

MSU Weed Science Research Program

Frost-seeded red clover tolerance to spring-applied winter wheat herbicides

Trial ID: WT02-13 Study Dir.: Sprague, Powell
Conducted: Campus T-18 Investigator: Christy Sprague

Date Planted: Oct/26/2013 Row Spacing: 7.5 IN
Variety: 'Red Ruby' No. of Reps: 4
Population: 2 million seeds/A % OM: 4.8
Soil Type: Loam pH: 6.5
Plot Size: 10 X 40 FT Design: RANDOMIZED COMPLETE BLOCK

Tillage: Fall soil finished soybean stubble
Fertilizer: None at planting
3/14/13- Topdress with 200 lb/A urea (90 lb/A N)

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1.	TRFPR	CLOVER, RED	TRIFOLIUM PRATENSE L.
2.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
3.	STEME	CHICKWEED, COMMON	STELLARIA MEDIA (L.)
4.	AMBEL	RAGWEED, COMMON	AMBROSIA ARTEMISIIFOLIA L.
Crop	Code	Common Name	
1.	TRZAW	WHEAT, WINTER	

Application Description

A
Application Timing: POST
Date Treated: May/07/2013
Time Treated: 4:45 PM
% Cloud Cover: 50
Air Temp., Unit: 80 F
% Relative Humidity: 40
Wind Speed/Unit/Dir: 3 mph SE
Soil Temp., Unit: 78 F
Soil/Leaf Surface M: 5 5
Soil Moist (1=w 5=d): 3

Crop Stage at Each Application

A
Crop Name: TRZAW
Height (In.): 28"
Stage (L): Feeke's 6

Weed Stage at Each Application

A
Weed 1 Name: TRFPR
Height (In.): 0.5"
Stage (L): 1-3
Weed 2 Name: CHEAL
Height (In.): 1"
Stage (L): 2-4
Weed 3 Name: STEME
Height (In.): 4"
Stage (L): 40-150
Weed 4 Name: AMBEL
Height (In.): 1"
Stage (L): 2-4

Application Equipment

Appl	Sprayer	Speed	Nozzle	Nozzle	Nozzle	Nozzle	Boom			
	Type	MPH	Type	Size	Height	Spacing	Width	GPA	Carrier	PSI
A	Cub	3.8	AI XR	11003	30"	20"	100"	19	Water	28

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Frost-seeded red clover tolerance to spring-applied winter wheat herbicides

Trial ID: WT02-13 Study Dir.: Sprague, Powell
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Weed Code	Wheat injury percent	Wheat injury percent	TRFRE control percent	STEME control percent	CHEAL control percent
Crop Code	May/14/2013	May/22/2013	May/22/2013	May/22/2013	May/22/2013
Rating Data Type	7 DA-A	15 DA-A	15 DA-A	15 DA-A	15 DA-A
Rating Unit					
Rating Date					
Trt-Eval Interval					
ARM Action Codes					
# Subsamples, Dec.	0	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Grow Stg	Appl Code	Wheat injury percent	Wheat injury percent	TRFRE control percent	STEME control percent	CHEAL control percent
							May/14/2013	May/22/2013	May/22/2013	May/22/2013	May/22/2013
							7 DA-A	15 DA-A	15 DA-A	15 DA-A	15 DA-A
1	Affinity BroadSpec Surfactant	50	SG L	0.4 oz/a	POST A	A	0	0	83	94	99
2	Affinity BroadSpec Surfactant	50	SG L	1 oz/a	POST A	A	0	0	92	99	99
3	Affinity BroadSpec MCPA Surfactant	50	SG L	0.4 oz/a	POST A	A	0	0	82	99	99
4	Affinity BroadSpec MCPA Surfactant	50	SG L	1 oz/a	POST A	A	0	0	85	99	99
5	Panoflex (0.3 oz) Harmony SG (Premix) Express SG (Premix) Surfactant	50	SG L	0.06 oz/a	POST A	A	0	0	92	99	99
6	Panoflex (0.6 oz) Harmony SG (Premix) Express (Premix) Surfactant	50	SG L	0.12 oz/a	POST A	A	0	0	90	99	99
7	Panoflex (0.3 oz) Harmony SG (Premix) Express (Premix) MCPA Surfactant	50	SG L	0.06 oz/a	POST A	A	0	0	83	92	99
8	Panoflex (0.6 oz) Harmony SG (Premix) Express (Premix) MCPA Surfactant	50	SG L	0.12 oz/a	POST A	A	0	0	83	99	99
9	Untreated						0	0	0	0	0
10	MCPA	4	L	6 fl oz/a	POST A	A	0	0	5	55	80
11	Huskie Surfactant AMS	2.06	L WG	11 fl oz/a	POST A	A	0	0	97	90	99
12	PowerFlex HL Surfactant AMS	13	WG L	2 oz/a	POST A	A	0	0	99	99	99
13	Osprey Surfactant AMS	4.6	WG L	4.75 oz/a	POST A	A	0	0	99	25	0
14	Buctril	2	L	1.5 pt/a	POST A	A	10	3	10	95	99
LSD (P=.05)							0.0	0.0	14.3	8.0	6.5
CV							0.0	0.0	13.86	6.78	5.38

