Burndown Timing for Winter Annual Grasses.

Project Code: 04-2B-ME90 Location: Belleville Research Center
Investigator: Bryan Young

Investigator: Bryan Young, Associate Professor, Southern Illinois University

City State Zip Country: Belleville IL 62221 USA
Trial Status: Final Updated: 10-28-04

Objective:
Determine the latest application timing to prevent winter annual grass seed production or viability.

Weed	Code	Common Name	Scientific Name
1.	HORPU	barley, little	Hordeum pusillum Nutt.

Crop 1: GLXMA soybean Variety: Asgrow 4403 RR
Planting Method: Seeded Planting Date: 6-14-04
Rate: 75 lb/A Depth: 1.0 IN
Row Spacing: 15 IN

Plot Width, Unit: 10 FT Plot Length, Unit: 28 FT Reps: 3
Tillage Type: No-Till Study Design: Randomized complete block
Previous Crop, Year: TRAZW, 2003

Field Prep./Maintenance: N 0 LB/A, P2O5 50 LB/A, K2O 100 LB/A

Soil Name: Weir % OM: 1.6 pH: 6.1 CEC: 8
Texture: Silt loam Fert. Level: P1: 91 LB/A, K: 410 LB/A

APPLICATION DESCRIPTION

	A	B	C	D	E	F	G	H
Application Date:	4-12-04	4-19-04	4-26-04	5-3-04	5-10-04	5-17-04	5-24-04	5-31-04
Time of Day:	8:00	9:00	10:00	10:00	7:00	8:00	8:00	7:00
Application Method:	Spray	Spray	Spray	Spray	Spray	Spray	Spray	Spray
Application Timing:	Apr12	Apr19	Apr26	May3	May10	May17	May24	May31
Applic. Placement:	BROFOL	BROFOL	BROFOL	BROFOL	BROFOL	BROFOL	BROFOL	BROFOL
Air Temp., Unit:	42 F	79 F	60 F	52 F	74 F	70 F	70 F	66 F
% Relative Humidity:	78	72	50	68	82	98	98	78
Wind Velocity, Unit:	7 MPH	7 MPH	5 MPH	3 MPH	0 MPH	0 MPH	0 MPH	3 MPH
Soil Moisture:	NORMAL	NORMAL	NORMAL	ABONOR	NORMAL	ABONOR	ABONOR	ABONOR

CROP STAGE AT EACH APPLICATION

	A	B	C	D	E	F	G	H
Crop 1 Code, Stage:	GLXMA NA	GLXMA NA	GLXMA NA	GLXMA NA	GLXMA NA	GLXMA NA	GLXMA NA	GLXMA 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:	HORPU	HORPU	HORPU	HORPU	HORPU	HORPU	HORPU	HORPU
Stage(leaves):	F4-5	F5-6	F9-10	F10-10.1	F10.3-10.5	F10.5-11.1	F11.0-11.3	F11.2-11.4
Height(inches):	3-4	3-6	6-10	6-12	12-14	16-24	20-24	20-24
Density:	High	High	High	High	High	High	High	High

APPLICATION EQUIPMENT

	A	B	C	D	E	F	G	H
Appl. Equipment:	CO2 sprayer	CO2 sprayer	CO2 sprayer	CO2 sprayer	CO2 sprayer	CO2 sprayer	CO2 sprayer	CO2 sprayer
Operating Pressure:	40 PSI	40 PSI	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	Flat fan	Flat fan
Nozzle Size:	8003	8003	8003	8003	8003	8003	8003	8003
Boom Length, Unit:	7.5 FT	7.5 FT	7.5 FT	7.5 FT	7.5 FT	7.5 FT	7.5 FT	7.5 FT
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA	20 GPA	20 GPA	20 GPA	20 GPA	20 GPA

NOTES:
Harvested 10-17-04, (2) 30 inch rows x 25 ft.

Burndown Timing for Winter Annual Grasses.

