

Cucumber No-Till Weed Management Study.

Project Code: 04-HRC-cuc Location: Carbondale, IL
 Investigator: Bryan Young

Investigator: Bryan Young, Associate Professor, Southern Illinois University

City State Zip Country: Carbondale IL 62901 USA
 Trial Status: Final Updated: 11-3-04

Objective:

Evaluate crop response and weed control with herbicides with and without a Wheeler winter rye covercrop in no-till cucumber.

Weed Code	Common Name	Scientific Name
1.	DIGIS crabgrass, smooth	<i>Digitaria ischaemum</i> (Schreb. ex Schweig)
2.	AMARE pigweed, redroot	<i>Amaranthus retroflexus</i> L.

Crop 1: CUMSA cucumber Variety: Daytona
 Planting Method: Transplant
 Rate: 1.5 P/ROW-FT
 Row Spacing: 48 IN

Plot Width, Unit: 4 FT Plot Length, Unit: 10 FT Reps: 4
 Tillage Type: No-Till Study Design: Split-plot

Field Prep./Maintenance: N ___ LB/A, P205 ___ LB/A, K2O ___ LB/A

APPLICATION DESCRIPTION

A

Application Date: 4-29-04
 Time of Day: 8:00
 Application Method: Spray
 Application Timing: PRE
 Applic. Placement: BROSOI
 Air Temp., Unit: 67 F
 % Relative Humidity: 48
 Wind Velocity, Unit: 4-7 MPH
 Dew Presence (Y/N): N
 Soil Temp., Unit: 58 F
 Soil Moisture: NORMAL
 % Cloud Cover: 40

CROP STAGE AT EACH APPLICATION

A

Crop 1 Code, Stage: CUMSA NA
 Height, Unit: NA NA

APPLICATION EQUIPMENT

A

Appl. Equipment: CO2 sprayer
 Operating Pressure: 20 PSI
 Nozzle Type: XR
 Nozzle Size: 8003
 Boom Length, Unit: 3.33 FT
 Spray Volume, Unit: 20 GPA

NOTES:

Target PRE application for May 12, transplant May 14.

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Weed Code													DIGIS	DIGIS	DIGIS	DIGIS
Crop Code																
Rating Data Type													Control	Control	Control	Control
Rating Unit													Percent	Percent	Percent	Percent
Rating Date													5-20-04	6-3-04	6-16-04	7-1-04
Trt-Eval Interval													14 DAP	28 DAP	@Harvest	56 DAP

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	CUMSA Fruit No./A	CUMSA Fruit Lb/A	CUMSA Injury Percent 5-20-04 14 DAP	CUMSA Injury Percent 6-3-04 28 DAP	CUMSA Injury Percent 6-16-04 @Harvest	CUMSA Injury Percent 7-1-04 56 DAP	CUMSA Stunt Percent 5-20-04 14 DAP	CUMSA Stunt Percent 6-3-04 28 DAP	CUMSA Stunt Percent 6-16-04 @Harvest	CUMSA Stunt Percent 7-1-04 56 DAP	Control Percent 5-20-04 14 DAP	Control Percent 6-3-04 28 DAP	Control Percent 6-16-04 @Harvest	Control Percent 7-1-04 56 DAP
1	WHEELER WINTER RYE CC									40293	34412	0	0	0	0	0	0	0	0	86	85	74	74
1	TILLAGE PRIOR TO SPRAY STRATEGY	2.1	EC	1.313	LB A/A	2.5	QT/A	PRE	A														
2	WHEELER WINTER RYE CC									37298	30519	0	0	0	0	0	0	0	0	98	92	83	83
2	NO-TILL STRATEGY	2.1	EC	1.313	LB A/A	2.5	QT/A	PRE	A														
3	WHEELER WINTER RYE CC									51183	42988	2	0	0	0	1	0	0	0	98	92	90	90
3	NO-TILL SANDEA	75	WG	0.031	LB A/A	0.66	OZ/A	PRE	A														
4	WHEELER WINTER RYE CC									53089	44840	2	0	0	0	1	0	0	0	99	93	90	90
4	NO-TILL STRATEGY	2.1	EC	1.313	LB A/A	2.5	QT/A	PRE	A														
4	SANDEA	75	WG	0.031	LB A/A	0.66	OZ/A	PRE	A														
5	WHEELER WINTER RYE CC									36482	33351	0	0	0	0	0	0	0	0	96	88	84	84
5	NO-TILL NONTREATED																						
6	WHEELER WINTER RYE CC									50911	46909	0	0	0	0	0	0	0	0	100	99	99	99
6	NO-TILL HANDWEED																						
7	NO COVER CROP									51183	44050	0	0	0	0	0	0	0	0	99	89	88	88
7	TILLAGE PRIOR TO SPRAY STRATEGY	2.1	EC	1.313	LB A/A	2.5	QT/A	PRE	A														
8	NO COVER CROP									46010	38033	0	0	0	0	0	0	0	0	99	88	84	84
8	NO-TILL STRATEGY	2.1	EC	1.313	LB A/A	2.5	QT/A	PRE	A														
9	NO COVER CROP									33487	26953	3	0	0	0	0	0	0	0	75	50	48	48
9	NO-TILL SANDEA	75	WG	0.031	LB A/A	0.66	OZ/A	PRE	A														
10	NO COVER CROP									52000	45792	0	0	0	0	0	0	0	0	99	91	89	89
10	NO-TILL STRATEGY	2.1	EC	1.313	LB A/A	2.5	QT/A	PRE	A														
10	SANDEA	75	WG	0.031	LB A/A	0.66	OZ/A	PRE	A														
11	NO COVER CROP									17696	14892	0	0	0	0	0	0	0	0	0	0	0	0
11	NO-TILL NONTREATED																						
12	NO COVER CROP									59623	50802	0	0	0	0	0	0	0	0	100	99	99	99
12	NO-TILL HANDWEED																						
LSD (P=.05)										13353.2	12490.0	1.7	0.0	0.0	0.0	1.4	0.0	0.0	0.0	2.8	5.3	7.2	7.2
Replicate F										5.145	3.638	3.508	0.000	0.000	0.000	2.200	0.000	0.000	0.000	2.266	0.193	1.216	1.216
Replicate Prob(F)										0.0050	0.0226	0.0259	1.0000	1.0000	1.0000	0.1066	1.0000	1.0000	1.0000	0.0991	0.9003	0.3193	0.3193
Treatment F										6.221	5.629	2.784	0.000	0.000	0.000	1.000	0.000	0.000	0.000	879.274	236.755	125.644	125.644
Treatment Prob(F)										0.0001	0.0001	0.0113	1.0000	1.0000	1.0000	0.4671	1.0000	1.0000	1.0000	0.0001	0.0001	0.0001	0.0001

