

Cover Crops for Weed Management in Grapes.

Project Code: 07-grapecover Location: Horticulture Research Center
 Investigator: Bryan Young

Investigator: Bryan Young, Associate Professor, Southern Illinois University

City State Zip Country: Carbondale IL 62901 USA
 Trial Status: Final Updated: 1-23-08

Objective:
 Determine the utility of cover crops for weed management in grapes.

- Weed Code Common Name Scientific Name**
1. DIGSA crabgrass, large *Digitaria sanguinalis* (L.) Scop.
 2. ERICA horseweed *Conyza canadensis* (L.) Crong.
 3. PASDI dallisgrass *Paspalum dilatatum* poir.

Crop 1: VITVI grape
 Planting Method: Established

Plot Width, Unit: 3 FT Plot Length, Unit: 24 FT Reps: 3
 Tillage Type: No-Till Study Design: Randomized complete block

APPLICATION DESCRIPTION	A	B	C	D	E	F	G	H
Application Date:	3-31-05	4-27-05	5-31-05	7-7-05	10-5-05	9-6-05	6-13-06	6-13-06
Time of Day:	8:30		16:00	10:30			15:00	15:00
Application Method:	Spray	Plant	Spray	Spray	Plant	Spray	Spray	Spray
Application Timing:	PREBUD	1WA-A	6"COVER	6"WEEDS	AUGUST	AUG-IN	6" COVER	6" WEEDS
Applic. Placement:	BROFOL		BROFOL	BROFOL		See comment	BROFOL	
Air Temp., Unit:	60 F		81 F	87 F				
% Relative Humidity:	38		38	51			35	
Wind Velocity, Unit:	4-5 MPH		2-3 MPH	2-3 MPH			4.5 MPH	4.5 MPH
Dew Presence (Y/N):	N		N	N			N	
Soil Temp., Unit:	54 F		88 F	82 F			83 F	83 F
Soil Moisture:	NORMAL		BELNOR	NORMAL			NORMAL	NORMAL
% Cloud Cover:	0		5	0			0	0

CROP STAGE AT EACH APPLICATION	A	B	C	D	E	F	G	H
Crop 1 Code, Stage:	VITVI NA	VITVI NA	VITVI NA	VITVI NA	VITVI NA	VITVI NA	VITVI NA	VITVI NA
Height, Unit:	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA

WEED STAGE AT EACH APPLICATION	A	B	C	D	E	F	G	H
Weed 1 Code:	LAMAM							
Stage (leaves):	8-10							
Height (inches):	2-3							
Density:	Low							
Weed 2 Code:	STEME							
Stage (leaves):	10+							
Height (inches):	1-2							
Density:	High							
Weed 3 Code:	CERVU							
Stage (leaves):	10+							
Height (inches):	0-1							
Density:	Medium							
Weed 4 Code:	LAMPU							
Stage (leaves):	10+							
Height (inches):	2-3							
Density:	Medium							
Weed 5 Code:							ERICA	ERICA
Stage (leaves):							10+	10+
Height (inches):							8-30	8-30
Density:							Medium	Medium
Weed 6 Code:							TRFRE	TRFRE
Stage (leaves):							10+	10+
Height (inches):							5-7	5-7
Density:							Medium	Medium
Weed14 Code:							DIGIS	DIGIS
Stage (leaves):							3-6	3-6
Height (inches):							6-15	6-15
Density:							High	High
Weed15 Code:							AMPAL	AMPAL
Stage (leaves):							10+	10+
Height (inches):							18-30	18-30
Density:							Medium	Medium
Weed16 Code:							SONAR	SONAR
Stage (leaves):							10+	10+
Height (inches):							24-36	24-36
Density:							Medium	Medium

