

MSU Weed Science Research Program

Red clover tolerance from fall and spring herbicide applications in winter wheat

Trial ID: WT01-15
 Conducted: Campus T-18

Study Dir.: Sprague, Powell
 Investigator: Christy Sprague

Date Planted: Sep/26/2014 **Row Spacing:** 7.5 IN
Variety: 'Sunburst' soft red **No. of Reps:** 4
Population: 1.8 million seeds/A **% OM:** 4.8
Soil Type: Loam **pH:** 6.5
Plot Size: 10 X 35 FT **Design:** RANDOMIZED COMPLETE BLOCK

Tillage: Fall disked and soil finished
Fertilizer: Wheat was top-dressed with 200lb/A urea (90lb/A actual N) on 3/23/15.

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
2.	TRFRE	CLOVER, RED	TRIFOLIUM REPENS L.
Crop	Code	Common Name	
1.	TRZAW	WHEAT, WINTER	

Application Description

	A	B
Application Timing:	Fall	Spring
Date Treated:	Oct/23/2014	Apr/28/2015
Time Treated:	3:45 PM	10:30 AM
% Cloud Cover:	0	0
Air Temp., Unit:	59 F	55 F
% Relative Humidity:	45	47
Wind Speed/Unit/Dir:	2 mph E	3 mph W
Soil Temp., Unit:	56 F	45 F
Soil/Leaf Surface M:	3 5	5 3
Soil Moist (1=w 5=d):	3	4

Crop Stage at Each Application

	A	B
Crop Name:	TRZAW	TRZAW
Height (In.):	4"	10-12"
Stage (L):	2	5

Weed Stage at Each Application

	A	B
Weed 1 Name:	CHEAL	CHEAL
Height (In.):	-	0.25"
Stage (L):	-	Coty
Weed 2 Name:	TRFRE	TRFRE
Height (In.):	-	0.25"
Stage (L):	-	Cot-1 tri

Weed Density (plants/sq. ft.)

1
Weed Name: CHEAL
Density: 3

Application Equipment

Appl	Sprayer	Speed	Nozzle	Nozzle	Nozzle	Nozzle	Boom			
	Type	MPH	Type	Size	Height	Spacing	Width	GPA	Carrier	PSI
A	Cub	3.8	AIXR	11003	23"	20"	100"	19	Water	28
B	Cub	3.8	AIXR	11003	29"	20"	100"	19	Water	28

Comments: Medium red clover was frost-seeded at 12 lb/A on 3/18/15.

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Weed Code								TRZAW	TRZAW	TRZAW	TRZAW	TRZAW
Crop Code								injury	injury	injury	height	injury
Rating Data Type								percent	percent	percent	inches	percent
Rating Unit								Nov/05/2014	May/01/2015	May/05/2015	May/05/2015	May/12/2015
Rating Date								13 DA-A	3 DA-B	7 DA-B	7 DA-B	14 DA-B
Trt-Eval Interval								0	0	0	0	0
# Subsamples, Dec.												
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	Affinity BroadSpec	50	WG	0.75	oz/a	FALL	A	9	0	0	15	0
1	Surfactant		L	0.25	% v/v	FALL	A					
1	AMS		WG	2	lb/a	FALL	A					
2	Huskie	2.06	L	13.5	fl oz/a	FALL	A	4	0	0	15	0
2	Surfactant		L	0.25	% v/v	FALL	A					
2	AMS		WG	1	lb/a	FALL	A					
3	Osprey	4.5	WG	4.75	oz/a	FALL	A	4	0	0	15	0
3	Surfactant		L	0.25	% v/v	FALL	A					
3	AMS		WG	2	lb/a	FALL	A					
4	PowerFlex HL	13	WG	2	oz/a	FALL	A	4	0	1	14	0
4	Surfactant		L	0.25	% v/v	FALL	A					
4	AMS		WG	2	lb/a	FALL	A					
5	Clarity	4	L	0.25	pt/a	FALL	A	0	0	1	15	0
6	2,4-D ester	4	L	1	pt/a	FALL	A	0	21	26	15	43
7	MCPA	4	L	0.38	pt/a	FALL	A	0	0	0	15	0
8	Untreated							0	0	0	15	0
9	Affinity BroadSpec	50	WG	0.75	oz/a	SPRING	B	0	0	12	12	0
9	Surfactant		L	0.25	% v/v	SPRING	B					
9	AMS		WG	2	lb/a	SPRING	B					
10	Huskie	2.06	L	13.5	fl oz/a	SPRING	B	0	0	1	14	0
10	Surfactant		L	0.25	% v/v	SPRING	B					
10	AMS		WG	1	lb/a	SPRING	B					
11	Osprey	4.5	WG	4.75	oz/a	SPRING	B	0	0	13	12	0
11	Surfactant		L	0.25	% v/v	SPRING	B					
11	AMS		WG	2	lb/a	SPRING	B					
12	PowerFlex HL	13	WG	2	oz/a	SPRING	B	0	0	10	12	0
12	Surfactant		L	0.25	% v/v	SPRING	B					
12	AMS		WG	2	lb/a	SPRING	B					
13	Clarity	4	L	0.25	pt/a	SPRING	B	0	0	2	15	0
14	2,4-D ester	4	L	1	pt/a	SPRING	B	0	0	3	14	0
15	MCPA	4	L	0.38	pt/a	SPRING	B	0	0	1	15	0
16	Affinity BroadSpec	50	WG	0.75	oz/a	FALL	A	8	0	1	15	3
16	Surfactant		L	0.25	% v/v	FALL	A					
16	AMS		WG	2	lb/a	FALL	A					
16	MCPA	4	L	0.38	pt/a	SPRING	B					
17	Huskie	2.06	L	13.5	fl oz/a	FALL	A	2	0	0	14	0
17	Surfactant		L	0.25	% v/v	FALL	A					
17	AMS		WG	1	lb/a	FALL	A					
17	MCPA	4	L	0.38	pt/a	SPRING	B					
LSD (P=.05)								1.6	0.9	3.0	1.0	2.4
CV								63.35	49.02	50.92	5.07	63.39

