

Southeastern Peanut Research Initiative 2011
Fourth Quarter and Final Report
January 1, 2011 to December 31, 2011

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2011
Final +
Sum

Title: Influence of Gramoxone and Timing and Basagran on New Peanut Cultivar Growth, Yield and Grade.

Investigators:

Florida:

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Funding Period: January 1, 2011 to December 31, 2011

Objectives:

1. Determine the effect of Gramoxone timing on growth, yield and grade of selected new peanut cultivars.
2. Determine whether the addition of Basagran reduces any effect the Gramoxone has on peanut growth, yield or grade.

Final Report:

Field studies were conducted at the West Florida Research and Education Center, Jay, FL and Plant Science Research and Education Unit, Citra, FL to determine the effect of Gramoxone timing of application on peanut growth, yield and grade. Gramoxone Inteon was applied both with and without Basagran at three timings. A nontreated check was included for comparison. All treatments were applied to four peanut cultivars (Florida 07, Georgia 07W, TifGuard, and Georgia 06G). Peanut visual injury and canopy width data were collected during the growing season. At termination of the experiment, peanuts were harvested and graded. The field sites were maintained weed free and under irrigation throughout duration of the experiment.

Florida 07, Georgia 07W, Tifguard and Georgia 06G peanuts were planted on April 25, 2011 at the Citra site and May 23 at the Jay site. Gramoxone Inteon was applied at 12 oz/A with or without 16 oz/A of Basagran at true peanut cracking, 20 days after cracking (DAC) or 30 DAC. True peanut cracking treatments were applied May 5 at Citra and May 27 at Jay.

The true peanut cracking treatments caused less than 10% foliar damage to the peanuts regardless of whether the treatment included Basagran and there were no differences between peanut cultivars at either Jay and Citra. At Citra, the 20 and 30 DAC caused much more foliar damage than the true at cracking treatments. The addition of Basagran reduced foliar damage from about 35% to about 25%. The response was similar for all cultivars except Florida 07 which appeared to be more sensitive to Gramoxone.

At Citra, peanut foliar growth was not affected by Gramoxone Inteon applied at true cracking or 30 DAC. However, when applied 20 DAC, canopy width was less than the untreated when Gramoxone Inteon was

applied alone for all cultivars. The addition of Basagran lessened canopy injury for Florida 07 and TifGuard.

At Jay, results were similar to Citra, however, differences between treatments with Basagran and without Basagran were less pronounced than at Citra. At Jay, there were no differences between peanut cultivars. At Jay treatments applied 30 DAC reduced foliar growth more than treatments applied earlier. Mixing Basagran with Gramoxone Inteon reduced foliar injury by 5% or less for all cultivars at all application timings.

All peanut cultivars recovered from Gramoxone Inteon within a few weeks after treatment. Foliar injury ratings and canopy width measurements indicated that after recovery there are no visual differences between treatments. Differences between cultivars were visible but were due to innate growth differences between cultivars and are not related to any herbicide treatment.

Peanut yield was not reduced compared to the nontreated when Gramoxone Inteon was applied at true cracking or 20 DAC. However, Gramoxone Inteon applied alone 30 DAC reduced yield by 10% and Gramoxone Inteon + Basagran reduced yield by 5%. Peanut grade was not affected by any treatment at either location.

In summary, while some initial foliar damage was observed, Gramoxone Inteon applied at true cracking or 20 DAC did not cause long-term injury to the peanut cultivars studied and yields were equal to the nontreated check. Adding Basagran lessened foliar damage but did not impact yield. However, when applied 30 DAC Gramoxone Inteon alone reduced yield by about 10% and adding Basagran improved but did not eliminate yield loss.

