Returns Under Various Cropping Systems.

OBJECTIVES: 1. Determine the success of growing strip-till peanut in north Florida, planted in double-cropping systems with wheat, rye, oat, lupine, vetch, and crimson clover. 2. Determine peanut response to cropping system and rotation with peanut, corn, and cotton. 3. Determine pest problems in 24 double-cropping and summer crop rotations.

METHODS: Winter crops were planted November 20, 2003 at the Plant Science Research and Education Center, Citra, FL. These crops were all harvested for forage in late March of 2004. 'Georgia Green' peanut was strip-tilled in 30-inch wide rows in late March following each of the winter crops and in rotations with peanut, corn, and cotton planted in the previous year. Other summer crops of corn and cotton were also planted in rotations similar to peanut in order to maintain the double cropping systems and rotations among the summer crops. The experiment was replicated six times. The six winter crops were main effect treatments and peanut in the four summer crop rotations were sub effect treatments in a split-plot experimental design. Therefore, there were a total of 24 combinations of double-cropping and summer crop rotations in the study for peanut. Quality data is measured from sub samples of pods in the winter months of January and February. Dr. Kemerait made disease ratings for Gallaher about 10 days prior to peanut harvest. He also took soil samples and for the lab in Georgia to determine incidence of nematodes. Gallaher made measurements of infestation of the weed Day Flower and percent ground cover of weeds at harvest time. Insecticides and fungicides were used on a regular basis to control diseases in 2004. The experiment in 2004 completed the fourth cycle of systems long-term objectives.

RESULTS AND CONCLUSIONS: As in past years strip-till peanut continues to be a proven practice. Acceptable peanut yields were obtained following all six of the winter crops (Table 1). No interaction occurred between winter crop and summer crop rotations in 2004. Pod yields were greatest in double-crop combinations with oat, wheat, vetch, and lupine. However, in 2004 peanut after oat stood out, among the highest yielding double cropping systems. Summer crop rotations of peanut with corn and continuous peanut over the four years gave the greatest yield in 2004.

No differences were found among the peanut double cropping systems or summer crop rotations for leaf spot disease (Table 2). Winter crop in double cropping systems with peanut were not significantly different for tomato spotted wilt (TSW) (Table 3). However, TSW infestation was about ¼ th greater on peanut rotated with corn compared to other summer crop rotations (Table 3).

Percent ground cover of weeds was lowest for continuous peanut rotations over the 4-year period followed closely by rotations with corn (Table 4). Percent ground cover of weeds (Table 4) and populations of the dayflower weed (Table 5) were highly positively correlated. In this study it appears that weeds (Tables 4 and 5) had a greater impact on pod yield (Table 1) than either of the diseases measured (Tables 2 and 3).

Root-knot nematodes were highest on peanut following oat and in summer crop rotations with peanut and corn (Table 6). This means that systems having the highest pod yield also had the highest incidence of TSW (rotations with corn) (Table 3) and highest incidence of root-knot nematodes (Table 6). One explanation for this in regard to nematodes is that the peanut could have had a greater mass of roots in the higher pod yielding systems that could support more nematodes.

We hope to evaluate the disease, nematode, weed pest data in relation to pod yield and soil properties more closely in our final year of this study in 2005. For example we know that many weeds are host to TSW

and root-knot nematodes. We may find that differential weed populations are developing, particularly among the summer crop rotations, that can help explain relationships with pod yield and help us to avoid peanut yield losses.

BENEFITS TO COMMODITY GROUP: Production research on peanut systems is essential to the sustainability of our peanut industry in the Southeast. Small plot research testing is a cheep investment by our peanut commodity group in order to keep up-to date on management options that will or will not work. The above study is being conducted in an area heavily infested with dayflower, one of the worst weed pest to manage. Compared to other years in this study we continually improve on our ability to control this pest with combinations of herbicides under strip-till management. Our data in 2004 indicate that we need to test more options in the control of weeds in our cotton crop that will not allow weed carryover to the peanut crop. Apparently our best control of dayflower among the four summer crop rotations is with continuous peanut. These systems will be conducted again in 2005 using our best management for foliar diseases and weed control.

EXPENDITURES: The $2,000 allocated by this grant was used to offset part of the land rent in 2004.