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

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Weed Code	AMBEL	TRFRE	CHEAL	AMBEL	TRFRE
Crop Code					
Rating Data Type	control	control	control	control	count
Rating Unit	percent	percent	percent	percent	1/2 m2
Rating Date	May/22/2013	Jul/25/2013	Jul/25/2013	Jul/25/2013	Jul/25/2013
Trt-Eval Interval	15 DA-A	79 DA-A	79 DA-A	79 DA-A	79 DA-A
ARM Action Codes					T2
# Subsamples, Dec.	0	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	Affinity BroadSpec	50	SG	0.4	oz/a	POST	A	42	91	55	23	24
	Surfactant		L	0.25	% v/v	POST	A					
2	Affinity BroadSpec	50	SG	1	oz/a	POST	A	50	96	66	49	7
	Surfactant		L	0.25	% v/v	POST	A					
3	Affinity BroadSpec	50	SG	0.4	oz/a	POST	A	40	88	75	52	29
	MCPA	4	L	6	fl oz/a	POST	A					
	Surfactant		L	0.25	% v/v	POST	A					
4	Affinity BroadSpec	50	SG	1	oz/a	POST	A	48	95	70	28	17
	MCPA	4	L	6	fl oz/a	POST	A					
	Surfactant		L	0.25	% v/v	POST	A					
5	Panoflex (0.3 oz)							15	89	58	34	30
	Harmony SG (Premix)	50	SG	0.06	oz/a	POST	A					
	Express SG (Premix)	50	SG	0.24	oz/a	POST	A					
	Surfactant		L	0.25	% v/v	POST	A					
6	Panoflex (0.6 oz)							27	94	61	47	14
	Harmony SG (Premix)	50	SG	0.12	oz/a	POST	A					
	Express (Premix)	50	SG	0.48	oz/a	POST	A					
	Surfactant		L	0.25	% v/v	POST	A					
7	Panoflex (0.3 oz)							53	86	75	48	39
	Harmony SG (Premix)	50	SG	0.06	oz/a	POST	A					
	Express (Premix)	50	SG	0.24	oz/a	POST	A					
	MCPA	4	L	6	fl oz/a	POST	A					
	Surfactant		L	0.25	% v/v	POST	A					
8	Panoflex (0.6 oz)							25	91	71	33	19
	Harmony SG (Premix)	50	SG	0.12	oz/a	POST	A					
	Express (Premix)	50	SG	0.48	oz/a	POST	A					
	MCPA	4	L	6	fl oz/a	POST	A					
	Surfactant		L	0.25	% v/v	POST	A					
9	Untreated							0	0	0	0	124
10	MCPA	4	L	6	fl oz/a	POST	A	28	0	20	39	116
11	Huskie	2.06	L	11	fl oz/a	POST	A	98	99	85	95	2
	Surfactant		L	0.25	% v/v	POST	A					
	AMS		WG	1	lb/a	POST	A					
12	PowerFlex HL	13	WG	2	oz/a	POST	A	42	99	45	32	2
	Surfactant		L	0.5	% v/v	POST	A					
	AMS		WG	3	lb/a	POST	A					
13	Osprey	4.6	WG	4.75	oz/a	POST	A	0	99	5	0	3
	Surfactant		L	0.5	% v/v	POST	A					
	AMS		WG	3	lb/a	POST	A					
14	Buctril	2	L	1.5	pt/a	POST	A	99	63	80	91	66
LSD (P=.05)								20.4	18.5	24.8	29.4	32.9
CV								35.13	16.52	31.46	50.13	65.0

