

MSU Weed Science Research Program

Systems approach to no-till wheat production

Trial ID: WT02-12 Study Dir.: Sprague, Powell
 Conducted: C-28N Crops Investigator: Christy Sprague

Date Planted: Oct/26/2011 **Row Spacing:** 7.5 IN
Variety: D8006 **No. of Reps:** 6
Population: 2 million seeds/A **% OM:** 2.6
Soil Type: Loam **pH:** 6.1
Plot Size: 10 X 25 FT **Design:** RANDOMIZED COMPLETE BLOCK

Tillage: Drilled into soybean stubble
Fertilizer: None at planting

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1.	TAROF	DANDELION	TARAXACUM OFFICINALE WEBER IN WIGGERS
2.	MALNE	MALLOW, COMMON	MALVA NEGLECTA WALLR.
3.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
4.	AMBEL	RAGWEED, COMMON	AMBROSIA ARTEMISII FOLIA L.
Crop	Code	Common Name	
1.	TRZAW	WHEAT, WINTER	

Application Description

	A	B	C	D
Application Timing:	PRE	POST	FLAGLEAF	FLOWER
Date Treated:	Oct/28/2011	Apr/12/2012	May/15/2012	May/31/2012
Time Treated:	5:00 PM	7:30 PM	11:30 AM	2:00 PM
% Cloud Cover:	100	90	0	100
Air Temp., Unit:	45 F	53 F	75 F	56 F
% Relative Humidity:	52	30	39	65
Wind Speed/Unit/Dir:	1 mph W	4 mph W	5 mph S	4 mph E
Soil Temp., Unit:	50 F	56 F	56 F	61 F
Soil/Leaf Surface M:	3 5	5 5	2 5	5 5
Soil Moist (1=w 5=d):	3	5	2	4

Crop Stage at Each Application

	A	B	C	D
Crop Name:	TRZAW	TRZAW	TRZAW	TRZAW
Height (In.):	-	9"	24"	38"
Stage (L):	-	FEEKES 6	FEEKES 9	FKS 10.5

Weed Stage at Each Application

	A	B	C	D
Weed 1 Name:	TAROF	TAROF	TAROF	TAROF
Height (In.):	1-3"	1"	-	-
Stage (L):	3-6	4-6	-	-
Weed 2 Name:	MALNE	MALNE	MALNE	MALNE
Height (In.):	0.5-0.5	.5"	-	-
Stage (L):	1-2	cot-2	-	-
Weed 3 Name:	CHEAL	CHEAL	CHEAL	CHEAL
Height (In.):	-	1"	-	-
Stage (L):	-	4-6	-	-
Weed 4 Name:	AMBEL	AMBEL	AMBEL	AMBEL
Height (In.):	-	0.5	-	-
Stage (L):	-	cot-2	-	-

Application Equipment

Appl	Sprayer Type	Speed MPH	Nozzle Type	Nozzle Size	Nozzle Height	Nozzle Spacing	Boom Width	GPA	Carrier	PSI
A	Cub	3.8	AirMix	11003	24"	20"	100"	19	water	28
B	Cub	3.8	AirMix	11003	26"	20"	100"	19	water	28
C	Cub	3.8	AIXR	11003	35"	20"	100"	19	Water	28
D	Cub	3.8	AIXR	11003	49"	20"	100"	19	Water	28

Comments: 4/12/12 - Control of no-till weeds was 100%
 6/14/12 - Plant health was evaluated on a 0 to 100% scale. Differences in plant health were mostly attributed to leaf rust.

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Systems approach to no-till wheat production

Trial ID: WT02-12 Study Dir.: Sprague, Powell
 Conducted: C-28N Crops Investigator: Christy Sprague

