

University of Georgia

Pepper growth on LDPE and metalized mulch when using methyl bromide alternatives.

Trial ID: Veg22-06
Location: TVP

Study Dir.: Culpepper, Sumner, Davis
Investigator: Stanley Culpepper

Reps: 3 Plots: 6 by 30 feet
Spray vol: 14.8 gal/ac Mix size: 1 liters (min .69451)

Trt No.	Treatment Name	Form Conc	Form Unit	Rate	Grow Stg	Appl Code	Amt to Measure	Product	Plot No.	By Rep 1	2	3
1	Telone 12 G Chloropicrin 150 lb Vapam 75 G LDPE black/black 1.25 mil							101	202	301		
2	Telone 12 G Chloropicrin 150 lb Vapam 75 G Metalized smooth 1.3 mil (striped)							102	201	302		
3	MIDAS 50:50 400 lb LDPE black/black 1.25 mil							103	204	303		
4	MIDAS 50:50 400 lb Metalized smooth 1.3 mil (striped)							104	203	304		
5	MB 67:33 400 lb LDPE black/black 1.25 mil							107	208	305		
6	MB 67:33 400 lb Metalized smooth 1.3 mil (striped)							108	207	306		
7	None LDPE black/black 1.25 mil							105	206	307		
8	None Metalized smooth 1.3 mil (striped)							106	205	308		

Sort Order: Treatment

Product quantities required for listed treatments and applications in one trial:

Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
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* 'Per area' calculations based on spray volume= 14.8 gal/ac, mix size= 1 liters (mix size basis).

* Product amount calculations increased 25 % for overage adjustment.

Trial Comments

OBJECTIVE: Evaluate pepper growth when MB fumigant alternatives were applied under LDPE or metalized mulch in a weed free environment.

GAS EMISSION:

- Gas measurements were taken with GAS-TEC MODEL GV-100 GAS SAMPLING PUMP WITH STANDARD DECTOR TUBS FOR EACH GAS. A 6.5 inch funnel was glued upside down to the top of each mulch to eliminate cross contamination. At time of measurement a stopper with the dector tub was inserted into the funnel with the measurement made.
- Reported data has two sets of results for treatments 2, 4, and 6. At the top of each column one will note the word either silver or strip. When measuring the metalized mulch, which had a black heat strip down the middle which was not metalized, measurements were taken on the metalized component (noted silver) or in the center of the heat strip (noted strip).

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3. Chloropicrin was the only gas measured from the 3 way treatment.
 1. No Pic was detected at 1 hour after fumigation.
 2. At 24 and 48 hr, the metalized mulch reduced emissions 11 X and 2 X, respectively, compared to LDPE.
 3. Cumulative emission showed 4X less Pic emission from the metalized component compared to the LDPE.
 4. Measurements taken from the LDPE and heat strip were similar.
4. MIDAS.
 1. Emissions were similar for metalized mulch area and LDPE at 1 hr and 48 hour.
 2. Emissions were 2.5 X greater on LDPE when compared to metalized mulch area at 24 hr.
 3. Measurements taken from the LDPE and heat strip area were similar.
5. MB.
 1. Emissions were 8 to 50 times less in areas with metalized mulch compared to LDPE.
 2. Measurements taken from the LDPE and heat strip area were similar.

VISUAL INJURY (pepper transplanted 20 d after fumigation, holes poked and crop planted simultaneously):

1. Methyl bromide caused less than 7% visual stunting regardless of mulch type.
2. MIDAS applied under LDPE mulch caused little injury but injury was severe when applied under metalized mulch (23%).
3. Telone/Pic/Vapam applied under LDPE mulch stunted pepper 10% and stunted pepper 43% when applied under metalized mulch.

PEPPER HEIGHTS (20 plants per plot measured 28 d after transplanting):

1. Compared to the non-treated, all fumigants reduced plant heights.
2. Compared to MB under LDPE mulch, Telone/Pic/Vapam or MIDAS under metalized mulch reduced plant growth at least 20%.

YIELDS: (Jumbo pepper were harvested four times):

1. At harvest 1 and for the total harvest, yields were generally less when applying Telone/Pic/Vapam or MIDAS under metalized mulch. Additionally, trends for less yield at harvest 1 for Telone/Pic/Vapam were noted on LDPE mulch because of early season stunting.

