

UAP Acid Herbicide Burndown Study.

02-1-ME80

OBJECTIVE: Evaluate burndown activity of UAP experimentals and determine if any carryover to soybean occurs.

SUMMARY: No soybean injury was observed at 2 or 4 weeks after planting. Mouseear chickweed, horseweed, Carolina foxtail, giant foxtail, and smallflower buttercup control 21 days after treatment (DAT) was excellent from treatments that included Roundup UltraMax, PCC-1216, Engame, or ETK-2350. Salvo, Clarity, and PCC-1172 controlled 23 to 57% of mouseear chickweed with few significant differences between treatments. PCC-1133 at 32 oz/A plus PCC-1174 and Activator-90 controlled only 40% of mouseear chickweed. However, PCC-1133 at 16 oz/A plus LI 700 controlled 78% of mouseear chickweed. Salvo at 16 oz and PCC-1133 at 16 oz plus LI 700 controlled 90% of horseweed. Horseweed control was 71 to 83% from Clarity and PCC-1172. Salvo and treatments that included PCC-1133 controlled 85 to 96% of smallflower buttercup at 21 DAT. Smallflower buttercup control was less than 70% from Clarity and PCC-1172.

Soybean yield ranged from 49 to 59 bu/A with few significant differences between treatments. Soybean yield was 9 bu/A greater in plots treated with PCC-1133 at 16 oz/A plus LI 700 compared to plots treated with PCC-1133 at 32 oz/A plus PCC-1174 and Activator-90. However, there was no significant difference in soybean yield between herbicide treated plots and the nontreated check.

HERBICIDES

CLARITY 4 EC
 ENGAME 1.3 SL
 ETK-2350 1.5 SL
 PCC-1133 2.5 EC
 PCC-1172 2.5 EC
 PCC-1216 4 SL
 ROUNDUP ULTRA MAX 3.7 SL
 SALVO 5 EC

WEEDS

buttercup, smallflower
 chickweed, mouseear
 foxtail, Carolina
 foxtail, giant
 horseweed

CROP

soybean

Bryan Young

PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

UAP Acid Herbicide Burndown Study.

Project Code: 02-1-ME80 Location: Belleville Research Center

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

City State Zip Country: Belleville IL 62221 USA
 Trial Status: Final Updated: 10-24-02

Objective:

Evaluate burndown activity of UAP experimentals and determine if any carryover to soybean occurs.

Weed Code	Common Name	Scientific Name
1. CERVU	chickweed, mouseear	Cerastium vulgatum L.
2. ERICA	horseweed	Conyza canadensis (L.) Crong.
3. ALOCA	foxtail, Carolina	Alopecurus carolinianus Walt.
4. RANAB	buttercup, smallflower	Ranunculus abortivus L.
5. SETFA	foxtail, giant	Setaria faberi Herrm.

Crop 1: GLXMA soybean Variety: Asgrow 4602 RR
 Planting Method: Seeded Planting Date: 5-30-02
 Rate: 75 lb/A Depth: 1.0 IN
 Row Spacing: 30 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: ZEAMX, 2001

Field Prep./Maintenance: N 0 LB/A, P205 50 LB/A, K20 150 LB/A

Soil Name: Weir % OM: 1.8 pH: 5.7 CEC: 10
 Texture: Silt loam Fert. Level: P1: 98 LB/A, K: 258 LB/A

APPLICATION DESCRIPTION

A
 Application Date: 4-25-02
 Time of Day: 11:00
 Application Method: Spray
 Application Timing: 21EPP
 Applic. Placement: BROFOL
 Air Temp., Unit: 60 F
 % Relative Humidity: 28
 Wind Velocity, Unit: 3 MPH
 Soil Moisture: ABONOR