Table 1. Strip-till peanut pod yield of 'Georgia Green' variety affected by multiple cropping systems and crop rotations for 2004 at the Plant Science Research and Education Unit, Citra, FL. (Gallaher, Kemerait, Baldwin)

					Pod yield
Winter Crop	2001	2002	2003	2004	Pounds/Acre
Wheat	Peanut	Peanut	Peanut	Peanut	3961
Wheat	Corn	Peanut	Corn	Peanut	3763
Wheat	Cotton	Peanut	Cotton	Peanut	2279
Wheat	Peanut	Corn	Cotton	Peanut	3008
Rye	Peanut	Peanut	Peanut	Peanut	2878
Rye	Corn	Peanut	Corn	Peanut	3514
Rye	Cotton	Peanut	Cotton	Peanut	2478
Rye	Peanut	Corn	Cotton	Peanut	2437
Oat	Peanut	Peanut	Peanut	Peanut	3939
Oat	Corn	Peanut	Corn	Peanut	4151
Oat	Cotton	Peanut	Cotton	Peanut	2545
Oat	Peanut	Corn	Cotton	Peanut	3779
Lupine	Peanut	Peanut	Peanut	Peanut	3196
Lupine	Corn	Peanut	Corn	Peanut	3524
Lupine	Cotton	Peanut	Cotton	Peanut	2910
Lupine	Peanut	Corn	Cotton	Peanut	2741
Vetch	Peanut	Peanut	Peanut	Peanut	3355
Vetch	Corn	Peanut	Corn	Peanut	3451
Vetch	Cotton	Peanut	Cotton	Peanut	2978
Vetch	Peanut	Corn	Cotton	Peanut	3030
Crimson clover	Peanut	Peanut	Peanut	Peanut	2722
Crimson clover	Corn	Peanut	Corn	Peanut	3337
Crimson clover	Cotton	Peanut	Cotton	Peanut	2176
Crimson clover	Peanut	Corn	Cotton	Peanut	2686
Wheat	Average of winter crops over all summer crop rotations				3253 AB
Rye					2827 B
Oat					3604 A
Lupine					3093 AB
Vetch					3204 AB
Crimson clover					2730 B
Average of summer crops over all winter crop rotations	Peanut	Peanut	Peanut	Peanut	3342 A
	Corn	Peanut	Corn	Peanut	3623 A
	Cotton	Peanut	Cotton	Peanut	2561 C
	Peanut	Corn	Cotton	Peanut	2947 B

No interaction occurred between winter crop and summer crop rotations. Winter crop-peanut double cropping systems averaged over summer crop rotations were significant at $p = 0.05$. Pod yield values among the six winter crop-peanut double cropping systems not followed by the same letter are significantly different at $p = 0.05$ according to LSD. Summer crop rotations were highly significant at $p > 0.000$. Pod yield values among the four summer crop rotation averages over all winter crop systems not followed by the same letter are significantly different at $p = 0.05$ according to LSD.

Table 2. Strip-till peanut early leaf spot of 'Georgia Green' variety affected by multiple cropping systems and crop rotations for 2004 at the Plant Science Research and Education Unit, Citra, FL. (Gallaher, Kemerait, Baldwin)

					Leaf Spot
Winter Crop	2001	2002	2003	2004	Rating 1 to 10
Wheat	Peanut	Peanut	Peanut	Peanut	3.25
Wheat	Corn	Peanut	Corn	Peanut	3.08
Wheat	Cotton	Peanut	Cotton	Peanut	2.83
Wheat	Peanut	Corn	Cotton	Peanut	2.83
Rye	Peanut	Peanut	Peanut	Peanut	3.42
Rye	Corn	Peanut	Corn	Peanut	2.83
Rye	Cotton	Peanut	Cotton	Peanut	2.92
Rye	Peanut	Corn	Cotton	Peanut	3.25
Oat	Peanut	Peanut	Peanut	Peanut	3.17
Oat	Corn	Peanut	Corn	Peanut	2.75
Oat	Cotton	Peanut	Cotton	Peanut	2.67
Oat	Peanut	Corn	Cotton	Peanut	2.92
Lupine	Peanut	Peanut	Peanut	Peanut	3.17
Lupine	Corn	Peanut	Corn	Peanut	2.92
Lupine	Cotton	Peanut	Cotton	Peanut	3.33
Lupine	Peanut	Corn	Cotton	Peanut	2.92
Vetch	Peanut	Peanut	Peanut	Peanut	2.92
Vetch	Corn	Peanut	Corn	Peanut	2.58
Vetch	Cotton	Peanut	Cotton	Peanut	2.83
Vetch	Peanut	Corn	Cotton	Peanut	3.08
Crimson clover	Peanut	Peanut	Peanut	Peanut	3.33
Crimson clover	Corn	Peanut	Corn	Peanut	3.58
Crimson clover	Cotton	Peanut	Cotton	Peanut	3.08
Crimson clover	Peanut	Corn	Cotton	Peanut	2.83
Wheat	Average of winter crops over all summer crop rotations				3.00 A
Rye					3.10 A
Oat					2.87 A
Lupine					3.08 A
Vetch					2.85 A
Crimson clover					3.21 A
Average of summer crops over all winter crop rotations	Peanut	Peanut	Peanut	Peanut	3.21 A
	Corn	Peanut	Corn	Peanut	2.96 A
	Cotton	Peanut	Cotton	Peanut	2.94 A
	Peanut	Corn	Cotton	Peanut	2.97 A