11	GA 07W					0	1	13	8	26.3	41.3	68.5	80.5
11	Gramoxone Inteon	2	SC	12	oz/a	B							
11	Basagran	4	SC	16	oz/a	B							
11	Induce			0.25	% v/v	B							
12	GA 07W					0	1	16	0	28.3	39.0	62.5	76.3
12	Gramoxone Inteon	2	SC	12	oz/a	C							
12	Induce			0.25	% v/v	C							
13	GA 07W					0	1	14	0	31.0	44.5	62.3	78.5
13	Gramoxone Inteon	2	SC	12	oz/a	C							
13	Basagran	4	SC	16	oz/a	C							
13	Induce			0.25	% v/v	C							

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Crop Code	ARHHY	ARHHY	ARHHY	ARHHY	ARHHY	ARHHY	ARHHY	ARHHY
Part Rated	0-100	0-100	0-100	0-100				
Rating Data Type	Visual	Visual	Visual	Visual	Width	Width	Width	Width
Rating Unit	%Injury	%Injury	%Injury	%Injury	cm	cm	cm	cm
Rating Date	06/03/11	06/10/11	07/12/11	08/09/11	06/20/11	06/29/11	07/13/11	07/29/11
Trt-Eval Interval	7 DA-A	14 DA-A	46 DA-A	74 DA-A	24 DA-A	33 DA-A	47 DA-A	63 DA-A
ARM Action Codes								
# Subsamples, Dec.	0	0	0	0	1	1	1	1
Trt Treatment	Form	Form	Rate	Appl				
No. Name	Conc	Type	Rate	Unit	Code			
	1	2	3	4	5	6	7	8
LSD (P=.05)	2.1	3.3	9.1	6.4	5.50	8.47	10.22	6.93
Standard Deviation	1.5	2.3	6.4	4.6	3.89	5.99	7.23	4.90
CV	121.94	173.35	62.13	156.89	14.53	14.67	10.71	6.1

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Crop Code						ARHHY	ARHHY	ARHHY	ARHHY	
Part Rated						Width	Yield	YIELD	Grade	
Rating Data Type						cm	lbs/plot	lb/A	%SMK	
Rating Unit						08/11/11	10/14/11	10/14/11	11/15/11	
Rating Date						76 DA-A	140 DA-A	140 DA-A	172 DA-A	
Trt-Eval Interval								TY1		
ARM Action Codes										
# Subsamples, Dec.						1	2	0	0	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Appl Unit	Code	9	10	11	12
1	Florida 07						91.6	14.76	5313	67
1	Gramoxone Inteon	2	SC	12 oz/a	A					
1	Induce			0.25 % v/v	A					
2	Florida 07						94.9	15.15	5455	67
2	Gramoxone Inteon	2	SC	12 oz/a	A					
2	Basagran	4	SC	16 oz/a	A					
2	Induce			0.25 % v/v	A					
3	Florida 07						94.2	15.34	5522	68
3	Gramoxone Inteon	2	SC	12 oz/a	B					
3	Induce			0.25 % v/v	B					
4	Florida 07						98.2	17.08	6151	68
4	Gramoxone Inteon	2	SC	12 oz/a	B					
4	Basagran	4	SC	16 oz/a	B					
4	Induce			0.25 % v/v	B					
5	Florida 07						92.1	15.60	5617	67
5	Gramoxone Inteon	2	SC	12 oz/a	C					
5	Induce			0.25 % v/v	C					
6	Florida 07						89.3	14.71	5295	68
6	Gramoxone Inteon	2	SC	12 oz/a	C					
6	Basagran	4	SC	16 oz/a	C					
6	Induce			0.25 % v/v	C					
7	Florida 07						97.8	15.13	5448	69
7	Untreated Check									
8	GA 07W						95.2	15.55	5599	71
8	Gramoxone Inteon	2	SC	12 oz/a	A					
8	Induce			0.25 % v/v	A					
9	GA 07W						98.3	14.58	5250	71
9	Gramoxone Inteon	2	SC	12 oz/a	A					
9	Basagran	4	SC	16 oz/a	A					
9	Induce			0.25 % v/v	A					
10	GA 07W						100.2	15.61	5621	73
10	Gramoxone Inteon	2	SC	12 oz/a	B					
10	Induce			0.25 % v/v	B					
11	GA 07W						98.1	16.73	6023	72
11	Gramoxone Inteon	2	SC	12 oz/a	B					
11	Basagran	4	SC	16 oz/a	B					
11	Induce			0.25 % v/v	B					
12	GA 07W						89.9	13.51	4865	70
12	Gramoxone Inteon	2	SC	12 oz/a	C					
12	Induce			0.25 % v/v	C					
13	GA 07W						90.3	15.82	5695	71
13	Gramoxone Inteon	2	SC	12 oz/a	C					
13	Basagran	4	SC	16 oz/a	C					
13	Induce			0.25 % v/v	C					
14	GA 07W						99.7	15.75	5672	73
14	Untreated Check									
15	Tifguard						103.0	14.80	5329	69
15	Gramoxone Inteon	2	SC	12 oz/a	A					
15	Induce			0.25 % v/v	A					