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Weed Code								TRFPR	TRZAW	TRZAW	TRFPR	CHEAL
Crop Code								injury	moisture	yield	injury	control
Rating Data Type								percent	percent	bu/acre	percent	percent
Rating Unit								May/12/2015	Jul/21/2015	Jul/21/2015	Jul/31/2015	Jul/31/2015
Rating Date								14 DA-B	84 DA-B	at 13% M	94 DA-B	94 DA-B
Trt-Eval Interval								0	1	1	0	0
# Subsamples, Dec.												
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	Affinity BroadSpec	50	WG	0.75	oz/a	FALL	A	0	16.0	96.1	18	86
1	Surfactant		L	0.25	% v/v	FALL	A					
1	AMS		WG	2	lb/a	FALL	A					
2	Huskie	2.06	L	13.5	fl oz/a	FALL	A	0	16.2	95.4	8	0
2	Surfactant		L	0.25	% v/v	FALL	A					
2	AMS		WG	1	lb/a	FALL	A					
3	Osprey	4.5	WG	4.75	oz/a	FALL	A	18	15.6	97.8	15	0
3	Surfactant		L	0.25	% v/v	FALL	A					
3	AMS		WG	2	lb/a	FALL	A					
4	PowerFlex HL	13	WG	2	oz/a	FALL	A	25	16.5	93.5	34	10
4	Surfactant		L	0.25	% v/v	FALL	A					
4	AMS		WG	2	lb/a	FALL	A					
5	Clarity	4	L	0.25	pt/a	FALL	A	0	16.4	96.6	5	0
6	2,4-D ester	4	L	1	pt/a	FALL	A	0	13.5	70.7	0	0
7	MCPA	4	L	0.38	pt/a	FALL	A	0	15.9	94.9	3	0
8	Untreated							0	15.8	98.7	0	0
9	Affinity BroadSpec	50	WG	0.75	oz/a	SPRING	B	79	15.8	98.3	65	99
9	Surfactant		L	0.25	% v/v	SPRING	B					
9	AMS		WG	2	lb/a	SPRING	B					
10	Huskie	2.06	L	13.5	fl oz/a	SPRING	B	75	16.1	99.3	71	97
10	Surfactant		L	0.25	% v/v	SPRING	B					
10	AMS		WG	1	lb/a	SPRING	B					
11	Osprey	4.5	WG	4.75	oz/a	SPRING	B	63	16.0	98.9	89	0
11	Surfactant		L	0.25	% v/v	SPRING	B					
11	AMS		WG	2	lb/a	SPRING	B					
12	PowerFlex HL	13	WG	2	oz/a	SPRING	B	78	15.9	98.4	93	83
12	Surfactant		L	0.25	% v/v	SPRING	B					
12	AMS		WG	2	lb/a	SPRING	B					
13	Clarity	4	L	0.25	pt/a	SPRING	B	92	15.8	93.0	97	99
14	2,4-D ester	4	L	1	pt/a	SPRING	B	87	15.5	97.6	83	98
15	MCPA	4	L	0.38	pt/a	SPRING	B	35	16.1	93.9	15	96
16	Affinity BroadSpec	50	WG	0.75	oz/a	FALL	A	10	16.7	94.8	13	97
16	Surfactant		L	0.25	% v/v	FALL	A					
16	AMS		WG	2	lb/a	FALL	A					
16	MCPA	4	L	0.38	pt/a	SPRING	B					
17	Huskie	2.06	L	13.5	fl oz/a	FALL	A	10	16.4	97.4	17	97
17	Surfactant		L	0.25	% v/v	FALL	A					
17	AMS		WG	1	lb/a	FALL	A					
17	MCPA	4	L	0.38	pt/a	SPRING	B					
LSD (P=.05)								14.3	1.03	4.88	9.0	6.6
CV								29.81	4.56	3.59	17.1	9.06

