

University of Georgia

Weed management in snap beans.

Trial ID: Veg29-06
 Location: Ponder (5159)

Study Dir.: Andrew MacRae
 Investigator: Stanley Culpepper

Reps: 4 Plots: 6 by 20 feet
 Spray vol: 14.8 gal/ac Mix size: 1 liters (min .61734)

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code	Amt to Measure	Plot No. By Rep			
									1	2	3	4
1	Non-treated								101	206	311	406
2	Sandea	75	DF	0.75	OZ/A	PRE	B	0.3795 g/mx	102	207	303	407
3	Sandea	75	DF	0.75	OZ/A	POST-3T	C	0.3795 g/mx	103	210	309	410
4	Reflex	2	L	1	PT/A	PRE	B	8.445 ml/mx	104	213	316	413
5	Reflex	2	L	1	PT/A	POST-3T	C	8.445 ml/mx	105	209	308	409
6	Eptam (3 in incorp)	7	E	3.5	PT/A	PPI	A	29.56 ml/mx	106	203	306	403
7	Dual Magnum	7.64	L	1	PT/A	PRE	B	8.445 ml/mx	107	204	314	404
8	Eptam (3 in incorp)	7	E	3.5	PT/A	PPI	A	29.56 ml/mx	108	216	301	416
	Sandea	75	DF	0.75	OZ/A	POST-3T	C	0.3795 g/mx				
9	Dual Magnum	7.64	L	1	PT/A	PRE	B	8.445 ml/mx	109	215	312	415
	Targa	0.88	E	8	OZ/A	POST-3T	C	4.223 ml/mx				
	NIS		L	0.25	% V/V	POST-3T	C	2.5 ml/mx				
10	Dual Magnum	7.64	L	1	PT/A	PRE	B	8.445 ml/mx	110	202	307	402
	Select	2	EC	6	OZ/A	POST-3T	C	3.167 ml/mx				
	COC		L	1	% V/V	POST-3T	C	9.999 ml/mx				
11	Dual Magnum	7.64	L	1	PT/A	PRE	B	8.445 ml/mx	111	212	310	412
	Targa	0.88	E	8	OZ/A	POST-3T	C	4.223 ml/mx				
	NIS		L	0.25	% V/V	POST-3T	C	2.5 ml/mx				
	Sandea	75	DF	0.75	OZ/A	POST-3T	C	0.3795 g/mx				
12	Dual Magnum	7.64	L	1	PT/A	PRE	B	8.445 ml/mx	112	201	305	401
	Select	2	EC	6	OZ/A	POST-3T	C	3.167 ml/mx				
	COC		L	1	% V/V	POST-3T	C	9.999 ml/mx				
	Sandea	75	DF	0.75	OZ/A	POST-3T	C	0.3795 g/mx				
13	Dual Magnum	7.64	L	1	PT/A	PRE	B	8.445 ml/mx	113	211	313	411
	Targa	0.88	E	8	OZ/A	POST-3T	C	4.223 ml/mx				
	NIS		L	0.25	% V/V	POST-3T	C	2.5 ml/mx				
	Basagran	4	L	1.5	PT/A	POST-3T	C	12.67 ml/mx				
14	Dual Magnum	7.64	L	1	PT/A	PRE	B	8.445 ml/mx	114	205	315	405
	Select	2	EC	6	OZ/A	POST-3T	C	3.167 ml/mx				
	COC		L	1	% V/V	POST-3T	C	9.999 ml/mx				
	Basagran	4	L	1.5	PT/A	POST-3T	C	12.67 ml/mx				
15	Treflan	4	L	1	PT/A	PPI	A	8.445 ml/mx	115	214	302	414
	Dual Magnum	7.64	L	0.75	PT/A	PRE	B	6.334 ml/mx				
	Select	2	EC	6	OZ/A	POST-3T	C	3.167 ml/mx				
	COC		L	1	% V/V	POST-3T	C	9.999 ml/mx				
16	Treflan	4	L	1	PT/A	PRE	B	8.445 ml/mx	116	208	304	408
	Dual Magnum	7.64	L	0.75	PT/A	PRE	B	6.334 ml/mx				
	Select	2	EC	6	OZ/A	POST-3T	C	3.167 ml/mx				
	COC		L	1	% V/V	POST-3T	C	9.999 ml/mx				