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							ARHHY	ARHHY	ARHHY	ARHHY
Crop Code										
Part Rated										
Rating Data Type							Width	Yield	YIELD	Grade
Rating Unit							cm	lbs/plot	lb/A	%SMK
Rating Date							08/11/11	10/14/11	10/14/11	11/15/11
Tri-Eval Interval							76 DA-A	140 DA-A	140 DA-A	172 DA-A
ARM Action Codes									TY1	
# Subsamples, Dec.							1	2	0	0
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Appl Code	9	10	11	12
16	Tifguard						99.8	14.80	5329	72
16	Gramoxone Inteon	2	SC	12	oz/a	A				
16	Basagran	4	SC	16	oz/a	A				
16	Induce			0.25	% v/v	A				
17	Tifguard						98.9	14.92	5371	71
17	Gramoxone Inteon	2	SC	12	oz/a	B				
17	Induce			0.25	% v/v	B				
18	Tifguard						104.0	17.63	6348	68
18	Gramoxone Inteon	2	SC	12	oz/a	B				
18	Basagran	4	SC	16	oz/a	B				
18	Induce			0.25	% v/v	B				
19	Tifguard						102.7	13.06	4702	70
19	Gramoxone Inteon	2	SC	12	oz/a	C				
19	Induce			0.25	% v/v	C				
20	Tifguard						100.0	14.39	5180	69
20	Gramoxone Inteon	2	SC	12	oz/a	C				
20	Basagran	4	SC	16	oz/a	C				
20	Induce			0.25	% v/v	C				
21	Tifguard						97.9	15.30	5510	70
21	Untreated Check									
22	GA 06G						95.1	15.48	5572	71
22	Gramoxone Inteon	2	SC	12	oz/a	A				
22	Induce			0.25	% v/v	A				
23	GA 06G						89.7	15.82	5695	71
23	Gramoxone Inteon	2	SC	12	oz/a	A				
23	Basagran	4	SC	16	oz/a	A				
23	Induce			0.25	% v/v	A				
24	GA 06G						88.0	16.01	5765	70
24	Gramoxone Inteon	2	SC	12	oz/a	B				
24	Induce			0.25	% v/v	B				
25	GA 06G						91.7	16.71	6015	73
25	Gramoxone Inteon	2	SC	12	oz/a	B				
25	Basagran	4	SC	16	oz/a	B				
25	Induce			0.25	% v/v	B				
26	GA 06G						85.5	14.64	5270	69
26	Gramoxone Inteon	2	SC	12	oz/a	C				
26	Induce			0.25	% v/v	C				
27	GA 06G						91.6	15.69	5650	70
27	Gramoxone Inteon	2	SC	12	oz/a	C				
27	Basagran	4	SC	16	oz/a	C				
27	Induce			0.25	% v/v	C				
28	GA 06G						93.8	17.03	6132	70
28	Untreated Check									
LSD (P=.05)							3.88	1.954	703.8	3.1
Standard Deviation							2.74	1.382	497.6	2.2
CV							2.87	8.97	8.97	3.18

Column 11: TY1 = 360.096*[10]

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Peanuts: Gramoxone Timing x Peanut Cultivar

Trial ID: PEA - SPRI
 Protocol ID:
 Project ID:

Location: Jason Ferrell
 Investigator:
 Study Director:
 Sponsor Contact:

Trial Year:

Crop Code	ARHHY	ARHHY	ARHHY	ARHHY	ARHHY	ARHHY
BBCH Scale	BPNT	BPNT	BPNT	BPNT	BPNT	BPNT
Crop Scientific Name	Arachis hypoga>	Arachis hypoga>	Arachis hypoga>	Arachis hypoga>	Arachis hypoga>	Arachis hypoga>
Crop Name	Peanut	Peanut	Peanut	Peanut	Peanut	Peanut
Part Rated	CANOPY -	CANOPY -	CANOPY -	CANOPY -	CANOPY -	CANOPY -
Rating Date	May-13-2011	May-13-2011	May-20-2011	May-20-2011	Jun-1-2011	Jun-1-2011
Rating Type	PHYGEN	WIDTH	PHYGEN	WIDTH	PHYGEN	WIDTH
Rating Unit	%	cm	%	cm	%	cm
Number of Subsamples	1	1	1	1	1	5
Days After First/Last Applic.	8 8	8 8	15 15	15 15	27 7	27 7
Plant-Eval Interval	18 DP-1	18 DP-1	25 DP-1	25 DP-1	37 DP-1	37 DP-1
ARM Action Codes						
Number of Decimals	0	0	0	0	0	0

Trt No.	Treatment Name	Rate	Appl Code	1	2	3	4	5	6
1	GA 06G			10	5	4	15	0	22
1	Gramoxone Inteon	12 fl oz/a	A						
2	GA 06G			10	5	3	15	0	25
2	Gramoxone	12 fl oz/a	A						
2	Basgran	1 pt/a	A						
3	GA 06G							39	19
3	Gramoxone	12 fl oz/a	B						
4	GA 06G							29	22
4	Gramoxone	12 fl oz/a	B						
4	Basgran	1 pt/a	B						
5	GA 06G								
5	Gramoxone	12 fl oz/a	C						
6	GA 06G								
6	Gramoxone	12 fl oz/a	C						
6	Basgran	1 pt/a	C						
7	GA 06G			0	5	0	14	1	23
7	Untreated								
8	FL 07			10	5	5	17	1	25
8	Gramoxone	12 fl oz/a	A						
9	FL 07			10	5	4	17	0	27
9	Gramoxone	12 fl oz/a	A						
9	Basgran	1 pt/a	A						
10	FL 07							35	19
10	Gramoxone	12 fl oz/a	B						
11	FL 07							28	22
11	Gramoxone	12 fl oz/a	B						
11	Basgran	1 pt/a	B						
12	FL 07								
12	Gramoxone	12 fl oz/a	C						
13	FL 07								
13	Gramoxone	12 fl oz/a	C						
13	Basgran	1 pt/a	C						
14	FL 07			0	5	0	17	0	32
14	Untreated								
15	GA 07W			10	5	5	18	0	27
15	Gramoxone	12 fl oz/a	A						

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Peanuts: Gramoxone Timing x Peanut Cultivar

Trial ID: PEA - SPRI
 Protocol ID:
 Project ID:

Location:
 Investigator: Jason Ferrell
 Study Director:
 Sponsor Contact:

Trial Year:

Crop Code	ARHHY BPNT	ARHHY BPNT	ARHHY BPNT	ARHHY BPNT	ARHHY BPNT	ARHHY BPNT
BBCH Scale	Arachis hypoga>	Arachis hypoga>	Arachis hypoga>	Arachis hypoga>	Arachis hypoga>	Arachis hypoga>
Crop Scientific Name	Peanut	Peanut	Peanut	Peanut	Peanut	Peanut
Crop Name	CANOPY -	CANOPY -	CANOPY -	CANOPY -	CANOPY -	CANOPY -
Part Rated	May-13-2011	May-13-2011	May-20-2011	May-20-2011	Jun-1-2011	Jun-1-2011
Rating Date	PHYGEN	WIDTH	PHYGEN	WIDTH	PHYGEN	WIDTH
Rating Type	%	cm	%	cm	%	cm
Rating Unit	1	1	1	1	1	5
Number of Subsamples	8 8	8 8	15 15	15 15	27 7	27 7
Days After First/Last Applic.	18 DP-1	18 DP-1	25 DP-1	25 DP-1	37 DP-1	37 DP-1
Plant-Eval Interval						
ARM Action Codes						
Number of Decimals	0	0	0	0	0	0