CONCLUSIONS:

1. Metalized mulches used to reduce fumigant loss will thereby increase plant back injury issues even at 20 d after fumigation.
2. Silver mulch in the early spring will likely not be acceptable because of cooler soils which future reducing fumigant losses and reduce plant vigor thereby negatively impacting the ability of the crop to sustain minimal fumigant injury.

GENERAL INFORMATION:

Mulch Information:

1. LDPE was a black on black mulch 1.25 mil.
2. Metalized mulch was silver on black with a black strip down the center of the silver side. Silver side with the black strip was laid up.

Application Information:

1. MB, MIDAS and Chloropicrin applied with a super bedder plastic layer injecting fumigant 8 inches deep with three knives for a 32 inch bed top.
2. Telone II applied 12 inches deep with a yetter rig.
3. Vapam applied 4 inches deep with knives 4 inches apart on a 32 inch bed top.

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Pepper growth on LDPE and metalized mulch when using methyl bromide alternatives.									
Trial ID: Veg22-06		Study Dir.: Culpepper, Sumner, Davis							
Location: TVP		Investigator: Stanley Culpepper							
Weed Code	Fumigant emission silver -1hr ppm	Fumigant emission silver -24h ppm	Fumigant emission silver -48h ppm	Cumulative fumigation silver ppm	Fumigant emission strip -1hr ppm	Fumigant emission strip -24h ppm	Fumigant emission strip-48h ppm	Cumulative fumigation strip ppm	
Crop Code				T4					T5
Rating Data Type									
Rating Unit									
Rating Date									
Trt-Eval Interval									
ARM Action Codes									
# Subsamples, Dec.									
Trt Treatment No. Name	Rate Rate Unit	1	2	3	4	5	6	7	8
1 Telone 12 G Chloropicrin 150 lb Vapam 75 G LDPE black/black 1.25 mil		0 a	6 a	7 a	13 a	0 a	6 a	7 a	13 a
2 Telone 12 G Chloropicrin 150 lb Vapam 75 G Metalized smooth 1.3 mil (striped)		0 a	1 b	3 a	4 b	0 a	5 a	7 a	12 a
3 MIDAS 50:50 400 lb LDPE black/black 1.25 mil									
4 MIDAS 50:50 400 lb Metalized smooth 1.3 mil (striped)									
5 MB 67:33 400 lb LDPE black/black 1.25 mil									
6 MB 67:33 400 lb Metalized smooth 1.3 mil (striped)									
7 None LDPE black/black 1.25 mil									
8 None Metalized smooth 1.3 mil (striped)									
LSD (P=.05)	0.0	1.9	6.4	8.1	0.0	1.4	10.8	11.7	
Standard Deviation	0.0	0.5	1.8	2.3	0.0	0.4	3.1	3.3	
CV	0.0	17.52	35.69	28.39	0.0	7.42	44.03	26.73	
Bartlett's X2	0.0	0.31	0.025	0.0	0.0	0.866	0.558	0.705	
P(Bartlett's X2)	.	0.577	0.875	0.985	.	0.352	0.455	0.401	

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

Column 4: T4 = [C1]+[C2]+[C3]

Column 8: T5 = [C5]+[C6]+[C7]

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Weed Code Crop Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval ARM Action Codes # Subsamples, Dec.	Fumigant emission silver -1hr ppm	Fumigant emission silver -24h ppm	Fumigant emission silver -48h ppm	Cumulative emission silver ppm	Fumigant emission strip -1hr ppm	Fumigant emission strip -24h ppm	Fumigant emission strip-48h ppm	Cumulative emission strip ppm
Trt Treatment Rate No. Name Rate Unit	9	10	11	T6				T7
1 Telone 12 G Chloropicrin 150 lb Vapam 75 G LDPE black/black 1.25 mil								
2 Telone 12 G Chloropicrin 150 lb Vapam 75 G Metalized smooth 1.3 mil (striped)								
3 MIDAS 50:50 400 lb LDPE black/black 1.25 mil	6 a	27 a	13 a	46 a	6 b	27 a	13 a	46 b
4 MIDAS 50:50 400 lb Metalized smooth 1.3 mil (striped)	7 a	10 b	15 a	32 a	41 a	41 a	28 a	110 a
5 MB 67:33 400 lb LDPE black/black 1.25 mil								
6 MB 67:33 400 lb Metalized smooth 1.3 mil (striped)								
7 None LDPE black/black 1.25 mil								
8 None Metalized smooth 1.3 mil (striped)								
LSD (P=.05)	10.0	13.7	29.6	39.0	26.1	42.6	18.0	46.9
Standard Deviation	2.9	3.9	8.4	11.1	7.4	12.1	5.1	13.3
CV	43.97	21.24	60.26	28.58	31.38	35.86	25.16	17.15
Bartlett's X2	0.083	0.164	0.866	2.787	0.01	1.323	0.438	2.441
P(Bartlett's X2)	0.773	0.686	0.352	0.095	0.92	0.25	0.508	0.118