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Weed Code
 Crop Code
 Rating Data Type
 Rating Unit
 Rating Date
 Trt-Eval Interval
 # Subsamples, Dec.

TRFPR counts /0.25 m2
 Jul/31/2015
 94 DA-B
 0

TRFPR weight (g) /0.25 m2
 Jul/31/2015
 94 DA-B
 1

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code		
1	Affinity BroadSpec	50	WG	0.75	oz/a	FALL	A	13	10.1
1	Surfactant		L	0.25	% v/v	FALL	A		
1	AMS		WG	2	lb/a	FALL	A		
2	Huskie	2.06	L	13.5	fl oz/a	FALL	A	14	7.3
2	Surfactant		L	0.25	% v/v	FALL	A		
2	AMS		WG	1	lb/a	FALL	A		
3	Osprey	4.5	WG	4.75	oz/a	FALL	A	12	8.3
3	Surfactant		L	0.25	% v/v	FALL	A		
3	AMS		WG	2	lb/a	FALL	A		
4	PowerFlex HL	13	WG	2	oz/a	FALL	A	11	5.3
4	Surfactant		L	0.25	% v/v	FALL	A		
4	AMS		WG	2	lb/a	FALL	A		
5	Clarity	4	L	0.25	pt/a	FALL	A	16	8.6
6	2,4-D ester	4	L	1	pt/a	FALL	A	21	15.1
7	MCPA	4	L	0.38	pt/a	FALL	A	13	6.1
8	Untreated							14	6.7
9	Affinity BroadSpec	50	WG	0.75	oz/a	SPRING	B	5	2.7
9	Surfactant		L	0.25	% v/v	SPRING	B		
9	AMS		WG	2	lb/a	SPRING	B		
10	Huskie	2.06	L	13.5	fl oz/a	SPRING	B	6	2.4
10	Surfactant		L	0.25	% v/v	SPRING	B		
10	AMS		WG	1	lb/a	SPRING	B		
11	Osprey	4.5	WG	4.75	oz/a	SPRING	B	2	0.8
11	Surfactant		L	0.25	% v/v	SPRING	B		
11	AMS		WG	2	lb/a	SPRING	B		
12	PowerFlex HL	13	WG	2	oz/a	SPRING	B	2	1.7
12	Surfactant		L	0.25	% v/v	SPRING	B		
12	AMS		WG	2	lb/a	SPRING	B		
13	Clarity	4	L	0.25	pt/a	SPRING	B	0	0.0
14	2,4-D ester	4	L	1	pt/a	SPRING	B	3	1.4
15	MCPA	4	L	0.38	pt/a	SPRING	B	11	5.4
16	Affinity BroadSpec	50	WG	0.75	oz/a	FALL	A	13	6.8
16	Surfactant		L	0.25	% v/v	FALL	A		
16	AMS		WG	2	lb/a	FALL	A		
16	MCPA	4	L	0.38	pt/a	SPRING	B		
17	Huskie	2.06	L	13.5	fl oz/a	FALL	A	10	9.0
17	Surfactant		L	0.25	% v/v	FALL	A		
17	AMS		WG	1	lb/a	FALL	A		
17	MCPA	4	L	0.38	pt/a	SPRING	B		

LSD (P=.05)

CV

4.2

30.2

3.96

48.21