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

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Weed Code
 Crop Code TRZAW TRZAW
 Rating Data Type moisture yield
 Rating Unit percent bu/acre
 Rating Date Jul/24/2013 Jul/24/2013
 Trt-Eval Interval 78 DA-A 78 DA-A
 ARM Action Codes TY1
 # Subsamples, Dec. 1 1

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code		
1	Affinity BroadSpec	50	SG	0.4	oz/a	POST	A	16.0	73.7
	Surfactant		L	0.25	% v/v	POST	A		
2	Affinity BroadSpec	50	SG	1	oz/a	POST	A	15.8	71.9
	Surfactant		L	0.25	% v/v	POST	A		
3	Affinity BroadSpec	50	SG	0.4	oz/a	POST	A	16.1	72.2
	MCPA	4	L	6	fl oz/a	POST	A		
	Surfactant		L	0.25	% v/v	POST	A		
4	Affinity BroadSpec	50	SG	1	oz/a	POST	A	16.4	71.1
	MCPA	4	L	6	fl oz/a	POST	A		
	Surfactant		L	0.25	% v/v	POST	A		
5	Panoflex (0.3 oz)							15.5	69.8
	Harmony SG (Premix)	50	SG	0.06	oz/a	POST	A		
	Express SG (Premix)	50	SG	0.24	oz/a	POST	A		
	Surfactant		L	0.25	% v/v	POST	A		
6	Panoflex (0.6 oz)							15.7	70.0
	Harmony SG (Premix)	50	SG	0.12	oz/a	POST	A		
	Express (Premix)	50	SG	0.48	oz/a	POST	A		
	Surfactant		L	0.25	% v/v	POST	A		
7	Panoflex (0.3 oz)							16.2	71.3
	Harmony SG (Premix)	50	SG	0.06	oz/a	POST	A		
	Express (Premix)	50	SG	0.24	oz/a	POST	A		
	MCPA	4	L	6	fl oz/a	POST	A		
	Surfactant		L	0.25	% v/v	POST	A		
8	Panoflex (0.6 oz)							15.0	72.0
	Harmony SG (Premix)	50	SG	0.12	oz/a	POST	A		
	Express (Premix)	50	SG	0.48	oz/a	POST	A		
	MCPA	4	L	6	fl oz/a	POST	A		
	Surfactant		L	0.25	% v/v	POST	A		
9	Untreated							16.1	73.1
10	MCPA	4	L	6	fl oz/a	POST	A	15.7	71.6
11	Huskie	2.06	L	11	fl oz/a	POST	A	15.5	70.7
	Surfactant		L	0.25	% v/v	POST	A		
	AMS		WG	1	lb/a	POST	A		
12	PowerFlex HL	13	WG	2	oz/a	POST	A	15.1	68.1
	Surfactant		L	0.5	% v/v	POST	A		
	AMS		WG	3	lb/a	POST	A		
13	Osprey	4.6	WG	4.75	oz/a	POST	A	14.8	67.3
	Surfactant		L	0.5	% v/v	POST	A		
	AMS		WG	3	lb/a	POST	A		
14	Buctril	2	L	1.5	pt/a	POST	A	15.6	70.0
LSD (P=.05)								0.95	5.40
CV								4.19	5.28

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