APPLICATION EQUIPMENT	A	B	C	D	E	F	G	H
Appl. Equipment:	CO2 sprayer	Power-rake	CO2 sprayer	CO2 sprayer	Tiller+Rake	CO2 sprayer	CO2 sprayer	CO2 sprayer
Operating Pressure:	40 PSI		40 PSI	40 PSI		40 PSI	40 PSI	40 PSI
Nozzle Type:	Flat fan		Flat fan	Flat fan		Flat fan	Flat fan	Flat fan
Nozzle Size:	8002E		8002E	8002E		8002E	8002E	8002E
Boom Length, Unit:	3 FT		3 FT	3 FT		3 FT	3 FT	3 FT
Spray Volume, Unit:	20 GPA		20 GPA	20 GPA		20 GPA	20 GPA	20 GPA

NOTES:

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Weed Code	DIGSA	ERICA	PASDI	TTTTT	CvrCrop
Crop Code	Control	Control	Control	Control	Plants
Rating Data Type	Percent	Percent	Percent	Percent	1.0 m2
Rating Unit	7-10-07	7-10-07	7-10-07	7-10-07	7-10-07
Rating Date					
Tri-Eval Interval					

Tri No.	Treatment Name	Form Conc	Form Type	Rate	Prod Rate	Prod Unit	Grow Stg	Appl Code	DIGSA	ERICA	PASDI	TTTTT	CvrCrop
1	NONTREATED								0 b	0 c	0 a	0 c	
2	ROUNDUP W-MAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	PREBUD	A	78 a	50 b	17 a	48 b	
	CHATEAU	51	WG	0.191 lb ai/a	6.0	oz/a	PREBUD	A					
	GRAMOXONE MAX	3	SL	0.75 lb ai/a	2.0	pt/a	6"WEEDS	D					
	ACTIVATOR 90	100	LIQ	0.25 % v/v	0.25	% v/v	6"WEEDS	D					
3	ROUNDUP W-MAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	PREBUD	A	8 b	87 ab	80 a	13 c	51 b
	PLANT OATS						1WA-A	B					
	GRAMOXONE MAX	3	SL	0.094 lb ai/a	4.0	fl oz/a	6"COVER	C					
	ACTIVATOR 90	100	LIQ	0.25 % v/v	0.25	% v/v	6"COVER	C					
4	ROUNDUP W-MAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	PREBUD	A	10 b	99 a	80 a	17 c	117 b
	PLANT MUSTARD						1WA-A	B					
	GRAMOXONE MAX	3	SL	0.094 lb ai/a	4.0	fl oz/a	6"COVER	C					
	ACTIVATOR 90	100	LIQ	0.25 % v/v	0.25	% v/v	6"COVER	C					
5	ROUNDUP W-MAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	PREBUD	A	88 a	85 ab	55 a	70 a	40558 a
	CHATEAU	51	WG	0.191 lb ai/a	6.0	oz/a	PREBUD	A					
	GRAMOXONE MAX	3	SL	0.75 lb ai/a	2.0	pt/a	6"WEEDS	D					
	ACTIVATOR 90	100	LIQ	0.25 % v/v	0.25	% v/v	6"WEEDS	D					
	PLANT LITTLE BARLEY						AUGUST	E					
	GRAMOXONE MAX	3	SL	0.75 lb ai/a	2.0	pt/a	AUG-IN	F					
	ACTIVATOR 90	100	LIQ	0.25 % v/v	0.25	% v/v	AUG-IN	F					
LSD (P=.05)									30.6	45.2	88.3	20.0	12755.1
Replicate F									0.023	1.070	0.047	3.941	1.003
Replicate Prob(F)									0.9774	0.3930	0.9544	0.0644	0.4436
Treatment F									20.506	8.860	2.652	21.779	51.730
Treatment Prob(F)									0.0003	0.0071	0.1839	0.0002	0.0014

Means followed by same letter do not significantly differ (P=.05, LSD)

Trial Comments

1. Protocol: SIU-BGY (see 06-grapecover for previous evaluations).
2. CvrCrop = Cover crop. 1.0 m2 = 1.0 square meter.