Weed Code	TRZAW	TRZAW	TRZAW	CHEAL
Crop Code	injury	injury	injury	control
Rating Data Type	percent	percent	percent	percent
Rating Unit	Apr/12/2012	Apr/20/2012	Apr/26/2012	Apr/26/2012
Rating Date	0 DA-B	8 DA-B	14 DA-B	14 DA-B
Trt-Eval Interval				
ARM Action Codes				
# Subsamples, Dec.	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code				
1	Untreated seed							0	0	0	99
	Roundup PowerMax	4.5	SL	22	fl oz/a	PRE	A				
	AMS		WG	17	lb/100 gal	PRE	A				
	Huskie	2.06	L	11	fl oz/a	POST	B				
	Activator 90		L	0.25	% v/v	POST	B				
	AMS		WG	1	lb/a	POST	B				
	Caramba	0.75	L	13.5	fl oz/a	FLOWER	D				
2	Untreated seed							0	0	0	99
	Sharpen	2.85	L	2	fl oz/a	PRE	A				
	Roundup PowerMax	4.5	SL	22	fl oz/a	PRE	A				
	MSO		L	1	% v/v	PRE	A				
	AMS		WG	17	lb/100 gal	PRE	A				
	Huskie	2.06	L	11	fl oz/a	POST	B				
	Activator 90		L	0.25	% v/v	POST	B				
	AMS		WG	1	lb/a	POST	B				
	Caramba	0.75	L	13.5	fl oz/a	FLOWER	D				
3	Untreated seed							0	0	0	99
	Sharpen	2.85	L	2	fl oz/a	PRE	A				
	Roundup PowerMax	4.5	SL	22	fl oz/a	PRE	A				
	MSO		L	1	% v/v	PRE	A				
	AMS		WG	17	lb/100 gal	PRE	A				
	Twinline	1.75	L	6	fl oz/a	POST	B				
	Huskie	2.06	L	11	fl oz/a	POST	B				
	Activator 90		L	0.25	% v/v	POST	B				
	AMS		WG	1	lb/a	POST	B				
	Caramba	0.75	L	13.5	fl oz/a	FLOWER	D				
4	Untreated seed							0	0	0	99
	Sharpen	2.85	L	2	fl oz/a	PRE	A				
	Roundup PowerMax	4.5	SL	22	fl oz/a	PRE	A				
	MSO		L	1	% v/v	PRE	A				
	AMS		WG	17	lb/100 gal	PRE	A				
	Huskie	2.06	L	11	fl oz/a	POST	B				
	Activator 90		L	0.25	% v/v	POST	B				
	AMS		WG	1	lb/a	POST	B				
	Twinline	1.75	L	9	fl oz/a	FLAG	C				
	Caramba	0.75	L	13.5	fl oz/a	FLOWER	D				
5	Untreated seed							0	0	0	99
	Sharpen	2.85	L	2	fl oz/a	PRE	A				
	Roundup PowerMax	4.5	SL	22	fl oz/a	PRE	A				
	MSO		L	1	% v/v	PRE	A				
	AMS		WG	17	lb/100 gal	PRE	A				
	Headline SC	2.08	SC	3	fl oz/a	POST	B				
	Huskie	2.06	L	11	fl oz/a	POST	B				
	Activator 90		L	0.25	% v/v	POST	B				
	AMS		WG	1	lb/a	POST	B				
	Twinline	1.75	L	9	fl oz/a	FLAG	C				
	Caramba	0.75	L	13.5	fl oz/a	FLOWER	D				

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Weed Code										
Crop Code							TRZAW	TRZAW	TRZAW	CHEAL
Rating Data Type							injury	injury	injury	control
Rating Unit							percent	percent	percent	percent
Rating Date							Apr/12/2012	Apr/20/2012	Apr/26/2012	Apr/26/2012
Trt-Eval Interval							0 DA-B	8 DA-B	14 DA-B	14 DA-B
ARM Action Codes										
# Subsamples, Dec.							0	0	0	0
6	Stamina treated seed						0	0	0	99
	Roundup PowerMax	4.5	SL	22	fl oz/a	PRE	A			
	AMS		WG	17	lb/100 gal	PRE	A			
	Huskie	2.06	L	11	fl oz/a	POST	B			
	Activator 90		L	0.25	% v/v	POST	B			
	AMS		WG	1	lb/a	POST	B			
	Caramba	0.75	L	13.5	fl oz/a	FLOWER	D			
7	Stamina treated seed						0	0	0	99
	Sharpen	2.85	L	2	fl oz/a	PRE	A			
	Roundup PowerMax	4.5	SL	22	fl oz/a	PRE	A			
	MSO		L	1	% v/v	PRE	A			
	AMS		WG	17	lb/100 gal	PRE	A			
	Huskie	2.06	L	11	fl oz/a	POST	B			
	Activator 90		L	0.25	% v/v	POST	B			
	AMS		WG	1	lb/a	POST	B			
	Caramba	0.75	L	13.5	fl oz/a	FLOWER	D			
8	Stamina treated seed						0	0	0	99
	Sharpen	2.85	L	2	fl oz/a	PRE	A			
	Roundup PowerMax	4.5	SL	22	fl oz/a	PRE	A			
	MSO		L	1	% v/v	PRE	A			
	AMS		WG	17	lb/100 gal	PRE	A			
	Twinline	1.75	L	6	fl oz/a	POST	B			
	Huskie	2.06	L	11	fl oz/a	POST	B			
	Activator 90		L	0.25	% v/v	POST	B			
	AMS		WG	1	lb/a	POST	B			
	Caramba	0.75	L	13.5	fl oz/a	FLOWER	D			
9	Stamina treated seed						0	0	0	99
	Sharpen	2.85	L	2	fl oz/a	PRE	A			
	Roundup PowerMax	4.5	SL	22	fl oz/a	PRE	A			
	MSO		L	1	% v/v	PRE	A			
	AMS		WG	17	lb/100 gal	PRE	A			
	Huskie	2.06	L	11	fl oz/a	POST	B			
	Activator 90		L	0.25	% v/v	POST	B			
	AMS		WG	1	lb/a	POST	B			
	Twinline	1.75	L	9	fl oz/a	FLAG	C			
	Caramba	0.75	L	13.5	fl oz/a	FLOWER	D			
10	Stamina treated seed						0	0	0	99
	Sharpen	2.85	L	2	fl oz/a	PRE	A			
	Roundup PowerMax	4.5	SL	22	fl oz/a	PRE	A			
	MSO		L	1	% v/v	PRE	A			
	AMS		WG	17	lb/100 gal	PRE	A			
	Headline SC	2.08	SC	3	fl oz/a	POST	B			
	Huskie	2.06	L	11	fl oz/a	POST	B			
	Activator 90		L	0.25	% v/v	POST	B			
	AMS		WG	1	lb/a	POST	B			
	Twinline	1.75	L	9	fl oz/a	FLAG	C			
	Caramba	0.75	L	13.5	fl oz/a	FLOWER	D			
LSD (P=.05)							0.0	0.0	0.0	0.0
CV							0.0	0.0	0.0	0.0

