Nutsedge response to MB and MIDAS applied under metalized smooth mulch.

Trial ID: Veg26-06 Study Dir.: Stanley Culpepper Location: Ponder 5160 Investigator: Stanley Culpepper

Reps: 3 Plots: 6 by 30 feet

Spray vol: 14.8 gal/ac Mix size: 1 liters (min .69451)

Trt Treatment No. Name Form Form Conc Unit Type Form Form Rate Unit Stg Grow Code to Measure Code to Measure Rate Unit Stg Plot No. By Rep Code to Measure Rate Unit Stg A 101 204 301 1 MB 225 LB Metalized Smooth (1 mil) A A 102 203 302 2 MB 225 LB Upside down MS (1 mil) A A 102 203 302 3 MI 225 LB Metalized Smooth (1 mil) A A 103 202 305 4 MI 225 LB Upside down MS (1 mil) A A 104 201 306 5 None Metalized Smooth (1 mil) A A 105 206 303 6 None A A 106 205 304	9 11 1	iy ron i no ganao					,						
1 MB 225 LB Metalized Smooth (1 mil) A 101 204 301 A 2 MB 225 LB Upside down MS (1 mil) A 102 203 302 A 3 MI 225 LB Metalized Smooth (1 mil) A 103 202 305 A 4 MI 225 LB MUpside down MS (1 mil) A A 104 201 306 A 5 None Metalized Smooth (1 mil) A A 105 206 303 A 6 None A 106 205 304											Plot N	lo. By I	Rep
Metalized Smooth (1 mil) A 102 203 302 2 MB 225 LB Upside down MS (1 mil) A 102 203 302 3 MI 225 LB Metalized Smooth (1 mil) A 103 202 305 4 MI 225 LB Upside down MS (1 mil) A 104 201 306 5 None Metalized Smooth (1 mil) A 105 206 303 Metalized Smooth (1 mil) A 106 205 304	No.	Name	Conc	Unit	Type	Rate	Unit	Stg	Code	to Measure	1	2	3
2 MB 225 LB A 102 203 302 Upside down MS (1 mil) A 103 202 305 Metalized Smooth (1 mil) A 104 201 306 Upside down MS (1 mil) A 104 201 306 None A 105 206 303 Metalized Smooth (1 mil) A 106 205 304	1	MB 225 LB							Α		101	204	301
Upside down MS (1 mil) A Image: Control of the con		Metalized Smooth (1 mil)							Α				
3 MI 225 LB Metalized Smooth (1 mil) 4 MI 225 LB Upside down MS (1 mil) 5 None Metalized Smooth (1 mil) 6 None A 103 202 305 A 104 201 306 A 105 206 303 A 105 206 303 A 106 205 304	2	MB 225 LB							Α		102	203	302
Metalized Smooth (1 mil) A Image: Control of the c		Upside down MS (1 mil)							Α				
4 MI 225 LB A 104 201 306 Upside down MS (1 mil) A 105 206 303 Metalized Smooth (1 mil) A 106 205 304	3	MI 225 LB							Α		103	202	305
Upside down MS (1 mil) A Image: Control of the con		Metalized Smooth (1 mil)							Α				
5 None A 105 206 303 Metalized Smooth (1 mil) A 106 205 304	4	MI 225 LB							Α		104	201	306
Metalized Smooth (1 mil) A I I 6 None A 106 205 304		Upside down MS (1 mil)							Α				
6 None A 106 205 304	5	None							Α		105	206	303
		Metalized Smooth (1 mil)							Α				
11 11 1 10 10 10 10	6	None							Α		106	205	304
Upside down MS (1 mil)		Upside down MS (1 mil)							Α				

Sort Order: Treatment

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

Amount* Unit Treatment Name Form Conc Form Type Lot Code

- * '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: Compare MB and MIDAS when applied under metalized mulch with the silver metalized component up or down.