Leaf spot ratings are Florida 1-10 scale, where 1 = no leaf spot and 10 = completely defoliated and killed by leaf spot (Adapted from Chiteka et al. Peanut Science 15:25-30).

No interaction occurred between winter crop and summer crop rotations. No significant differences occurred for early leaf spot among winter crop systems. No significant differences occurred among summer crop rotations.

Table 3. Strip-till peanut tomato spotted wilt (TSW) virus of 'Georgia Green' variety affected by multiple cropping systems and crop rotations for 2004 at the Plant Science Research and Education Unit, Citra, FL. (Gallaher, Kemerait, Baldwin)

					TSW
Winter Crop	2001	2002	2003	2004	% infestation
Wheat	Peanut	Peanut	Peanut	Peanut	26.50
Wheat	Corn	Peanut	Corn	Peanut	46.17
Wheat	Cotton	Peanut	Cotton	Peanut	32.83
Wheat	Peanut	Corn	Cotton	Peanut	40.67
Rye	Peanut	Peanut	Peanut	Peanut	34.33
Rye	Corn	Peanut	Corn	Peanut	44.17
Rye	Cotton	Peanut	Cotton	Peanut	38.17
Rye	Peanut	Corn	Cotton	Peanut	37.50
Oat	Peanut	Peanut	Peanut	Peanut	30.83
Oat	Corn	Peanut	Corn	Peanut	40.83
Oat	Cotton	Peanut	Cotton	Peanut	40.50
Oat	Peanut	Corn	Cotton	Peanut	31.33
Lupine	Peanut	Peanut	Peanut	Peanut	41.33
Lupine	Corn	Peanut	Corn	Peanut	53.17
Lupine	Cotton	Peanut	Cotton	Peanut	31.00
Lupine	Peanut	Corn	Cotton	Peanut	37.50
Vetch	Peanut	Peanut	Peanut	Peanut	31.33
Vetch	Corn	Peanut	Corn	Peanut	44.17
Vetch	Cotton	Peanut	Cotton	Peanut	28.50
Vetch	Peanut	Corn	Cotton	Peanut	35.67
Crimson clover	Peanut	Peanut	Peanut	Peanut	24.00
Crimson clover	Corn	Peanut	Corn	Peanut	32.33
Crimson clover	Cotton	Peanut	Cotton	Peanut	43.50
Crimson clover	Peanut	Corn	Cotton	Peanut	28.33
Wheat	Average of winter crops over all summer crop rotations				36.54 A
Rye					38.54 A
Oat					35.87 A
Lupine					40.75 A
Vetch					34.92 A
Crimson clover					32.04 A
Average of summer crops over all winter crop rotations	Peanut	Peanut	Peanut	Peanut	31.39 B
	Corn	Peanut	Corn	Peanut	43.47 A
	Cotton	Peanut	Cotton	Peanut	35.75 B
	Peanut	Corn	Cotton	Peanut	35.17 B

No interaction occurred between winter crop and summer crop rotations. No differences occurred for TSW among the winter crop systems. Summer crop rotations were highly significant at $p = 0.01$. Pod yield values among the four summer crop rotation averages over all winter crop systems not followed by the same letter are significantly different at $p = 0.05$ according to LSD.