Sort Order: Treatment

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

Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
2.372	g	Sandea	75	DF	
21.113	ml	Reflex	2	L	
73.894	ml	Eptam (3 in incorp)	7	E	
89.729	ml	Dual Magnum	7.64	L	

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Reps: 4

Plots: 6 by 20 feet

Spray vol: 14.8 gal/ac

Mix size: 1 liters (min .61734)

Trt No.	Tr> N>	Form Conc	Form Type	Rate	Unit	Plot No. By Rep
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Product quantities required for listed treatments and applications in one trial:

Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
15.836	ml	Targa	0.88	E	
9.374	ml	NIS		L	
19.795	ml	Select	2	EC	
62.493	ml	COC		L	
31.669	ml	Basagran	4	L	
21.113	ml	Treflan	4	L	

* '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.

* 'Per volume' calculations use spray volume= 14.8 gal/ac, mix size= 1 liters.

Trial Comments

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Weed Code						PANTE	PANTE	PANTE			
Crop Code	PHSVN	PHSVN	PHSVN	PHSVN	PHSVN						
Rating Data Type	Injury	Injury	Injury	Injury	Injury	Control	Control	Control			
Rating Unit	%	%	%	%	%	%	%	%			
Rating Date	Apr-19-06	May-03-06	May-11-06	May-27-06	Jun-10-06	May-11-06	May-27-06	Jun-10-06			
Crop Stage	1 lf	2 trifol	4 trifol								
Weed Stage						3 tiller					
Assessed By	AWM	AWM	AWM	AWM	AWM	AWM	AWM	AWM			
Trt-Eval Interval	14 DA-B	28 DA-B	36 DA-B	18 DA-C	32 DA-C	36 DA-B	18 DA-C	32 DA-C			
ARM Action Codes											
Trt No.	Treatment Name	Rate	Unit	1	2	3	4	5	6	7	8
16	Treflan	1	PT/A	0 a	0 a	0 a	0 a	0 a	79 abc	97 a	97 a
	Dual Magnum	0.75	PT/A								
	Select	6	OZ/A								
	COC	1	% V/V								
LSD (P=.05)		0.0		0.0	0.0	0.0	0.0	0.0	22.9	20.1	21.4
Standard Deviation		0.0		0.0	0.0	0.0	0.0	0.0	16.0	14.1	15.0
CV		0.0		0.0	0.0	0.0	0.0	0.0	26.04	22.73	22.82
Bartlett's X2		0.0		0.0	0.0	0.0	0.0	0.0	28.827	74.63	86.53
P(Bartlett's X2)		0.004*	0.001*	0.001*