Nutsedge emergence counts:

- 1. Nutsedge that penetrated the mulch were counted for the entire plot.
- 2. Main effects were significant.
- 3. When pooled over mulches, both fumigants even at low rates reduced nutsedge emergence at least 65% at 83 d after fumigating.
- 4. MB was more effective than MIDAS at controlling nutsedge at both 28 and 83 d after fumigating.
- 5. When pooled over fumigant option at 83 d, 13 more nutsedge plants per plot were noted with the metalized silver side downward as compared to upward.

Visual control estimates:

- 1. Main effects were noted.
- 2. Both fumigants provided at least 81% control at 69 d after fumigating when pooled over mulch, even at the low rate of 225 lb/A broadcast.
- 3. MB was more effective than MIDAS, when pooled over mulch type.
- 4. When pooled over fumigant option, the metalized silver side up was 7 to 11% more effective than when facing downwards.

Gas Emission:

- 1. 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 stoper with the dector tub was inserted into the funnel with the measurement made.
- 2. About twice as much fumigant emisson was detected for MB when the metalized mulch was laid with the silver surface down as compared to up for day 0 and day 1. No differences were noted on day 3 but averaging days 1,2, and 3 noted more emission with the silver surface placed downward.
- 3. For MIDAS, no differences were detected.

Feb-21-07 (Veg26-06) Trial Comments Page 2 of 7

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CONCLUSIONS:

1. It is likely the moisture from the soil removed part of the metalized component of the mulch more quickly when facing downward, thereby allowing more MB gas loss.

GENERAL COMMENTS:

1. All fumigant treatments were applied 8 inches deep with a super bedder plastic layer.

Feb-21-07 (Veg26-06) AOV Means Table Page 3 of 7

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Nutsedge response to MB and MIDAS applied under metalized smooth mulch.

Trial ID: Veg26-06 Study Dir.: Stanley Culpepper Location: Ponder 5160 Investigator: Stanley Culpepper

Wee	ed Code		CYPRO	CYPRO	CYPRO	CYPRO	CYPRO	Fumigant	Fumigant
Cro	o Code							see comm	see comm
Rati	ng Data Type		count	count	control	control	control	emissions	emissions
Rati	ng Unit		#	#	%	%	%	ppm	ppm
Rati	ng Date		Mar-22-06	May-16-06	Mar-21-06	Apr-07-06	May-02-06	Feb-22-06	Feb-23-06
Trt-E	Eval Interval		28 DA-A	83 DA-A	27 DA-A	44 DA-A	69 DA-A	0 DA-A	1 DA-A
AR۱	Action Codes								
Trt	Treatment	Rate							
No.	Name	Rate Unit	1	2	3	4	5	6	7
1	MB 225 LB Metalized Smooth (1 mil)		2 d	8 c	97 a	96 a	96 a	18 b	14 b
2	MB 225 LB Upside down MS (1 mil)		2 d	12 c	95 a	93 a	92 a	33 a	35 a
3	MI 225 LB Metalized Smooth (1 mil)		2 d	30 bc	97 a	92 a	94 a	17 b	11 b
4	MI 225 LB Upside down MS (1 mil)		21 c	47 b	80 b	73 b	68 b	16 b	10 b
5	None Metalized Smooth (1 mil)		76 a	103 a	11 c	10 c	0 с	0 с	0 b
6	None Upside down MS (1 mil)		60 b	121 a	0 d	0 d	0 с	0 с	0 b
LSD	(P=.05)		12.5	23.3	9.5	7.5	7.5	13.4	18.5
Star	ndard Deviation		6.9	12.8	5.2	4.1	4.1	7.4	10.1
CV			25.37	23.9	8.28	6.8	7.05	52.13	86.99
Bart	lett's X2		9.742	10.801	6.16	2.142	1.739	0.968	6.611
P(Ba	artlett's X2)		0.083	0.055	0.188	0.543	0.628	0.809	0.085