Table 4. Strip-till peanut ground cover of weeds at harvest of 'Georgia Green' variety affected by multiple cropping systems and crop rotations for 2004 at the Plant Science Research and Education Unit, Citra, FL. (Gallaher, Kemerait, Baldwin)

					Weeds
Winter Crop	2001	2002	2003	2004	% ground cover
Wheat	Peanut	Peanut	Peanut	Peanut	11.17
Wheat	Corn	Peanut	Corn	Peanut	31.33
Wheat	Cotton	Peanut	Cotton	Peanut	64.17
Wheat	Peanut	Corn	Cotton	Peanut	50.50
Rye	Peanut	Peanut	Peanut	Peanut	19.33
Rye	Corn	Peanut	Corn	Peanut	42.17
Rye	Cotton	Peanut	Cotton	Peanut	60.00
Rye	Peanut	Corn	Cotton	Peanut	50.00
Oat	Peanut	Peanut	Peanut	Peanut	18.17
Oat	Corn	Peanut	Corn	Peanut	31.83
Oat	Cotton	Peanut	Cotton	Peanut	52.00
Oat	Peanut	Corn	Cotton	Peanut	44.33
Lupine	Peanut	Peanut	Peanut	Peanut	19.33
Lupine	Corn	Peanut	Corn	Peanut	30.00
Lupine	Cotton	Peanut	Cotton	Peanut	53.33
Lupine	Peanut	Corn	Cotton	Peanut	55.83
Vetch	Peanut	Peanut	Peanut	Peanut	21.17
Vetch	Corn	Peanut	Corn	Peanut	33.00
Vetch	Cotton	Peanut	Cotton	Peanut	58.33
Vetch	Peanut	Corn	Cotton	Peanut	47.50
Crimson clover	Peanut	Peanut	Peanut	Peanut	12.33
Crimson clover	Corn	Peanut	Corn	Peanut	27.50
Crimson clover	Cotton	Peanut	Cotton	Peanut	55.83
Crimson clover	Peanut	Corn	Cotton	Peanut	61.33
Wheat	Average of winter crops over all summer crop rotations				39.29 A
Rye					42.88 A
Oat					36.58 A
Lupine					39.63 A
Vetch					40.00 A
Crimson clover					39.25 A
Average of summer crops over all winter crop rotations	Peanut	Peanut	Peanut	Peanut	16.92 C
	Corn	Peanut	Corn	Peanut	32.64 B
	Cotton	Peanut	Cotton	Peanut	57.28 A
	Peanut	Corn	Cotton	Peanut	51.58 A

No interaction occurred between winter crop and summer crop rotations. No differences occurred for percent ground cover of weeds at harvest among the winter crop systems. Summer crop rotations were highly significant at $p > 0.000$. Percent ground cover of weeds values among the four summer crop rotation averages over all winter crop systems not followed by the same letter are significantly different at $p = 0.05$ according to LSD.

Table 5. Strip-till peanut infestation with dayflower at harvest of 'Georgia Green' variety affected by multiple cropping systems and crop rotations for 2004 at the Plant Science Research and Education Unit, Citra, FL. (Gallaher, Kemerait, Baldwin)

					Dayflower
Winter Crop	2001	2002	2003	2004	Number/acre
Wheat	Peanut	Peanut	Peanut	Peanut	203500
Wheat	Corn	Peanut	Corn	Peanut	334500
Wheat	Cotton	Peanut	Cotton	Peanut	633500
Wheat	Peanut	Corn	Cotton	Peanut	708900
Rye	Peanut	Peanut	Peanut	Peanut	249100
Rye	Corn	Peanut	Corn	Peanut	462700
Rye	Cotton	Peanut	Cotton	Peanut	562300
Rye	Peanut	Corn	Cotton	Peanut	626300
Oat	Peanut	Peanut	Peanut	Peanut	213500
Oat	Corn	Peanut	Corn	Peanut	377200
Oat	Cotton	Peanut	Cotton	Peanut	619200
Oat	Peanut	Corn	Cotton	Peanut	583600
Lupine	Peanut	Peanut	Peanut	Peanut	179300
Lupine	Corn	Peanut	Corn	Peanut	334500
Lupine	Cotton	Peanut	Cotton	Peanut	626300
Lupine	Peanut	Corn	Cotton	Peanut	718800
Vetch	Peanut	Peanut	Peanut	Peanut	182100
Vetch	Corn	Peanut	Corn	Peanut	313100
Vetch	Cotton	Peanut	Cotton	Peanut	711700
Vetch	Peanut	Corn	Cotton	Peanut	348700
Crimson clover	Peanut	Peanut	Peanut	Peanut	192100
Crimson clover	Corn	Peanut	Corn	Peanut	313100
Crimson clover	Cotton	Peanut	Cotton	Peanut	683200
Crimson clover	Peanut	Corn	Cotton	Peanut	605000
Wheat	Average of winter crops over all summer crop rotations				470100 A
Rye					475000 A
Oat					448400 A
Lupine					464700 A
Vetch					388900 A
Crimson clover					448400 A
Average of summer crops over all winter crop rotations	Peanut	Peanut	Peanut	Peanut	203300 C
	Corn	Peanut	Corn	Peanut	355900 B
	Cotton	Peanut	Cotton	Peanut	639400 A
	Peanut	Corn	Cotton	Peanut	598500 A