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

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Weed Code		PHSVN	PHSVN	PHSVN	PHSVN	PHSVN	PHSVN	PHSVN	PHSVN
Crop Code		Height 1	Height 2	Height 3	Height 4	Height 5	Height 6	Height 7	Height 8
Rating Data Type		cm	cm	cm	cm	cm	cm	cm	cm
Rating Unit		May-22-06	May-22-06	May-22-06	May-22-06	May-22-06	May-22-06	May-22-06	May-22-06
Rating Date									
Crop Stage									
Weed Stage									
Assessed By		AD	AD	AD	AD	AD	AD	AD	AD
Trt-Eval Interval		13 DA-C	13 DA-C	13 DA-C	13 DA-C	13 DA-C	13 DA-C	13 DA-C	13 DA-C
ARM Action Codes									
Trt No.	Treatment Name	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate
		Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit
1	Non-treated								
2	Sandea	0.75 OZ/A							
3	Sandea	0.75 OZ/A							
4	Reflex	1 PT/A							
5	Reflex	1 PT/A							
6	Eptam (3 in incorp)	3.5 PT/A							
7	Dual Magnum	1 PT/A							
8	Eptam (3 in incorp)	3.5 PT/A							
	Sandea	0.75 OZ/A							
9	Dual Magnum	1 PT/A							
	Targa	8 OZ/A							
	NIS	0.25 % V/V							
10	Dual Magnum	1 PT/A							
	Select	6 OZ/A							
	COC	1 % V/V							
11	Dual Magnum	1 PT/A							
	Targa	8 OZ/A							
	NIS	0.25 % V/V							
	Sandea	0.75 OZ/A							
12	Dual Magnum	1 PT/A							
	Select	6 OZ/A							
	COC	1 % V/V							
	Sandea	0.75 OZ/A							
13	Dual Magnum	1 PT/A							
	Targa	8 OZ/A							
	NIS	0.25 % V/V							
	Basagran	1.5 PT/A							
14	Dual Magnum	1 PT/A							
	Select	6 OZ/A							
	COC	1 % V/V							
	Basagran	1.5 PT/A							
15	Treflan	1 PT/A							
	Dual Magnum	0.75 PT/A							
	Select	6 OZ/A							
	COC	1 % V/V							
16	Treflan	1 PT/A							
	Dual Magnum	0.75 PT/A							
	Select	6 OZ/A							
	COC	1 % V/V							
LSD (P=.05)		6.9	7.2	8.3	8.5	7.0	8.1	9.4	9.1
Standard Deviation		4.8	5.1	5.8	6.0	4.9	5.7	6.6	6.4
CV		12.96	13.82	15.94	16.35	13.84	15.54	18.1	17.26
Bartlett's X2		18.943	14.737	14.745	13.919	8.94	12.62	14.184	14.771
P(Bartlett's X2)		0.216	0.471	0.47	0.532	0.881	0.632	0.512	0.468