Trt No.	Treatment Name	Rate	Appl Unit	Code	1	2	3	4	5	6
16	GA 07W				9	5	6	15	0	27
16	Gramoxone	12 fl oz/a	A							
16	Basgran	1 pt/a	A							
17	GA 07W				0	5	0	17	30	21
17	Gramoxone	12 fl oz/a	B							
18	GA 07W								29	20
18	Gramoxone	12 fl oz/a	B							
18	Basgran	1 pt/a	B							
19	GA 07W									
19	Gramoxone	12 fl oz/a	C							
20	GA 07W									
20	Gramoxone	12 fl oz/a	C							
20	Basgran	1 pt/a	C							
21	GA 07W				0	5	0	16	0	24
21	Untreated									
22	TiftGaurd				10	5	5	17	4	25
22	Gramoxone	12 fl oz/a	A							
23	TiftGaurd				10	5	3	17	0	29
23	Gramoxone	12 fl oz/a	A							
23	Basgran	1 pt/a	A							
24	TiftGaurd								35	21
24	Gramoxone	12 fl oz/a	B							
25	TiftGaurd								24	24
25	Gramoxone	12 fl oz/a	B							
25	Basgran	1 pt/a	B							
26	TiftGaurd									
26	Gramoxone	12 fl oz/a	C							
27	TiftGaurd									
27	Gramoxone	12 fl oz/a	C							
27	Basgran	1 pt/a	C							
28	TiftGaurd				0	5	4	18	0	28
28	Untreated									
LSD (P=.05)					0.7	0.0	2.0	1.3	6.0	2.9
Standard Deviation					0.5	0.0	1.4	0.9	4.3	2.0
CV					7.76	0.39	48.78	5.56	33.7	8.41

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Peanuts: Gramoxone Timing x Peanut Cultivar

Trial ID: PEA - SPRI Location: Trial Year:
 Protocol ID: Investigator: Jason Ferrell
 Project ID: Study Director:
 Sponsor Contact:

Crop Code	ARHHY	ARHHY	ARHHY	ARHHY	ARHHY
BBCH Scale	BPNT	BPNT	BPNT	BPNT	BPNT
Crop Scientific Name	Arachis hypoga>	Arachis hypoga>	Arachis hypoga>	Arachis hypoga>	Arachis hypoga>
Crop Name	Peanut	Peanut	Peanut	Peanut	Peanut
Part Rated	CANOPY -	CANOPY -	CANOPY -	YIELD -	YIELD -
Rating Date	Jun-15-2011	Jun-15-2011	Jun-27-2011	Sep-6-2011	Sep-6-2011
Rating Type	PHYGEN	WIDTH	PHYGEN	WEIGHT	YIELD
Rating Unit	%	cm	%	LB	LB/A
Number of Subsamples	1	5	1	1	1
Days After First/Last Applic.	41 21	41 21	53 7	124 78	124 78
Plant-Eval Interval	51 DP-1	51 DP-1	63 DP-1	134 DP-1	134 DP-1
ARM Action Codes					TY1
Number of Decimals	0	0	0	1	0

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	7	8	9	10	11
1	GA 06G							12.3	4286
1	Gramoxone Inteon	12 fl oz/a	A						
2	GA 06G							12.2	4251
2	Gramoxone	12 fl oz/a	A						
2	Basgran	1 pt/a	A						
3	GA 06G				0	41		12.0	4182
3	Gramoxone	12 fl oz/a	B						
4	GA 06G				0	44		11.9	4129
4	Gramoxone	12 fl oz/a	B						
4	Basgran	1 pt/a	B						
5	GA 06G				0	52	34	10.0	3467
5	Gramoxone	12 fl oz/a	C						
6	GA 06G				0	52	24	10.9	3781
6	Gramoxone	12 fl oz/a	C						
6	Basgran	1 pt/a	C						
7	GA 06G				0	51	0	11.9	4147
7	Untreated								
8	FL 07							12.6	4391
8	Gramoxone	12 fl oz/a	A						
9	FL 07				0	52		13.6	4722
9	Gramoxone	12 fl oz/a	A						
9	Basgran	1 pt/a	A						
10	FL 07				0	45	49	11.7	4060
10	Gramoxone	12 fl oz/a	B						
11	FL 07				0	53		13.7	4757
11	Gramoxone	12 fl oz/a	B						
11	Basgran	1 pt/a	B						
12	FL 07				0	63	39	11.8	4112
12	Gramoxone	12 fl oz/a	C						
13	FL 07				0	64	28	10.5	3659
13	Gramoxone	12 fl oz/a	C						
13	Basgran	1 pt/a	C						
14	FL 07				0	69	0	10.8	3746
14	Untreated								
15	GA 07W							12.8	4443
15	Gramoxone	12 fl oz/a	A						

