

Horticultural Crops

12-06-05 (05-HRC-ZUC)

Southern Illinois University

Zucchini No-Till Weed Management Study.

Project Code: 05-HRC-zuc 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:** 12-05-05

Objective:

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

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

Crop 1: CUUPG squash, zucchini **Variety:** Independence II
Planting Method: Transplant **Planting Date:** 5-6-05
Rate: 0.5 P/ROW-FT
Row Spacing: 36 IN

Plot Width, Unit: 6 FT **Plot Length, Unit:** 10 FT **Reps:** 3
Tillage Type: No-Till **Study Design:** Split-block

Field Prep./Maintenance: N 36 LB/A, P205 36 LB/A, K20 36 LB/A on 5-9-05

APPLICATION DESCRIPTION

Application Date: 05-04-05
Application Method: Spray
Application Timing: PRE
Applic. Placement: BROSIO

CROP STAGE AT EACH APPLICATION

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

APPLICATION EQUIPMENT

Appl. Equipment: CO2 sprayer
Operating Pressure: 20 PSI
Nozzle Type: XR
Nozzle Size: 8003
Boom Length, Unit: 6.67 FT
Spray Volume, Unit: 20 GPA

NOTES:

Target PRE application for May 2, transplant May 3.

Zucchini No-Till Weed Management Study.

Project Code: 05-HRC-zuc Location: Carbondale, IL
 Investigator: Bryan Young

Weed Code
 Crop Code
 Rating Data Type
 Rating Unit
 Rating Date
 Trt-Eval Interval

CUUPG Fruit CUUPG Fruit CUUPG Injury CUUPG Injury CUUPG Injury
 No./A Lb/A Percent Percent Percent
 05-20-05 06-03-05 07-02-05
 16 DA-A 30 DA-A 59 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	CUUPG Fruit No./A	CUUPG Fruit Lb/A	CUUPG Injury Percent	CUUPG Injury Percent	CUUPG Injury Percent
1	WHEELER WINTER RYE CC STRATEGY	2.1	EC	1.57	lb ai/a	3.0	qt/a	PRE	A	17182	7841	5	55	72
2	WHEELER WINTER RYE CC STRATEGY	2.1	EC	1.57	lb ai/a	3.0	qt/a	PRE	A	20812	9680	23	57	70
	2 RAPTOR	1	AS	0.036	lb ai/a	4.6	oz/a	PRE	A					
3	WHEELER WINTER RYE CC STRATEGY	2.1	EC	1.57	lb ai/a	3.0	qt/a	PRE	A	22264	9995	18	53	68
	3 FRONTIER 6.0	6	EC	2.0	lb ai/a	1.33	qt/a	PRE	A					
4	WHEELER WINTER RYE CC NONTREATED									20086	10019	8	47	62
5	WHEELER WINTER RYE CC HANDWEEDED									18150	8325	3	48	67
6	NO COVER CROP STRATEGY	2.1	EC	1.57	lb ai/a	3.0	qt/a	PRE	A	47674	26935	4	3	2
7	NO COVER CROP STRATEGY	2.1	EC	1.57	lb ai/a	3.0	qt/a	PRE	A	46222	26814	23	18	3
	7 RAPTOR	1	AS	0.036	lb ai/a	4.6	oz/a	PRE	A					
8	NO COVER CROP STRATEGY	2.1	EC	1.57	lb ai/a	3.0	qt/a	PRE	A	47432	29524	18	13	5
	8 FRONTIER 6.0	6	EC	2.0	lb ai/a	1.33	qt/a	PRE	A					
9	NO COVER CROP NONTREATED									30008	16432	2	15	40
10	NO COVER CROP HANDWEEDED									52514	32743	0	0	0
LSD (P=.05)										12515.7	7162.1	9.3	16.1	16.2
Replicate F										0.734	1.170	2.393	0.768	0.233
Replicate Prob(F)										0.4939	0.3328	0.1198	0.4785	0.7944
Treatment F										11.796	17.281	8.677	17.960	35.483
Treatment Prob(F)										0.0001	0.0001	0.0001	0.0001	0.0001

Zucchini No-Till Weed Management Study.