No interaction occurred between winter crop and summer crop rotations. No differences occurred for population of dayflower at harvest among the winter crop systems. Summer crop rotations were highly significant at $p > 0.000$. Dayflower population values among the four summer crop rotation averages over all winter crop systems not followed by the same letter are significantly different at $p = 0.05$ according to LSD.

Table 6. Strip-till peanut infestation with nematodes at harvest of 'Georgia Green' variety affected by multiple cropping systems and crop rotations for 2004 at the Plant Science Research and Education Unit, Citra, FL. (Gallaher, Kemerait, Baldwin)

					Root-knot	Ring
Winter Crop	2001	2002	2003	2004	Number/100 cc soil	
Wheat	Peanut	Peanut	Peanut	Peanut	41	111
Wheat	Corn	Peanut	Corn	Peanut	23	70
Wheat	Cotton	Peanut	Cotton	Peanut	38	100
Wheat	Peanut	Corn	Cotton	Peanut	15	125
Rye	Peanut	Peanut	Peanut	Peanut	43	126
Rye	Corn	Peanut	Corn	Peanut	35	57
Rye	Cotton	Peanut	Cotton	Peanut	56	105
Rye	Peanut	Corn	Cotton	Peanut	3	73
Oat	Peanut	Peanut	Peanut	Peanut	78	282
Oat	Corn	Peanut	Corn	Peanut	106	39
Oat	Cotton	Peanut	Cotton	Peanut	63	89
Oat	Peanut	Corn	Cotton	Peanut	23	73
Lupine	Peanut	Peanut	Peanut	Peanut	29	178
Lupine	Corn	Peanut	Corn	Peanut	33	114
Lupine	Cotton	Peanut	Cotton	Peanut	19	94
Lupine	Peanut	Corn	Cotton	Peanut	7	120
Vetch	Peanut	Peanut	Peanut	Peanut	26	59
Vetch	Corn	Peanut	Corn	Peanut	10	98
Vetch	Cotton	Peanut	Cotton	Peanut	29	108
Vetch	Peanut	Corn	Cotton	Peanut	16	103
Crimson clover	Peanut	Peanut	Peanut	Peanut	57	86
Crimson clover	Corn	Peanut	Corn	Peanut	22	147
Crimson clover	Cotton	Peanut	Cotton	Peanut	10	176
Crimson clover	Peanut	Corn	Cotton	Peanut	6	58
Wheat	Average of winter crops over all summer crop rotations				29 B	101 A
Rye					34 B	90 A
Oat					68 A	121 A
Lupine					22 B	127 A
Vetch					20 B	92 A
Crimson clover					24 B	117 A
Average of summer crops over all winter crop rotations	Peanut	Peanut	Peanut	Peanut	46 A	140 A
	Corn	Peanut	Corn	Peanut	38 A	87 A
	Cotton	Peanut	Cotton	Peanut	36 AB	112 A
	Peanut	Corn	Cotton	Peanut	12 B	92 A

No interaction occurred between winter crop and summer crop rotations. Populations of root-knot among winter crops were significant at $p = 0.10$. Summer crop rotations for root-knot were significant at $p = 0.10$. Ring populations among either winter crops or summer crop rotations were not significantly different. Mean values among winter crops or summer crop rotations not followed by the same letter are significantly different at $p = 0.10$ according to LSD.

Chris Destino

From: Emory Murphy [emory@gapeanuts.com]
Sent: Friday, April 08, 2005 4:34 PM
To: Joy Purvis
Cc: Chris Destino; Steve O'Brien
Subject: Gallaherfinalreport05.doc

Attachments: Gallaherfinalreport05.doc

Gallaherfinalreport0
5.doc (280...

Attached you will find Gallagher's(Florida) part of the final report where he was a cooperator on Culbreath's 04 series NPB-SPRI project. This is a second file of that final report for the 2004 project titled "Integrated Management of Viral and Fungal Diseases and Insect Pests of Peanut Affecting Yield, Quality, and Net Returns under Various Cropping Systems". This is the same project for which Culbreath was the PI and his part of the final report was sent separately.