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

Column 12: T6 = [C9]+[C10]+[C11]

Column 16: T7 = [C13]+[C14]+[C15]

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Weed Code Crop Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval ARM Action Codes # Subsamples, Dec.	Fumigant emission silver -1hr ppm	Fumigant emission silver -24h ppm	Fumigant emission silver -48h ppm	Cumulative emission silver ppm	Fumigant emission strip -1hr ppm	Fumigant emission strip -24h ppm	Fumigant emission strip-48h ppm	Cumulative emission strip ppm
Trt Treatment Rate No. Name Rate Unit	17	18	19	20	21	22	23	24
1 Telone 12 G Chloropicrin 150 lb Vapam 75 G LDPE black/black 1.25 mil								
2 Telone 12 G Chloropicrin 150 lb Vapam 75 G Metalized smooth 1.3 mil (striped)								
3 MIDAS 50:50 400 lb LDPE black/black 1.25 mil								
4 MIDAS 50:50 400 lb Metalized smooth 1.3 mil (striped)								
5 MB 67:33 400 lb LDPE black/black 1.25 mil	70 a	67 a	32 a	168 a	70 a	67 a	32 a	168 a
6 MB 67:33 400 lb Metalized smooth 1.3 mil (striped)	1 a	4 b	4 b	10 b	42 a	80 a	47 a	169 a
7 None LDPE black/black 1.25 mil								
8 None Metalized smooth 1.3 mil (striped)								
LSD (P=.05) Standard Deviation CV Bartlett's X2 P(Bartlett's X2)	91.8 26.1 73.26 7.833 0.005*	18.6 5.3 14.95 0.242 0.623	6.3 1.8 9.98 0.485 0.486	74.6 21.2 23.87 6.078 0.014*	74.7 21.2 37.94 1.124 0.289	62.5 17.8 24.27 2.441 0.118	21.5 6.1 15.64 2.924 0.087	124.3 35.4 20.99 0.188 0.665

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

Column 20: T8 = [C17]+[C18]+[C19]

Column 24: T9 = [21]+[22]+[23]

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Weed Code	pepper stunt percent	plant 1 pepper ht cm	plant 2 pepper ht cm	plant 3 pepper ht cm	plant 4 pepper ht cm	plant 5 pepper ht cm	plant 6 pepper ht cm	plant 7 pepper ht cm
Crop Code								
Rating Data Type								
Rating Unit								
Rating Date								
Trt-Eval Interval								
ARM Action Codes								
# Subsamples, Dec.								
Trt Treatment	Rate							
No. Name	Rate	Unit	25	26	27	28	29	30
1 Telone 12 G	10	c	15 ab	16 bc	14 ab	15 bcd	16 a	17 abc
Chloropicrin 150 lb								
Vapam 75 G								
LDPE black/black								
1.25 mil								
2 Telone 12 G	43	a	14 ab	12 c	12 b	11 d	13 a	12 bc
Chloropicrin 150 lb								
Vapam 75 G								
Metalized smooth								
1.3 mil (striped)								
3 MIDAS 50:50 400 lb	4	de	15 ab	17 abc	16 ab	14 bcd	16 a	17 abc
LDPE black/black								
1.25 mil								
4 MIDAS 50:50 400 lb	23	b	13 b	12 c	13 ab	13 cd	13 a	12 c
Metalized smooth								
1.3 mil (striped)								
5 MB 67:33 400 lb	3	de	18 a	18 ab	16 ab	19 ab	18 a	17 ab
LDPE black/black								
1.25 mil								
6 MB 67:33 400 lb	7	cd	17 ab	16 bc	17 ab	16 a-d	16 a	17 abc
Metalized smooth								
1.3 mil (striped)								
7 None	0	e	17 ab	21 a	17 ab	20 a	17 a	18 a
LDPE black/black								
1.25 mil								
8 None	5	de	17 ab	17 abc	18 a	16 abc	16 a	16 abc
Metalized smooth								
1.3 mil (striped)								
LSD (P=.05)	4.8		3.6	4.7	5.3	4.2	5.6	4.6
Standard Deviation	2.7		2.1	2.7	3.0	2.4	3.2	2.6
CV	22.95		13.08	16.72	19.72	15.5	20.52	16.52
Bartlett's X2	3.424		7.982	5.443	5.26	1.846	5.366	6.038
P(Bartlett's X2)	0.49		0.334	0.606	0.628	0.968	0.615	0.535
								0.022*