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

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Weed Code		PHSVN	PHSVN	PHSVN	PHSVN	PHSVN	PHSVN	PHSVN	
Crop Code		Height 9	Height 10	Avg.10plan	Biomass	Bean number	Harv	Biomass	
Rating Data Type		cm	cm	cm	lbs/1m	bean/1m	kg/1m	lbs/A	
Rating Unit									
Rating Date		May-22-06	May-22-06		Jun-12-06	Jun-12-06	Jun-12-06		
Crop Stage									
Weed Stage									
Assessed By		AD	AD	AD	AD	AD	AD		
Trt-Eval Interval		13 DA-C	13 DA-C		34 DA-C	34 DA-C	34 DA-C		
ARM Action Codes				T1				T2	
Trt No.	Treatment Name	Rate							
		Rate Unit	17	18	19	20	21	22	23
1	Non-treated		42 ab	41 ab	41 a	1 cd	101 def	0 bc	3498 cd
2	Sandea	0.75 OZ/A	44 a	43 a	41 a	1 abc	134 b-f	0 abc	6424 abc
3	Sandea	0.75 OZ/A	38 abc	38 a-e	39 ab	1 d	88 ef	0 c	2706 d
4	Reflex	1 PT/A	34 bc	31 de	34 bc	1 bcd	109 c-f	0 bc	4884 bcd
5	Reflex	1 PT/A	36 abc	35 a-e	35 bc	1 d	78 f	0 c	2706 d
6	Eptam (3 in incorp)	3.5 PT/A	39 ab	39 a-d	38 ab	2 a	208 a	0 a	8866 a
7	Dual Magnum	1 PT/A	40 ab	34 a-e	38 ab	1 abc	174 ab	0 ab	6380 abc
8	Eptam (3 in incorp)	3.5 PT/A	38 abc	41 abc	39 ab	2 a	187 ab	0 ab	8800 a
9	Sandea	0.75 OZ/A							
9	Dual Magnum	1 PT/A	38 abc	37 a-e	36 abc	2 ab	155 a-d	0 abc	8074 ab
	Targa	8 OZ/A							
	NIS	0.25 % V/V							
10	Dual Magnum	1 PT/A	36 abc	34 b-e	35 bc	2 abc	140 b-e	0 abc	7106 abc
	Select	6 OZ/A							
	COC	1 % V/V							
11	Dual Magnum	1 PT/A	36 abc	36 a-e	34 bc	2 ab	160 a-d	0 abc	7436 ab
	Targa	8 OZ/A							
	NIS	0.25 % V/V							
	Sandea	0.75 OZ/A							
12	Dual Magnum	1 PT/A	31 c	30 e	31 c	2 abc	147 a-e	0 abc	7172 abc
	Select	6 OZ/A							
	COC	1 % V/V							
	Sandea	0.75 OZ/A							
13	Dual Magnum	1 PT/A	34 bc	36 a-e	34 bc	2 abc	159 a-d	0 abc	7084 abc
	Targa	8 OZ/A							
	NIS	0.25 % V/V							
	Basagran	1.5 PT/A							
14	Dual Magnum	1 PT/A	41 ab	40 abc	38 ab	2 a	166 abc	0 a	8987 a
	Select	6 OZ/A							
	COC	1 % V/V							
	Basagran	1.5 PT/A							
15	Treflan	1 PT/A	35 bc	32 cde	35 abc	2 ab	143 b-e	0 ab	8382 ab
	Dual Magnum	0.75 PT/A							
	Select	6 OZ/A							
	COC	1 % V/V							
16	Treflan	1 PT/A	37 abc	41 abc	39 ab	2 ab	156 a-d	0 a	8569 ab
	Dual Magnum	0.75 PT/A							
	Select	6 OZ/A							
	COC	1 % V/V							
LSD (P=.05)			7.3	7.5	5.3	0.7	54.1	0.1	3240.6
Standard Deviation			5.1	5.3	3.7	0.5	37.8	0.1	2267.7
CV			13.73	14.35	10.05	33.89	26.27	37.93	33.89
Bartlett's X2			22.778	14.204	16.813	14.592	17.486	18.141	14.592
P(Bartlett's X2)			0.089	0.51	0.33	0.481	0.291	0.255	0.481

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

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Weed Code	PHSVN	PHSVN	PHSVN	PHSVN	PHSVN	PHSVN	PHSVN
Crop Code	Height 9	Height 10	Avg.10plan	Biomass	Bean number	Harv	Biomass
Rating Data Type	cm	cm	cm	lbs/1m	bean/1m	kg/1m	lbs/A
Rating Unit							
Rating Date	May-22-06	May-22-06		Jun-12-06	Jun-12-06	Jun-12-06	
Crop Stage							
Weed Stage							
Assessed By	AD	AD	AD	AD	AD	AD	
Trt-Eval Interval	13 DA-C	13 DA-C		34 DA-C	34 DA-C	34 DA-C	
ARM Action Codes			T1				T2