CROP STAGE AT EACH APPLICATION

A
 Crop 1 Code, Stage: GLXMA NA
 Height, Unit: NA NA

WEED STAGE AT EACH APPLICATION

A

Weed 1 Code: CERVU
 Stage(leaves): 10+
 Height(inches): 4-6
 Density: Medium

Weed 2 Code: ERICA
 Stage(leaves): 10+
 Height(inches): 4-5
 Density: Low

Weed 3 Code: ALOCA
 Stage(leaves): 5-6
 Height(inches): 4-6
 Density: Medium

Weed 4 Code: RANAB
 Stage(leaves): 10+
 Height(inches): 6-12
 Density: Medium

Weed 5 Code: SETFA
Stage(leaves): 1-2
Height(inches): 0-2
Density: Medium

APPLICATION EQUIPMENT

A

Appl. Equipment: CO2 sprayer
Operating Pressure: 40 PSI
Nozzle Type: Flat fan
Nozzle Size: 8003
Boom Length, Unit: 7.5 FT
Spray Volume, Unit: 20 GPA

NOTES:

Harvested Oct-7-02, (2)30 inch rows by 25 ft.

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Weed Code	CERVU	ERICA	ALOCA	RANAB	SETFA	GLXMA	GLXMA
Crop Code	GLXMA					GLXMA	GLXMA
Rating Data Type	Yield	Control	Control	Control	Control	Injury	Injury
Rating Unit	bu/A	Percent	Percent	Percent	Percent	Percent	Percent
Rating Date	10-7-02	5-16-02	5-16-02	5-16-02	5-16-02	6-13-02	6-27-02
Trt-Eval Interval	21 DA-A	21 DA-A	21 DA-A	21 DA-A	21 DA-A	2 WAP	4 WAP

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code							
1	SALVO	5	EC	0.625	LB AE/A	16	OZ/A	21EPP	A	56	52	90	0	95	0	0
1	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	%V/V	21EPP	A							
2	SALVO	5	EC	0.3125	LB AE/A	8	OZ/A	21EPP	A	57	42	83	0	85	0	0
2	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	%V/V	21EPP	A							
3	PCC-1133	2.5	EC	0.625	LB AE/A	32	OZ/A	21EPP	A	53	40	88	0	96	30	0
3	PCC-1174	100	LIQ	1.0	% V/V	1	%V/V	21EPP	A							
3	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	%V/V	21EPP	A							
4	PCC-1133	2.5	EC	0.3125	LB AE/A	16	OZ/A	21EPP	A	49	40	76	0	96	0	0
4	PCC-1174	100	LIQ	1.0	% V/V	1	%V/V	21EPP	A							
4	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	%V/V	21EPP	A							
5	PCC-1133	2.5	EC	0.3125	LB AE/A	16	OZ/A	21EPP	A	58	78	90	0	86	0	0
5	LI 700	100	LIQ	0.5	% V/V	0.5	%V/V	21EPP	A							
6	CLARITY	4	EC	0.25	LB AE/A	8	OZ/A	21EPP	A	54	37	71	0	27	0	0
6	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	%V/V	21EPP	A							
7	CLARITY	4	EC	0.125	LB AE/A	4	OZ/A	21EPP	A	53	57	73	0	67	10	0
7	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	%V/V	21EPP	A							
8	PCC-1172	2.5	EC	0.25	LB AE/A	12.8	OZ/A	21EPP	A	55	30	78	0	40	0	0
8	PCC-1174	100	LIQ	1.0	% V/V	1	%V/V	21EPP	A							
8	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	%V/V	21EPP	A							
9	PCC-1172	2.5	EC	0.125	LB AE/A	6.4	OZ/A	21EPP	A	53	43	75	0	63	0	0
9	PCC-1174	100	LIQ	1.0	% V/V	1	%V/V	21EPP	A							
9	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	%V/V	21EPP	A							
10	PCC-1172	2.5	EC	0.125	LB AE/A	6.4	OZ/A	21EPP	A	59	23	83	0	30	0	0
10	LI 700	100	LIQ	0.5	% V/V	0.5	%V/V	21EPP	A							
11	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	26	OZ/A	21EPP	A	56	99	99	99	99	99	0
12	ROUNDUP ULTRA MAX	3.7	SL	0.375	LB AE/A	13	OZ/A	21EPP	A	58	98	96	99	99	99	0
13	PCC-1216	4	SL	0.7625	LB AE/A	24.4	OZ/A	21EPP	A	57	99	99	99	99	99	0
13	PCC-1174	100	LIQ	1.0	% V/V	1	%V/V	21EPP	A							
14	PCC-1216	4	SL	0.3813	LB AE/A	12.2	OZ/A	21EPP	A	57	98	98	99	99	99	0
14	PCC-1174	100	LIQ	1.0	% V/V	1	%V/V	21EPP	A							