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

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Weed Code Crop Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval ARM Action Codes # Subsamples, Dec.	plant 8 pepper ht cm Apr-12-06 48 DA-A	plant 9 pepper ht cm Apr-12-06 48 DA-A	plant 10 pepper ht cm Apr-12-06 48 DA-A	plant 11 pepper ht cm Apr-12-06 48 DA-A	plant 12 pepper ht cm Apr-12-06 48 DA-A	plant 13 pepper ht cm Apr-12-06 48 DA-A	plant 14 pepper ht cm Apr-12-06 48 DA-A	plant 15 pepper ht cm Apr-12-06 48 DA-A
Trt Treatment No. Name Rate Rate Unit	33	34	35	36	37	38	39	40
1 Telone 12 G Chloropicrin 150 lb Vapam 75 G LDPE black/black 1.25 mil	16 bc	17 abc	15 bc	17 a	17 a	17 a	12 a	15 b
2 Telone 12 G Chloropicrin 150 lb Vapam 75 G Metalized smooth 1.3 mil (striped)	16 bc	13 c	15 bc	13 ab	14 a	8 b	16 a	14 b
3 MIDAS 50:50 400 lb LDPE black/black 1.25 mil	17 bc	15 bc	17 b	15 ab	16 a	14 a	16 a	18 ab
4 MIDAS 50:50 400 lb Metalized smooth 1.3 mil (striped)	12 d	14 bc	13 c	11 b	13 a	14 ab	14 a	15 b
5 MB 67:33 400 lb LDPE black/black 1.25 mil	14 cd	17 abc	18 ab	17 a	16 a	18 a	17 a	15 b
6 MB 67:33 400 lb Metalized smooth 1.3 mil (striped)	16 bc	18 ab	17 b	16 ab	15 a	15 a	15 a	15 b
7 None LDPE black/black 1.25 mil	21 a	21 a	21 a	18 a	16 a	18 a	17 a	20 a
8 None Metalized smooth 1.3 mil (striped)	18 ab	17 abc	18 ab	15 ab	16 a	17 a	17 a	14 b
LSD (P=.05) Standard Deviation CV Bartlett's X2 P(Bartlett's X2)	2.5 1.4 8.88 6.887 0.441	4.3 2.5 15.1 8.467 0.293	3.6 2.0 12.03 6.077 0.531	5.0 2.8 18.52 10.071 0.185	7.0 4.0 25.85 9.552 0.215	6.4 3.6 24.05 14.607 0.024*	7.9 4.5 29.06 15.51 0.03*	3.6 2.1 13.18 4.543 0.716