<p>Column 19: $T1 = ([C9]+[C10]+[C11]+[C12]+[C13]+[C14]+[C15]+[C16]+[C17]+[C18])/10$</p> <p>Column 23: $T2 = [C20]/9.9*43560/2000$</p>
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Weed Code			PHSVN	PHSVN
Crop Code			Bean number	Harvest
Rating Data Type			1000s/A	lbs/A
Rating Unit				
Rating Date				
Crop Stage				
Weed Stage				
Assessed By				
Trt-Eval Interval				
ARM Action Codes			T3	T4
Trt No.	Treatment Name	Rate Unit	24	25
1	Non-treated		444 def	1513 bc
2	Sandea	0.75 OZ/A	591 b-f	2468 abc
3	Sandea	0.75 OZ/A	385 ef	1137 c
4	Reflex	1 PT/A	481 c-f	1537 bc
5	Reflex	1 PT/A	342 f	1137 c
6	Eptam (3 in incorp)	3.5 PT/A	914 a	3678 a
7	Dual Magnum	1 PT/A	763 ab	2735 ab
8	Eptam (3 in incorp) Sandea	3.5 PT/A 0.75 OZ/A	824 ab	3086 ab
9	Dual Magnum Targa NIS	1 PT/A 8 OZ/A 0.25 % V/V	683 a-d	2674 abc
10	Dual Magnum Select COC	1 PT/A 6 OZ/A 1 % V/V	614 b-e	2541 abc
11	Dual Magnum Targa NIS Sandea	1 PT/A 8 OZ/A 0.25 % V/V 0.75 OZ/A	705 a-d	2626 abc
12	Dual Magnum Select COC Sandea	1 PT/A 6 OZ/A 1 % V/V 0.75 OZ/A	647 a-e	2481 abc
13	Dual Magnum Targa NIS Basagran	1 PT/A 8 OZ/A 0.25 % V/V 1.5 PT/A	700 a-d	2553 abc
14	Dual Magnum Select COC Basagran	1 PT/A 6 OZ/A 1 % V/V 1.5 PT/A	728 abc	3400 a
15	Treflan Dual Magnum Select COC	1 PT/A 0.75 PT/A 6 OZ/A 1 % V/V	628 b-e	3049 ab
16	Treflan Dual Magnum Select COC	1 PT/A 0.75 PT/A 6 OZ/A 1 % V/V	688 a-d	3158 a
LSD (P=.05)			237.8	1347.3
Standard Deviation			166.4	942.8
CV			26.27	37.93
Bartlett's X2			17.486	18.141
P(Bartlett's X2)			0.291	0.255

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	PHSVN	PHSVN
Rating Unit	Bean number	Harvest
Rating Date	1000s/A	lbs/A
Crop Stage		
Weed Stage		
Assessed By		
Trt-Eval Interval		
ARM Action Codes	T3	T4

Column 24: T3 = [C21]/9.9*43560/1000

Column 25: T4 = [C22]/9.9*2.2*43560

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Weed management in snap beans.

Trial ID: Veg29-06
 Location: Ponder (5159)

Study Dir.: Andrew MacRae
 Investigator: Stanley Culpepper

GENERAL TRIAL INFORMATION

Study Director: Andrew MacRae	Title: Post Doc Res Assoc
Affiliation: University of Georgia	
Postal Code: 31794	
Investigator: Stanley Culpepper	Title: Ext. Weed Science
Affiliation: University of Georgia	
Postal Code: 31794	

TRIAL LOCATION

City: TyTy	Trial Status: completed
State/Prov.: GA	Trial Reliability: Good
Postal Code: 31794	Initiation Date: Apr-05-06
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: To determine snapbean tolerance and weed efficacy to several weed management programs.

Conclusions: Texas Panicum:

- 1) All treatments containing Dual Magnum provided 78% or greater control 5 weeks after treatment (WAT).
- 2) All treatment containing Select or Targa provided 93% or greater control 3 and 5 WAT.
- 3) Dual Magnum alone provided 50% or less control 7 WAT or later.
- 4) Sandea and Reflex PRE provided poor control.

Snapbean:

- 1) No injury was observed from any treatment.
- 2) While differences were noted between treatments for snapbean height, the heights did not relate to a reduction in yield and may be contributed to in-field variability.
- 3) Sandea POST and Reflex PRE and POST had reduced plant biomass and yield and were found similar to the non-treated check. This may be related to the poor control of Texas panicum provided by these treatments. All remaining treatments had similar plant biomass and yield.