Project Code: 04-2B-ME90 Location: Belleville Research Center
Investigator: Bryan Young

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	GLXMA Yield bu/A 10-17-04	HORPU SEEHEA Mil/A 6-14-04 Maturity	HORPU Injury Percent 7 DAT	HORPU Injury Percent 14 DAT	HORPU Injury Percent 21 DAT	HORPU Injury Percent 28 DAT	HORPU Injury Percent 35 DAT	HORPU Injury Percent 42 DAT	HORPU Injury Percent 49 DAT	HORPU Kill Percent 7 DAT
1	NONTREATED									63	3.64	0	0	0	0	0	0	0	0
2	ROUNDUP W-MAX	4.5	SL	0.77	LB AE/A	22	FL OZ/A	Apr12	A	59	0.02	50	85	97	100	100	100	100	0
3	GRAMOXONE MAX	3	SL	1.0	LB AE/A	2.7	PT/A	Apr12	A	64	1.11	90	80	80	25	10	10	0	80
3	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	Apr12	A										
4	ROUNDUP W-MAX	4.5	SL	0.77	LB AE/A	22	FL OZ/A	Apr19	B	67	0.35	50	90	98	98	100	100	100	0
5	GRAMOXONE MAX	3	SL	1.0	LB AE/A	2.7	PT/A	Apr19	B	63	1.86	90	90	90	50	40	0	0	80
5	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	Apr19	B										
6	ROUNDUP W-MAX	4.5	SL	0.77	LB AE/A	22	FL OZ/A	Apr26	C	64	0.00	50	98	99	100	100	100	100	0
7	GRAMOXONE MAX	3	SL	1.0	LB AE/A	2.7	PT/A	Apr26	C	70	0.33	90	90	94	94	94	100	100	85
7	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	Apr26	C										
8	ROUNDUP W-MAX	4.5	SL	0.77	LB AE/A	22	FL OZ/A	May3	D	65	0.00	87	98	100	100	100	100	100	87
9	GRAMOXONE MAX	3	SL	1.0	LB AE/A	2.7	PT/A	May3	D	65	2.07	83	90	90	60	50	10	10	82
9	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	May3	D										
10	ROUNDUP W-MAX	4.5	SL	0.77	LB AE/A	22	FL OZ/A	May10	E	70	3.03	90	100	100	100	100	100	100	90
11	GRAMOXONE MAX	3	SL	1.0	LB AE/A	2.7	PT/A	May10	E	61	2.38	98	100	100	100	100	100	100	98
11	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	May10	E										
12	ROUNDUP W-MAX	4.5	SL	0.77	LB AE/A	22	FL OZ/A	May17	F	57	1.82	90	100	100	100	100	100	100	98
13	GRAMOXONE MAX	3	SL	1.0	LB AE/A	2.7	PT/A	May17	F	64	2.87	100	100	100	100	100	100	100	98
13	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	May17	F										
14	ROUNDUP W-MAX	4.5	SL	0.77	LB AE/A	22	FL OZ/A	May24	G	61	3.26	100	100	100	100	100	100	100	100
15	GRAMOXONE MAX	3	SL	1.0	LB AE/A	2.7	PT/A	May24	G	56	3.45	100	100	100	100	100	100	100	100
15	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	May24	G										
16	ROUNDUP W-MAX	4.5	SL	0.77	LB AE/A	22	FL OZ/A	May31	H	61	3.46	100	100	100	100	100	100	100	100
17	GRAMOXONE MAX	3	SL	1.0	LB AE/A	2.7	PT/A	May31	H	58	3.08	100	100	100	100	100	100	100	100
17	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	May31	H										
18	ROUNDUP W-MAX	4.5	SL	0.77	LB AE/A	22	FL OZ/A	Apr12	A	63	0.00	50	85	100	100	100	100	100	0
18	CANOPY XL	56.3	WG			4.5	OZ/A	Apr12	A										
18	->CLASSIC	25	WG	0.0264	LB A/A			Apr12	A										
18	->AUTHORITY	75	WG	0.132	LB A/A			Apr12	A										
LSD (P=.05)										7.1	0.910	3.2	0.0	3.0	7.3	20.5	0.0	0.0	3.7
Replicate F										2.502	1.078	1.545	0.000	0.771	1.395	1.151	0.000	0.000	1.195
Replicate Prob(F)										0.0978	0.3518	0.2278	1.0000	0.4705	0.2617	0.3283	1.0000	1.0000	0.3152
Treatment F										2.358	19.717	630.949	0.000	494.981	142.282	22.111	0.000	0.000	1102.396
Treatment Prob(F)										0.0177	0.0001	0.0001	1.0000	0.0001	0.0001	0.0001	1.0000	1.0000	0.0001

Burndown Timing for Winter Annual Grasses.