Project Code: 05-HRC-zuc Location: Carbondale, IL
 Investigator: Bryan Young

Weed Code	AMARE	AMARE	AMARE	AMARE	AMARE
Crop Code					
Rating Data Type	Control	Control	Control	Plants	Dry wt.
Rating Unit	Percent	Percent	Percent	/sqft	oz/sqft
Rating Date	05-20-05	06-03-05	07-02-05	07-02-05	07-02-05
Trt-Eval Interval	16 DA-A	30 DA-A	59 DA-A	59 DA-A	59 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code					
1	WHEELER WINTER RYE CC									100	100	95	2	0.58
1	STRATEGY	2.1	EC	1.57	lb ai/a	3.0	qt/a	PRE	A					
2	WHEELER WINTER RYE CC									100	100	98	1	0.52
2	STRATEGY	2.1	EC	1.57	lb ai/a	3.0	qt/a	PRE	A					
2	RAPTOR	1	AS	0.036	lb ai/a	4.6	oz/a	PRE	A					
3	WHEELER WINTER RYE CC									100	100	98	2	0.42
3	STRATEGY	2.1	EC	1.57	lb ai/a	3.0	qt/a	PRE	A					
3	FRONTIER 6.0	6	EC	2.0	lb ai/a	1.33	qt/a	PRE	A					
4	WHEELER WINTER RYE CC									98	100	88	2	0.46
4	NONTREATED													
5	WHEELER WINTER RYE CC									100	100	100	0	0.00
5	HANDWEEDED													
6	NO COVER CROP									100	93	89	2	0.63
6	STRATEGY	2.1	EC	1.57	lb ai/a	3.0	qt/a	PRE	A					
7	NO COVER CROP									100	100	100	1	0.36
7	STRATEGY	2.1	EC	1.57	lb ai/a	3.0	qt/a	PRE	A					
7	RAPTOR	1	AS	0.036	lb ai/a	4.6	oz/a	PRE	A					
8	NO COVER CROP									100	98	95	2	0.54
8	STRATEGY	2.1	EC	1.57	lb ai/a	3.0	qt/a	PRE	A					
8	FRONTIER 6.0	6	EC	2.0	lb ai/a	1.33	qt/a	PRE	A					
9	NO COVER CROP									0	0	0	3	2.39
9	NONTREATED													
10	NO COVER CROP									100	100	100	0	0.00
10	HANDWEEDED													
LSD (P=.05)										1.6	2.1	6.6	1.3	0.830
Replicate F										1.000	2.250	2.114	3.857	1.742
Replicate Prob(F)										0.3874	0.1342	0.1498	0.0404	0.2034
Treatment F										3587.667	1996.563	188.528	5.612	5.743
Treatment Prob(F)										0.0001	0.0001	0.0001	0.0009	0.0008

Zucchini No-Till Weed Management Study.

Project Code: 05-HRC-zuc Location: Carbondale, IL
 Investigator: Bryan Young

Weed Code	DIGIS	DIGIS	DIGIS	DIGIS	DIGIS
Crop Code	Control	Control	Control	Plants	Dry wt.
Rating Data Type	Percent	Percent	Percent	/sqft	oz/sqft
Rating Unit	05-20-05	06-03-05	07-02-05	07-02-05	07-02-05
Rating Date	16 DA-A	30 DA-A	59 DA-A	59 DA-A	59 DA-A
Trt-Eval Interval					

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	DIGIS	DIGIS	DIGIS	DIGIS	DIGIS
1	WHEELER WINTER RYE CC STRATEGY	2.1	EC	1.57	lb ai/a	3.0	qt/a	PRE	A	100	100	96	2	0.41
2	WHEELER WINTER RYE CC STRATEGY	2.1	EC	1.57	lb ai/a	3.0	qt/a	PRE	A	100	100	97	1	0.30
	2 RAPTOR	1	AS	0.036	lb ai/a	4.6	oz/a	PRE	A					
3	WHEELER WINTER RYE CC STRATEGY	2.1	EC	1.57	lb ai/a	3.0	qt/a	PRE	A	100	100	98	1	0.30
	3 FRONTIER 6.0	6	EC	2.0	lb ai/a	1.33	qt/a	PRE	A					
4	WHEELER WINTER RYE CC NONTREATED									98	100	88	3	0.79
5	WHEELER WINTER RYE CC HANDWEEDED									100	100	100	0	0.00
6	NO COVER CROP STRATEGY	2.1	EC	1.57	lb ai/a	3.0	qt/a	PRE	A	100	98	92	1	0.36
7	NO COVER CROP STRATEGY	2.1	EC	1.57	lb ai/a	3.0	qt/a	PRE	A	100	100	97	1	0.19
	7 RAPTOR	1	AS	0.036	lb ai/a	4.6	oz/a	PRE	A					
8	NO COVER CROP STRATEGY	2.1	EC	1.57	lb ai/a	3.0	qt/a	PRE	A	100	100	95	1	0.29
	8 FRONTIER 6.0	6	EC	2.0	lb ai/a	1.33	qt/a	PRE	A					
9	NO COVER CROP NONTREATED									0	0	0	4	2.39
10	NO COVER CROP HANDWEEDED									100	100	100	0	0.00
LSD (P=.05)										1.6	1.6	7.0	1.4	0.920
Replicate F										1.000	1.167	0.735	0.053	0.502
Replicate Prob(F)										0.3874	0.3337	0.4936	0.9483	0.6133
Treatment F										3587.667	3372.473	165.715	7.391	5.078
Treatment Prob(F)										0.0001	0.0001	0.0001	0.0002	0.0017

Trial Comments

1. Protocol: SIU (SAW).
2. Ratings: CI, Stunt and WC at 14, 28 and 56 DAP as well as at first harvest;
3. Yield, 15 harvests, count and weigh marketable, oversize and cull.
4. Sprayed ryegrass with reduced rate of Select (1.0 oz/A) + COC (1%) on April 16, mowed May 2, PRE herbicide application on May 4, transplanted May 6.