

Various tough marestail situations – Materials and Methods

A field study was conducted in 2012 using four different glyphosate-resistant marestail situations: 1) population A – not previously treated, tilled or mowed – 10 to 15 cm tall; 2) population A – previously treated with glyphosate – 25 to 50 cm tall; 3) population B – previously mowed in mid-summer and regrowth to a height of 10 cm; 4) population C – previously tilled and infested with plants surviving tillage and also plants that emerged after tillage - 5 to 15 cm tall. Treatments were applied with AMS (2% w/v) in a volume of 15 gpa. Methylated seed oil (1% v/v) was also added to treatments containing saflufenacil.

Treatment	Herbicide	Rate (lb ai or ae/A)	% Control 21 DAT				% Mortality		
			Site 1	Site 2	Site 3	Site 4	Site 1	Site 3	Site 4
1	Glyphosate	0.75	10	33	25	7	0.3	0	0
2	Glufosinate	0.2	72	37	22	23	9.3	1.5	1.3
3	Glufosinate	0.4	77	65	27	37	10	8.3	3
4	Glyphosate	0.75	83	33	37	30	8	3	1
	Glufosinate	0.2							
5	Glyphosate	0.75	83	50	35	30	10	8.5	3.3
	Glufosinate	0.4							
6	Glyphosate	0.75	82	72	49	60	10	5.7	3.3
	Glufosinate	0.2							
	2,4-D	0.5							
7	Glyphosate	0.75	95	63	42	73	10	6.3	4.7
	Glufosinate	0.4							
	2,4-D	0.5							
8	Glyphosate	0.75	91	63	45	50	10	7.5	7
	Glufosinate	0.2							
	Saflufenacil	0.02							
9	Glyphosate	0.75	98	85	45	63	10	8	8.3
	Glufosinate	0.4							
	Saflufenacil	0.2							
10	Glyphosate	0.75	89	77	25	30	9	7.2	4.7
	Glufosinate	0.2							
	Metribuzin	0.19							
11	Glyphosate	0.75	88	83	52	48	10	9	4.7
	Glufosinate	0.4							
	Metribuzin	0.19							
12	Glyphosate	0.75	47	60	54	37	1	1.5	5.3
	2,4-D	0.5							
13	Glyphosate	0.75	86	80	37	47	7.5	6.5	4.3
	Saflufenacil	0.02							
14	Glyphosate	0.75	17	23	12	7	0	0	3
	Metribuzin	0.19							
LSD(.05)			29	29	19	21	3	3	4

Wheat stubble study - Materials and Methods

A study was conducted in 2014 in a wheat stubble field infested with glyphosate-resistant marestalk. Plants in this field had mostly not been affected by the cutter bar, but had been low growing and then further grew and elongated in response to light following harvest. The two treatment timings were: 1) July 25 – plants 4 to 15 inches tall; and 2) August 7 – plants 12 to 20 inches tall. Treatments were applied with AMS (2% w/v) in a volume of 15 gpa. Methylated seed oil (1% v/v) was also added to saflufenacil treatments, and crop oil concentrate (1% v/v) was added to paraquat treatments.

Treatment	Herbicide	Rate (lb ai or ae/A)	% control – September 4		% survivors with seed	
			July 25	August 7	July 25	August 7
1	Glyphosate	0.75	85	70	50	43
	2,4-D ester	1.0				
2	glyphosate	0.75	100	74	-	38
	dicamba	0.5				
3	glyphosate	0.75	100	100	-	-
	saflufenacil	0.02				
4	Glyphosate	0.75	100	100	-	-
	saflufenacil	0.04				
5	glyphosate	0.75	100	100	-	-
	saflufenacil	0.02				
	2,4-D ester	0.5				
6	glyphosate	0.75	100	98	-	13
	saflufenacil	0.02				
	metribuzin	0.38				
7	glyphosate	0.75	100	100	-	-
	saflufenacil	0.02				
	metribuzin	0.38				
	2,4-D ester	0.5				
8	dicamba	0.5	100	78	-	3
	2,4-D ester	0.5				
9	glufosinate	0.65	95	100	25	-
10	glufosinate	0.65	100	100	-	-
	metribuzin	0.38				
11	Glufosinate	0.65	100	100	-	-
	Metribuzin	0.38				
	2,4-D ester	0.5				
12	glufosinate	0.65	100	100	-	-
	saflufenacil	0.02				
13	paraquat	0.75	100	98	-	25
	metribuzin	0.38				
14	paraquat	0.75	100	88	-	25
	metribuzin	0.38				
	2,4-D ester	0.5				
LSD(.05)			6	14	29	35