Project Code: 04-2B-ME90 Location: Belleville Research Center
Investigator: Bryan Young

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	HORPU Kill Percent 14 DAT	HORPU Kill Percent 21 DAT	HORPU Kill Percent 28 DAT	HORPU Kill Percent 35 DAT	HORPU Kill Percent 42 DAT	HORPU Kill Percent 49 DAT
1	NONTREATED									0	0	0	0	0	100
2	ROUNDUP W-MAX	4.5	SL	0.77	LB AE/A	22	FL OZ/A	Apr12	A	90	98	100	100	100	100
3	GRAMOXONE MAX	3	SL	1.0	LB AE/A	2.7	PT/A	Apr12	A	83	75	50	50	50	50
3	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	Apr12	A						
4	ROUNDUP W-MAX	4.5	SL	0.77	LB AE/A	22	FL OZ/A	Apr19	B	90	98	98	100	100	100
5	GRAMOXONE MAX	3	SL	1.0	LB AE/A	2.7	PT/A	Apr19	B	90	90	58	50	50	50
5	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	Apr19	B						
6	ROUNDUP W-MAX	4.5	SL	0.77	LB AE/A	22	FL OZ/A	Apr26	C	98	99	100	100	100	100
7	GRAMOXONE MAX	3	SL	1.0	LB AE/A	2.7	PT/A	Apr26	C	90	95	95	82	100	100
7	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	Apr26	C						
8	ROUNDUP W-MAX	4.5	SL	0.77	LB AE/A	22	FL OZ/A	May3	D	98	100	100	100	100	100
9	GRAMOXONE MAX	3	SL	1.0	LB AE/A	2.7	PT/A	May3	D	90	90	73	73	73	73
9	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	May3	D						
10	ROUNDUP W-MAX	4.5	SL	0.77	LB AE/A	22	FL OZ/A	May10	E	100	100	100	100	100	100
11	GRAMOXONE MAX	3	SL	1.0	LB AE/A	2.7	PT/A	May10	E	100	100	100	100	100	100
11	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	May10	E						
12	ROUNDUP W-MAX	4.5	SL	0.77	LB AE/A	22	FL OZ/A	May17	F	100	100	100	100	100	100
13	GRAMOXONE MAX	3	SL	1.0	LB AE/A	2.7	PT/A	May17	F	100	100	100	100	100	100
13	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	May17	F						
14	ROUNDUP W-MAX	4.5	SL	0.77	LB AE/A	22	FL OZ/A	May24	G	100	100	100	100	100	100
15	GRAMOXONE MAX	3	SL	1.0	LB AE/A	2.7	PT/A	May24	G	100	100	100	100	100	100
15	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	May24	G						
16	ROUNDUP W-MAX	4.5	SL	0.77	LB AE/A	22	FL OZ/A	May31	H	100	100	100	100	100	100
17	GRAMOXONE MAX	3	SL	1.0	LB AE/A	2.7	PT/A	May31	H	100	100	100	100	100	100
17	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	May31	H						
18	ROUNDUP W-MAX	4.5	SL	0.77	LB AE/A	22	FL OZ/A	Apr12	A	90	100	100	100	100	100
18	CANOPY XL	56.3	WG			4.5	OZ/A	Apr12	A						
18	->CLASSIC	25	WG	0.0264	LB A/A			Apr12	A						
18	->AUTHORITY	75	WG	0.132	LB A/A			Apr12	A						
LSD (P=.05)										2.3	1.8	10.4	13.2	8.2	8.2
Replicate F										1.000	1.000	0.192	2.044	1.000	1.000
Replicate Prob(F)										0.3784	0.3784	0.8265	0.1451	0.3784	0.3784
Treatment F										864.548	1418.511	55.645	35.555	94.244	35.330
Treatment Prob(F)										0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

Southern Illinois University

Burndown Timing for Winter Annual Grasses.

Project Code: 04-2B-ME90 Location: Belleville Research Center
Investigator: Bryan Young

Trial Comments

1. Protocol: ISPOB.
2. Ratings: Rate WC in treated plots every week after first application.
   Collect seed from 100 plants per plot and test for test weight an viability.
3. Make detailed notes on grass growth/reproductive stage at time of application.
4. Evaluate soybean stand at 3 and 6 WAP and soybean grain yield. There were no observable differences in soybean stand at 3 and 6 WAP.
5. Keep trial weed-free (entire area) starting at 3 WAP with glyphosate applications.
6. Blanket preemergence application of Roundup WeatherMax at 1.12 lbae/A was applied on 6-14-04.
   a. Blanket postemergence application of Roundup WeatherMax at 0.75 lbae/A was applied on 7-14-04 at crop stage v3-v4 and crop height 10"-12."
7. DAT = Days after various postemergence applications. SEEHEA = seed heads. Mil/A = Million per acre. Maturity = HORPU maturity.
8. Harvested 10-17-04, (2) 30 inch rows x 25 ft.