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

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Weed Code	AMBEL			
Crop Code				
Rating Data Type	control	TRZAW	TRZAW	TRZAW
Rating Unit	percent	plt health percent	moisture percent	yield bu/acre
Rating Date	Apr/26/2012	Jul/14/2012	Jul/10/2012	Jul/10/2012
Trt-Eval Interval	14 DA-B	44 DA-D	256 DA-A	at 13% M
ARM Action Codes				TY1
# Subsamples, Dec.	0	0	1	1

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code				
1	Untreated seed							99	81	12.8	81.7
	Roundup PowerMax	4.5	SL	22	fl oz/a	PRE	A				
	AMS		WG	17	lb/100 gal	PRE	A				
	Huskie	2.06	L	11	fl oz/a	POST	B				
	Activator 90		L	0.25	% v/v	POST	B				
	AMS		WG	1	lb/a	POST	B				
	Caramba	0.75	L	13.5	fl oz/a	FLOWER	D				
2	Untreated seed							99	81	12.3	83.7
	Sharpen	2.85	L	2	fl oz/a	PRE	A				
	Roundup PowerMax	4.5	SL	22	fl oz/a	PRE	A				
	MSO		L	1	% v/v	PRE	A				
	AMS		WG	17	lb/100 gal	PRE	A				
	Huskie	2.06	L	11	fl oz/a	POST	B				
	Activator 90		L	0.25	% v/v	POST	B				
	AMS		WG	1	lb/a	POST	B				
	Caramba	0.75	L	13.5	fl oz/a	FLOWER	D				
3	Untreated seed							99	90	12.7	86.0
	Sharpen	2.85	L	2	fl oz/a	PRE	A				
	Roundup PowerMax	4.5	SL	22	fl oz/a	PRE	A				
	MSO		L	1	% v/v	PRE	A				
	AMS		WG	17	lb/100 gal	PRE	A				
	Twinline	1.75	L	6	fl oz/a	POST	B				
	Huskie	2.06	L	11	fl oz/a	POST	B				
	Activator 90		L	0.25	% v/v	POST	B				
	AMS		WG	1	lb/a	POST	B				
	Caramba	0.75	L	13.5	fl oz/a	FLOWER	D				
4	Untreated seed							99	84	12.7	86.1
	Sharpen	2.85	L	2	fl oz/a	PRE	A				
	Roundup PowerMax	4.5	SL	22	fl oz/a	PRE	A				
	MSO		L	1	% v/v	PRE	A				
	AMS		WG	17	lb/100 gal	PRE	A				
	Huskie	2.06	L	11	fl oz/a	POST	B				
	Activator 90		L	0.25	% v/v	POST	B				
	AMS		WG	1	lb/a	POST	B				
	Twinline	1.75	L	9	fl oz/a	FLAG	C				
	Caramba	0.75	L	13.5	fl oz/a	FLOWER	D				
5	Untreated seed							99	94	12.8	86.5
	Sharpen	2.85	L	2	fl oz/a	PRE	A				
	Roundup PowerMax	4.5	SL	22	fl oz/a	PRE	A				
	MSO		L	1	% v/v	PRE	A				
	AMS		WG	17	lb/100 gal	PRE	A				
	Headline SC	2.08	SC	3	fl oz/a	POST	B				
	Huskie	2.06	L	11	fl oz/a	POST	B				
	Activator 90		L	0.25	% v/v	POST	B				
	AMS		WG	1	lb/a	POST	B				
	Twinline	1.75	L	9	fl oz/a	FLAG	C				
	Caramba	0.75	L	13.5	fl oz/a	FLOWER	D				
6	Stamina treated seed							99	80	13.2	83.2
	Roundup PowerMax	4.5	SL	22	fl oz/a	PRE	A				
	AMS		WG	17	lb/100 gal	PRE	A				
	Huskie	2.06	L	11	fl oz/a	POST	B				
	Activator 90		L	0.25	% v/v	POST	B				
	AMS		WG	1	lb/a	POST	B				
	Caramba	0.75	L	13.5	fl oz/a	FLOWER	D				