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

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Weed Code Crop Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval ARM Action Codes # Subsamples, Dec.	plant 16 pepper ht cm Apr-12-06 48 DA-A	plant 17 pepper ht cm Apr-12-06 48 DA-A	plant 18 pepper ht cm Apr-12-06 48 DA-A	plant 19 pepper ht cm Apr-12-06 48 DA-A	plant 20 pepper ht cm Apr-12-06 48 DA-A	plant av pepper ht cm Apr-12-06 48 DA-A T1	harv 1 pepper fruit # May-24-06 90 DA-A	harv 1 pepper fruit wt/lb May-24-06 90 DA-A
Trt Treatment No. Name Rate Rate Unit	41	42	43	44	45	46	47	48
1 Telone 12 G Chloropicrin 150 lb Vapam 75 G LDPE black/black 1.25 mil	15 ab	16 a	16 bc	16 a	17 a	16 b	41 cd	16 d
2 Telone 12 G Chloropicrin 150 lb Vapam 75 G Metalized smooth 1.3 mil (striped)	14 b	15 a	14 bc	9 b	14 ab	13 c	23 d	8 e
3 MIDAS 50:50 400 lb LDPE black/black 1.25 mil	16 ab	16 a	16 abc	17 a	18 a	16 b	62 bc	27 c
4 MIDAS 50:50 400 lb Metalized smooth 1.3 mil (striped)	13 b	14 a	13 c	14 ab	11 b	13 c	36 d	13 de
5 MB 67:33 400 lb LDPE black/black 1.25 mil	16 ab	16 a	15 bc	17 a	14 ab	16 b	73 ab	28 bc
6 MB 67:33 400 lb Metalized smooth 1.3 mil (striped)	15 ab	15 a	14 bc	16 a	17 ab	16 b	79 ab	31 abc
7 None LDPE black/black 1.25 mil	18 a	16 a	20 a	17 a	17 ab	19 a	93 a	37 a
8 None Metalized smooth 1.3 mil (striped)	17 ab	17 a	17 ab	18 a	16 ab	17 ab	90 a	35 ab
LSD (P=.05) Standard Deviation CV Bartlett's X2 P(Bartlett's X2)	3.8 2.1 13.82 6.988 0.43	3.4 1.9 12.46 5.69 0.459	3.9 2.2 14.32 3.217 0.864	6.0 3.4 21.69 15.192 0.034*	5.2 2.9 18.82 8.023 0.236	1.8 1.0 6.55 10.06 0.185	21.3 12.2 19.63 5.514 0.597	6.4 3.7 15.0 3.957 0.785

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

Column 46: T1 = ([C26]+[C27]+[C28]+[C29]+[C30]+[C31]+[C32]+[C33]+[C34]+[C35]+[C36]+[C37]+[C38]+[C39]+[C40]+[C41]+[C42]+[>]

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Weed Code	harv 2	harv 2	harv 3	harv 3	harv 4	harv 4	Harv1-4	Harv1-4
Crop Code	pepper							
Rating Data Type	fruit							
Rating Unit	#	wt/lb	#	wt/lb	#	wt/lb	#	wt/lb
Rating Date	May-30-06	May-30-06	Jun-06-06	Jun-06-06	Jun-14-06	Jun-14-06	Jun-14-06	Jun-14-06
Trt-Eval Interval	96 DA-A	96 DA-A	103 DA-A	103 DA-A	111 DA-A	111 DA-A	111 DA-A	111 DA-A
ARM Action Codes							T2	T3
# Subsamples, Dec.							1	
Trt Treatment	Rate							
No. Name	Rate	Unit	49	50	51	52	53	54
1 Telone 12 G Chloropicrin 150 lb Vapam 75 G LDPE black/black 1.25 mil	60 a		24 a	80 a	32 a	40 ab	14 bcd	220.0 b
2 Telone 12 G Chloropicrin 150 lb Vapam 75 G Metalized smooth 1.3 mil (striped)	32 a		12 a	45 a	18 a	40 ab	14 a-d	138.7 c
3 MIDAS 50:50 400 lb LDPE black/black 1.25 mil	79 a		32 a	45 a	18 a	46 ab	15 abc	232.3 b
4 MIDAS 50:50 400 lb Metalized smooth 1.3 mil (striped)	68 a		27 a	42 a	16 a	35 ab	12 cd	181.0 bc
5 MB 67:33 400 lb LDPE black/black 1.25 mil	75 a		31 a	51 a	19 a	33 b	11 cd	232.7 b
6 MB 67:33 400 lb Metalized smooth 1.3 mil (striped)	67 a		27 a	50 a	20 a	29 b	7 d	225.3 b
7 None LDPE black/black 1.25 mil	69 a		26 a	72 a	28 a	61 a	22 a	294.7 a
8 None Metalized smooth 1.3 mil (striped)	67 a		28 a	94 a	36 a	52 ab	21 ab	302.7 a
LSD (P=.05)	47.5		18.0	46.6	19.2	23.6	7.0	48.38
Standard Deviation	27.1		10.3	26.6	10.9	13.5	4.0	27.62
CV	41.99		39.71	44.48	46.71	32.21	27.19	12.09
Bartlett's X2	10.062		11.261	7.85	7.919	6.095	9.573	2.503
P(Bartlett's X2)	0.185		0.128	0.346	0.34	0.529	0.214	0.927
								0.892

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

Column 55: T2 = [C47]+[C49]+[C51]+[C53]

Column 56: T3 = [C48]+[C50]+[C52]+[C54]

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Pepper growth on LDPE and metализed mulch when using methyl bromide alternatives.