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Peanuts: Gramoxone Timing x Peanut Cultivar

Trial ID: PEA - SPRI Location: Trial Year:
 Protocol ID: Investigator: Jason Ferrell
 Project ID: Study Director:
 Sponsor Contact:

Crop Code	ARHHY	ARHHY	ARHHY	ARHHY	ARHHY
BBCH Scale	BPNT	BPNT	BPNT	BPNT	BPNT
Crop Scientific Name	Arachis hypoga>	Arachis hypoga>	Arachis hypoga>	Arachis hypoga>	Arachis hypoga>
Crop Name	Peanut	Peanut	Peanut	Peanut	Peanut
Part Rated	CANOPY -	CANOPY -	CANOPY -	YIELD -	YIELD -
Rating Date	Jun-15-2011	Jun-15-2011	Jun-27-2011	Sep-6-2011	Sep-6-2011
Rating Type	PHYGEN	WIDTH	PHYGEN	WEIGHT	YIELD
Rating Unit	%	cm	%	LB	LB/A
Number of Subsamples	1	5	1	1	1
Days After First/Last Applic.	41 21	41 21	53 7	124 78	124 78
Plant-Eval Interval	51 DP-1	51 DP-1	63 DP-1	134 DP-1	134 DP-1
ARM Action Codes					TY1
Number of Decimals	0	0	0	1	0

Trt No.	Treatment Name	Rate	Appl Code	7	8	9	10	11
16	GA 07W						13.6	4722
16	Gramoxone	12 fl oz/a	A					
16	Basgran	1 pt/a	A					
17	GA 07W			0	47		12.7	4408
17	Gramoxone	12 fl oz/a	B					
18	GA 07W			0	45		12.4	4304
18	Gramoxone	12 fl oz/a	B					
18	Basgran	1 pt/a	B					
19	GA 07W			0	58	21	10.5	3642
19	Gramoxone	12 fl oz/a	C					
20	GA 07W			0	55	25	12.5	4339
20	Gramoxone	12 fl oz/a	C					
20	Basgran	1 pt/a	C					
21	GA 07W			0	52	0	12.0	4164
21	Untreated							
22	TiftGaurd						12.0	4182
22	Gramoxone	12 fl oz/a	A					
23	TiftGaurd						11.8	4112
23	Gramoxone	12 fl oz/a	A					
23	Basgran	1 pt/a	A					
24	TiftGaurd			0	41		11.9	4129
24	Gramoxone	12 fl oz/a	B					
25	TiftGaurd			0	49		11.0	3834
25	Gramoxone	12 fl oz/a	B					
25	Basgran	1 pt/a	B					
26	TiftGaurd			0	60	35	10.2	3568
26	Gramoxone	12 fl oz/a	C					
27	TiftGaurd			0	64	24	10.8	3746
27	Gramoxone	12 fl oz/a	C					
27	Basgran	1 pt/a	C					
28	TiftGaurd			0	61	0	12.1	4199
28	Untreated							
LSD (P=.05)				0.0	5.6	5.4	2.07	722.9
Standard Deviation				0.0	4.0	3.8	1.47	511.2
CV				0.0	7.48	17.9	12.39	12.39

University of Florida

Peanuts: Gramoxone Timing x Peanut Cultivar

Trial ID: PEA - SPRI Location: Trial Year:
Protocol ID: Investigator: Jason Ferrell
Project ID: Study Director:
Sponsor Contact:

Crop Code

ARHHY, BPNT, Arachis hypogaea, = US

Part Rated

CANOPY = canopy

YIELD = yield

Rating Type

PHYGEN = phytotoxicity - general / injury

WIDTH = width

WEIGHT = weight

YIELD = yield

Rating Unit

% = percent

cm = centimeter

LB = pound

Plant-Eval Interval

18 DP-1 = 1 Apr-25-2011

25 DP-1 = 1 Apr-25-2011

37 DP-1 = 1 Apr-25-2011

51 DP-1 = 1 Apr-25-2011

63 DP-1 = 1 Apr-25-2011

134 DP-1 = 1 Apr-25-2011

ARM Action Codes

TY1 = 348.48*[10]