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Weed Code	AMARE	AMARE	AMARE	AMARE
Crop Code				
Rating Data Type	Control	Control	Control	Control
Rating Unit	Percent	Percent	Percent	Percent
Rating Date	5-20-04	6-3-04	6-16-04	7-1-04
Trt-Eval Interval	14 DAP	28 DAP	@Harvest	56 DAP

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code				
1	WHEELER WINTER RYE CC									86	66	59	59
1	TILLAGE PRIOR TO SPRAY												
1	STRATEGY	2.1	EC	1.313	LB A/A	2.5	QT/A	PRE	A				
2	WHEELER WINTER RYE CC									98	79	66	66
2	NO-TILL												
2	STRATEGY	2.1	EC	1.313	LB A/A	2.5	QT/A	PRE	A				
3	WHEELER WINTER RYE CC									99	98	92	92
3	NO-TILL												
3	SANDEA	75	WG	0.031	LB A/A	0.66	OZ/A	PRE	A				
4	WHEELER WINTER RYE CC									99	98	95	95
4	NO-TILL												
4	STRATEGY	2.1	EC	1.313	LB A/A	2.5	QT/A	PRE	A				
4	SANDEA	75	WG	0.031	LB A/A	0.66	OZ/A	PRE	A				
5	WHEELER WINTER RYE CC									90	70	58	58
5	NO-TILL												
5	NONTREATED												
6	WHEELER WINTER RYE CC									100	99	99	99
6	NO-TILL												
6	HANDWEED												
7	NO COVER CROP									98	83	76	76
7	TILLAGE PRIOR TO SPRAY												
7	STRATEGY	2.1	EC	1.313	LB A/A	2.5	QT/A	PRE	A				
8	NO COVER CROP									99	82	70	70
8	NO-TILL												
8	STRATEGY	2.1	EC	1.313	LB A/A	2.5	QT/A	PRE	A				
9	NO COVER CROP									99	97	94	94
9	NO-TILL												
9	SANDEA	75	WG	0.031	LB A/A	0.66	OZ/A	PRE	A				
10	NO COVER CROP									99	97	96	96
10	NO-TILL												
10	STRATEGY	2.1	EC	1.313	LB A/A	2.5	QT/A	PRE	A				
10	SANDEA	75	WG	0.031	LB A/A	0.66	OZ/A	PRE	A				
11	NO COVER CROP									0	0	0	0
11	NO-TILL												
11	NONTREATED												
12	NO COVER CROP									100	99	99	99
12	NO-TILL												
12	HANDWEED												
LSD (P=.05)										4.9	8.6	10.3	10.3
Replicate F										1.821	0.552	1.740	1.740
Replicate Prob(F)										0.1625	0.6501	0.1779	0.1779
Treatment F										275.904	88.938	63.476	63.476
Treatment Prob(F)										0.0001	0.0001	0.0001	0.0001

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Trial Comments

1. Protocol: SIU (SAW).
2. Ratings: Cl, Stunt and WC at 14, 28 and 56 DAP as well as at first harvest; Yield, 12 harvests, count and weigh #1's, #2's and culls.
3. Burndown ryegrass with 2% glyphosate solution (May 1), mow (May10), PRE (May 12), transplant (May 14) at 2-3 leaf stage.
4. Fruit = Marketable cucumbers including #1's and #2's. DAP = Days after planting. @Harvest = At harvest.