Conclusions:

Providing control of Texas panicum will result in increased yields of snapbean. A program that included Dual Magnum PRE and either Select or Targa POST provided the control of Texas panicum needed to optimize yields.

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	PANTE	Texas panicum	Panicum texanum

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Crop 1: PHSVN BEAN, SNAP **Variety:** Charon
Planting Date: Apr-05-06 **Planting Method:** Seeded
Rate: 87120 S/A **Depth:** 0.5 in **Perennial Age:** _____
Row Spacing: 3 ft **Spacing Within Row:** 2 inch **Seed Bed:** 6 foot bed
Soil Temperature: 87 F **Soil Moisture:** Moist **Emergence Date:** _____

SITE AND DESIGN

Plot Width, Unit: 6 FT **Plot Length, Unit:** 20 FT **Reps:** 4
Site Type: Research Station
Tillage Type: Conventional **Study Design:** RANDOMIZED COMPLETE BLOCK

Trial Initiation Comments:

	Previous Crops	Previous Pesticides	Year
1.			

MAINTENANCE

Field Prep./Maintenance: Land was prepared conventionally and beds pulled. PPI applications were made with incorporation occurring within 30 minutes of application. Snapbeans were planted followed by the PRE applications. Irrigation at 0.4 inches was applied the same day as planting.

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

SOIL DESCRIPTION

% Sand: 94 **% OM:** 1.2 **Texture:** Sand
% Silt: 2 **pH:** 6.2 **Soil Name:** Tifton Sandy Loam
% Clay: 4 **CEC:** _____ **Fert. Level:** _____

ADDITIONAL MEASURED ELEMENTS

Element	Quantity	Unit

MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Type	Interval	Unit
1.							

Overall Moisture Conditions: Irrigated
Closest Weather Station: _____ **Distance:** _____ **Unit:** __

APPLICATION DESCRIPTION

	A	B	C
Application Date:	Apr-05-06	Apr-05-06	May-09-06
Time of Day:	13:15	19:00	17:15
Application Method:	Broadcast	Broadcast	Broadcast
Application Timing:	PPI	PRE	POST
Applic. Placement:	Soil	Soil	5 inches
Air Temp., Unit:	78 F	74 F	74 F
% Relative Humidity:	20	47	78
Wind Velocity, Unit:	1 mph	1 mph	3 mph
Dew Presence (Y/N):	N	N	N
Water Hardness:	NA	NA	NA
Soil Temp., Unit:	87 F	77 F	76 F
Soil Moisture:	Slight	Slight	VeryMoist
% Cloud Cover:	5	40	95

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CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	PHSVN	PHSVN	PHSVN trifoliat
Stage Scale:	Not emerg	Not emerg	3-4
Height, Unit:			10 inch

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	PANTE	PANTE	PANTE
Stage Scale:	Not emerg	Not emerg	3 tiller
Density, Unit:			5 inch

APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	CO2 Spray	CO2 Spray	CO2 Spray
Operating Pressure:	23 psi	23 psi	23 psi
Nozzle Type:	TeeJet	TeeJet	TeeJet
Nozzle Size:	11002XR	11002XR	11002XR
Nozzle Spacing, Unit:	18 in	18 in	18 in
Nozzles/Row:	2	2	2
Band Width, Unit:	6 ft	6 ft	6 ft
Boom Length, Unit:	54 in	54 in	54 in
Boom Height, Unit:	15 in	15 in	15 in
Ground Speed, Unit:	3 mph	3 mph	3 mph
Incorporation Equip.:	Mechanical	Irrigatio	
Hours to Incorp.:	1	1	
Incorp. Depth, Unit:	3 inch		
Carrier:	water	water	water
Spray Volume, Unit:	14.8 gpa	14.8 gpa	14.8 gpa
Spray pH:			
Propellant:	CO2	CO2	CO2
Tank Mix (Y/N):	N	N	N

Trt No	Treatment Application Comment