Trial ID: Veg22-06
Location: TVP

Study Dir.: Culpepper, Sumner, Davis
Investigator: Stanley Culpepper

GENERAL TRIAL INFORMATION

Study Director: Paul Sumner **Title:** Ext Bio and Ag Engin
Affiliation: University of Georgia
Postal Code: 31794

Investigator: Stanley Culpepper **Title:** Ext. Weed Science
Affiliation: Univ. of Georgia
Postal Code: 31794

TRIAL LOCATION

City: Tifton **Trial Status:** completed
State/Prov.: GA **Trial Reliability:** good
Postal Code: 31794 **Initiation Date:** Feb-23-06
Country: USA **Planned Completion Date:** _____
E-Longitude of LL Corner °: _____ **N-Latitude of LL Corner °:** _____
Altitude of LL Corner: _____ **Unit:** _____ **Angle y-axis to North °:** _____
Directions:

COOPERATOR/LANDOWNER

Cooperator: _____ **Country:** _____
Org: _____ **Phone No:** _____
Address 1: _____ **Fax No:** _____
Address 2: _____
City: _____
State/Prov: _____
Postal Code: _____

Conducted Under GLP (Y/N): N **Conducted Under GEP (Y/N):** N
Guidelines: _____ **Guideline Description:** _____

Objective:

Conclusions:

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.			

Crop 1: CPSAN PEPPER **Variety:** Heritage
Planting Date: Mar-15-06 **Planting Method:** transplant
Rate: 1 ft **Depth:** 1 in **Perennial Age:** _____
Row Spacing: 15 inch **Spacing Within Row:** 12 inch **Seed Bed:** raised bed
Soil Temperature: 80 F **Soil Moisture:** drip **Emergence Date:** _____

SITE AND DESIGN

Plot Width, Unit: 6 FT **Plot Length, Unit:** 30 FT **Reps:** 3
Site Type: Tifton Vegetable Park
Tillage Type: conventional **Study Design:** FACTORIAL

Trial Initiation Comments:

	Previous Crops	Previous Pesticides	Year
1.			

MAINTENANCE

Field Prep./Maintenance:

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No.	Date	Maintenance Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit
1.							

SOIL DESCRIPTION

% Sand: 88 % OM: 1.1 Texture: sand
 % Silt: 10 pH: 6.4 Soil Name: Tifton sandy loam
 % Clay: 2 CEC: _____ Fert. Level: _____

ADDITIONAL MEASURED ELEMENTS

Element	Quantity	Unit

MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Type	Interval	Unit
1.							

Overall Moisture Conditions: _____

Closest Weather Station: _____ Distance: _____ Unit: _____

APPLICATION DESCRIPTION

A	
Application Date:	Feb-23-06
Time of Day:	2 pm
Application Method:	in bed
Application Timing:	preplant
Appli. Placement:	in soil
Air Temp., Unit:	70 F
% Relative Humidity:	34
Wind Velocity, Unit:	2 mph
Dew Presence (Y/N):	n
Water Hardness:	
Soil Temp., Unit:	66 F
Soil Moisture:	moist
% Cloud Cover:	25

CROP STAGE AT EACH APPLICATION

A	
Crop 1 Code, Stage:	CPSAN
Stage Scale:	DESC
Height, Unit:	3 IN

WEED STAGE AT EACH APPLICATION

A	
Weed 1 Code, Stage:	
Stage Scale:	
Density, Unit:	

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APPLICATION EQUIPMENT

	A
Appl. Equipment:	see
Operating Pressure:	comments
Nozzle Type:	
Nozzle Size:	
Nozzle Spacing, Unit:	
Nozzles/Row:	
Band Width, Unit:	
Boom Length, Unit:	
Boom Height, Unit:	
Ground Speed, Unit:	
Incorporation Equip.:	
Hours to Incorp.:	
Incorp. Depth, Unit:	
Carrier:	
Spray Volume, Unit:	
Spray pH:	
Propellant:	
Tank Mix (Y/N):	

Trt No	Treatment Application Comment