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Rating Unit	bu/A	Percent	Percent	Percent	Percent	Percent	Percent	
Rating Date	10-7-02	5-16-02	5-16-02	5-16-02	5-16-02	6-13-02	6-27-02	
Trt-Eval Interval		21 DA-A	21 DA-A	21 DA-A	21 DA-A	2 WAP	4 WAP	

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code								
15	PCC-1216	4	SL	0.3813	LB AE/A	12.2	OZ/A	21EPP	A	53	99	95	99	99	99	0	0
15	LI 700	100	LIQ	0.5	% V/V	0.5	%V/V	21EPP	A								
16	ENGAME	1.3	SL	0.7617	LB AE/A	75	OZ/A	21EPP	A	57	99	99	99	99	99	0	0
16	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	%V/V	21EPP	A								
17	ENGAME	1.3	SL	0.3809	LB AE/A	37.5	OZ/A	21EPP	A	55	99	96	99	99	99	0	0
17	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	%V/V	21EPP	A								
18	ROUNDUP ULTRA MAX	3.7	SL	0.375	LB AE/A	13	OZ/A	21EPP	A	56	88	96	99	99	99	0	0
18	SALVO	5	EC	0.3125	LB AE/A	8	OZ/A	21EPP	A								
19	PCC-1216	4	SL	0.3813	LB AE/A	12.2	OZ/A	21EPP	A	56	99	99	99	99	99	0	0
19	PCC-1133	2.5	EC	0.3125	LB AE/A	16	OZ/A	21EPP	A								
19	PCC-1174	100	LIQ	1.0	% V/V	1	%V/V	21EPP	A								
20	ETK-2350	1.5	SL	0.75	LB AE/A	64	OZ/A	21EPP	A	54	99	99	99	99	99	0	0
20	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	%V/V	21EPP	A								
21	ROUNDUP ULTRA MAX	3.7	SL	0.375	LB AE/A	13	OZ/A	21EPP	A	57	96	98	98	99	99	0	0
21	CLARITY	4	EC	0.125	LB AE/A	4	OZ/A	21EPP	A								
22	PCC-1216	4	SL	0.3813	LB AE/A	12.2	OZ/A	21EPP	A	55	99	99	99	99	99	0	0
22	PCC-1172	2.5	EC	0.125	LB AE/A	6.4	OZ/A	21EPP	A								
22	PCC-1174	100	LIQ	1.0	% V/V	1	%V/V	21EPP	A								
23	NONTREATED									54	0	0	0	0	0	0	0
24	ROUNDUP ULTRA MAX	3.7	SL	0.75	LB AE/A	26	OZ/A	21EPP	A	54	99	99	99	99	99	0	0
24	AMS	100	DRY	2.0	% W/W	2	%W/W	21EPP	A								
LSD (P=.05)										5.9	23.6	15.7	0.8	15.1	18.2	0.0	0.0
Replicate F										7.117	3.532	11.543	1.000	4.069	1.613	0.000	0.000
Replicate Prob(F)										0.0020	0.0374	0.0001	0.3757	0.0236	0.2103	1.0000	1.0000
Treatment F										1.185	15.152	14.273	34206.844	29.970	58.865	0.000	0.000
Treatment Prob(F)										0.3045	0.0001	0.0001	0.0001	0.0001	0.0001	1.0000	1.0000

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Trial Comments

1. Protocol:UAP.
2. DA-A = days after 21EPP application
3. WAP = weeks after planting
4. 2 and 4 WAP was also 49 and 63 days after 21EPP application.