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Weed Code	AMBEL			
Crop Code		TRZAW	TRZAW	TRZAW
Rating Data Type	control	plt health	moisture	yield
Rating Unit	percent	percent	percent	bu/acre
Rating Date	Apr/26/2012	Jul/14/2012	Jul/10/2012	Jul/10/2012
Trt-Eval Interval	14 DA-B	44 DA-D	256 DA-A	at 13% M
ARM Action Codes				TY1
# Subsamples, Dec.	0	0	1	1

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code				
7	Stamina treated seed							99	80	12.7	85.6
	Sharpen	2.85	L	2	fl oz/a	PRE	A				
	Roundup PowerMax	4.5	SL	22	fl oz/a	PRE	A				
	MSO		L	1	% v/v	PRE	A				
	AMS		WG	17	lb/100 gal	PRE	A				
	Huskie	2.06	L	11	fl oz/a	POST	B				
	Activator 90		L	0.25	% v/v	POST	B				
	AMS		WG	1	lb/a	POST	B				
	Caramba	0.75	L	13.5	fl oz/a	FLOWER	D				
8	Stamina treated seed							99	90	13.0	87.6
	Sharpen	2.85	L	2	fl oz/a	PRE	A				
	Roundup PowerMax	4.5	SL	22	fl oz/a	PRE	A				
	MSO		L	1	% v/v	PRE	A				
	AMS		WG	17	lb/100 gal	PRE	A				
	Twinline	1.75	L	6	fl oz/a	POST	B				
	Huskie	2.06	L	11	fl oz/a	POST	B				
	Activator 90		L	0.25	% v/v	POST	B				
	AMS		WG	1	lb/a	POST	B				
	Caramba	0.75	L	13.5	fl oz/a	FLOWER	D				
9	Stamina treated seed							99	85	12.9	84.6
	Sharpen	2.85	L	2	fl oz/a	PRE	A				
	Roundup PowerMax	4.5	SL	22	fl oz/a	PRE	A				
	MSO		L	1	% v/v	PRE	A				
	AMS		WG	17	lb/100 gal	PRE	A				
	Huskie	2.06	L	11	fl oz/a	POST	B				
	Activator 90		L	0.25	% v/v	POST	B				
	AMS		WG	1	lb/a	POST	B				
	Twinline	1.75	L	9	fl oz/a	FLAG	C				
	Caramba	0.75	L	13.5	fl oz/a	FLOWER	D				
10	Stamina treated seed							99	94	13.0	88.0
	Sharpen	2.85	L	2	fl oz/a	PRE	A				
	Roundup PowerMax	4.5	SL	22	fl oz/a	PRE	A				
	MSO		L	1	% v/v	PRE	A				
	AMS		WG	17	lb/100 gal	PRE	A				
	Headline SC	2.08	SC	3	fl oz/a	POST	B				
	Huskie	2.06	L	11	fl oz/a	POST	B				
	Activator 90		L	0.25	% v/v	POST	B				
	AMS		WG	1	lb/a	POST	B				
	Twinline	1.75	L	9	fl oz/a	FLAG	C				
	Caramba	0.75	L	13.5	fl oz/a	FLOWER	D				
LSD (P=.05)								0.0	2.1	0.69	5.41
CV								0.0	2.07	4.62	5.44

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