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

Weed Code	Fumigant	Fumigant
Crop Code	see comm	see comm
Rating Data Type	emissions	total
Rating Unit	ppm	ppm
Rating Date	Feb-24-06	
Trt-Eval Interval	2 DA-A	
ARM Action Codes		T1
Trt Treatment Ra	ate	
No. Name Rate U	nit 8	9
1 MB 225 LB	1 a	33 bc
Metalized Smooth (1 mil)		
2 MB 225 LB	6 a	74 a
Upside down MS (1 mil)		
3 MI 225 LB	1 a	30 bc
Metalized Smooth (1 mil)		
4 MI 225 LB	8 a	34 b
Upside down MS (1 mil)		
5 None	0 a	0 с
Metalized Smooth (1 mil)		
6 None	0 a	0 с
Upside down MS (1 mil)	٠ ۵	
LSD (P=.05)	8.5	30.9
Standard Deviation	4.7	17.0
CV	179.04	59.77
Bartlett's X2	7.989	4.304
P(Bartlett's X2)	0.046*	0.23
. (==:::=::=/.=/	0.010	5.20

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

Column 9: T1 = [6]+[7]+[8]

Feb-21-07 (Veg26-06) Site Description Page 5 of 7

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Nutsedge n	response to MB and MIDAS a	pplied under metaliz	ed smooth mulch	1.			
Trial ID: Veg26-06	Study Dir.:	Stanley Culpepper					
Location: Ponder 5160		Stanley Culpepper					
Study Director: Stanley Co	GENERAL TRIAL INFORMATION	Title: Ext. Weed	Sajenae				
Affiliation: Univ. of (IICIE: EXC. Weed	Scrence				
Postal Code: 31794	Jeor 19a						
Postal Code: 31/94							
Investigator: Stanley C	ulnenner	Title: Ext. Weed	Saienae				
Affiliation: Univ. of		TICLE: MAC. WCCa	berence				
Postal Code: 31794	3-E0191a						
Postal code: 31/94							
	TRIAL LOCATION						
City: TyTy		. Status:	completed				
State/Prov.: GA	Trial	Reliability:					
Postal Code: 31794		ation Date:					
Country: USA		ned Completion Date:					
-	o: N-Latit						
	Unit: Angle						
Directions:	Onit: Angle	y-axis to North ':					
Directions.							
	COOPERATOR/LANDOWNER						
Cooperator:	- · · · · · · · · · · · · · · · · · · ·	Country:					
_		Phone No:					
		Fax No:					
State/Prov: Postal Code:							
rostar code:							
Conducted linder CLD (V/N)	: N Conducted U	Indox CED (V/N). N					
	Guideline Description:						
Guidelines	Jaideline Description:						
Objective:							
Conclusions:							
	CROP AND WEED DESCRIPTION	,					
Weed Code Common Name	Scientific 1	Name					
1. CYPRO purple nutsedge	2						
Crop 1: none no crop		Variety:					
Planting Date:	_ Planting Method						
	Depth:						
	Spacing Within Row:						
	Soil Moisture:			_			
DOII Temperature:	boll Molbeure.	micryclice bace.					
	SITE AND DESIGN						
Plot Width. Unit: 6	FT Plot Length, Unit:	30 FT Reps.	3				
ite Type: Ponder Farm Research Staion							
Cillage Type: Conventional Study Design: SPLIT-PLOT							
	. Deady Design.	<u> </u>					
Trial Initiation Comments:	•						
	,						
Previous Crops	Previous Po	esticides	Year				
	110,1000 1						

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

SOIL DESCRIPTION

Texture:

Soil Name: Tifton sandy loam

Fert. Level: _

ADDITIONAL MEASURED ELEMENTS

Element	Quantity	Unit

MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Туре	Interval	Unit
1.							

Overall Moisture Condition	s:	
Closest Weather Station:	Distance:	Unit:

APPLICATION DESCRIPTION

	A
Application Date:	Feb-22-06
Time of Day:	10 am
Application Method:	in bed
Application Timing:	preplant
Applic. Placement:	8"deep
Air Temp., Unit:	72 F
% Relative Humidity:	44
Wind Velocity, Unit:	2 mph
Dew Presence (Y/N):	n
Water Hardness:	
Soil Temp., Unit:	64 F
Soil Moisture:	moist
% Cloud Cover:	20

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	none
Stage Scale:	preplant
Height, Unit:	

WEED STAGE AT EACH APPLICATION

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

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