

Weed control in dicamba-tolerant soybean, Carrington, 2018. Greg Endres and Mike Ostlie. The trial was conducted at the NDSU Carrington Research Extension Center in cooperation with BASF to evaluate dicamba-tolerant soybean weed control with PRE followed by POST or sequential POST treatments utilizing Engenia and Engenia Pro. Experimental design was a randomized complete block with three replicates. The field trial was established on a conventionally-tilled Heimdal-Emrick loam soil. Asgrow 'AG05X8' dicamba-tolerant soybean were planted on May 16 in 22-inch rows. A hand-held boom sprayer was used delivering 17 gpa at 35 psi through turbo TeeJet TTI11002 nozzles to the center 6.7 ft of 10-by 30-ft plots. PRE treatments were applied on May 30 with 82 F, 28% RH, and 15 MPH wind. Following PRE herbicide application, 0.7 inch of rain occurred on May 18. POST1 treatments were applied on May 30 with 69 F, 73% RH, and 1 mph wind to unifoliate (VC) stage soybean, 3-leaf green and yellow foxtail, 0.5- to 1-inch tall common lambsquarters, and 0.5- to 1-inch tall redroot and prostrate pigweed. POST2 treatments were applied on June 15 with 67 F, 59% RH, and 5 mph wind to 2- to 3-trifoliate (V2-3) stage soybean, 0.5- to 6-inch tall foxtail, 0.5- to 3-inch tall common lambsquarters, and 0.5- to 3-inch tall pigweed. POST3 treatments were applied on June 28 with 87 F, 57% RH, and 4 mph wind to 6-trifoliate (V6) stage soybean, 12-inch tall foxtail, 2- to 3-inch tall common lambsquarters, and 2- to 3-inch tall pigweed.

No soybean injury was noted during visual evaluation of weed control. Use of PRE treatments (7-10) provided 92-99% weed control about two wk after application (Table). Grass weeds generally were suppressed (57-71% control) with POST1 treatments (2-6, and 11) when evaluated about two and four wk after application. Broadleaf weed control was excellent (97-99%) with POST1 and PRE followed by POST2 treatments when evaluated about two and four wk after application. Generally, all treatments provided excellent weed control when evaluated in mid July.

Table.															
Herbicide				Weed control (%) <sup>1</sup>											
Treatment <sup>2</sup>		Rate	Application timing <sup>3</sup>	29-May			15-Jun			28-Jun			13-Jul		
no.	description	fl oz product/A		fota	colq	piwe	fota	colq	piwe	grass	colq	piwe	grass	colq	piwe
1	untreated check	x	x	0	0	0	0	0	0	0	0	0	0	0	0
2	Engenia Pro	16	POST1	x	x	x	63	98	99	60	98	99	48	98	98
3	Engenia Pro	16	POST1												
	Flexstar GT	56	POST3												
	Destiny HC	1% v/v		x	x	x	68	99	99	67	98	99	96	99	99
4	Engenia Pro	16	POST1												
	Flexstar GT	56	POST3												
	Outlook	10													
	Destiny HC	1% v/v		x	x	x	62	99	99	57	99	99	93	99	99
5	Engenia Pro	16	POST1												
	RPM	32	POST3	x	x	x	71	99	98	65	98	98	98	99	99
6	Engenia Pro	16	POST1												
	RPM	32	POST3												
	Outlook	10		x	x	x	62	99	98	59	97	98	98	99	99
7	Zidua Pro	4.5	PRE	92	99	99									
	Engenia Pro	16	POST2												
	RPM	32		x	x	x	84	95	99	99	99	99	98	99	99
8	Zidua Pro	4.5	PRE	94	99	99									
	Engenia	12.8	POST2												
	RPM	32		x	x	x	88	97	99	97	99	99	99	99	99
9	Zidua Pro	4.5	PRE												
	Engenia	12.8		93	99	99									
	RPM	32													
	Outlook	10	POST2	x	x	x	89	99	99	98	99	99	99	99	99
	Engenia	12.8	PRE												
Pursuit	3														
10	Zidua	3.3	PRE	98	99	99									
	RPM	32	POST2												
	Outlook	10		x	x	x	98	99	99	99	99	99	99	99	99
	Engenia Pro	16													
11	Engenia Pro	16	POST1												
	Engenia Pro	16	POST3												
	RPM	32		x	x	x	68	99	99	70	98	99	96	99	99
C.V. (%)				3.4	0.3	0.3	17.2	1.7	0.8	14.1	1.2	1.3	15.4	0.5	0.4
LSD (0.05)				5	1	1	20	3	1	17	2	1	22	1	1
<sup>1</sup> fota=primarily yellow foxtail, and green foxtail; colq=common lambsquarters; piwe=redroot and prostrate pigweed; grass=fota and barnyardgrass.															
<sup>2</sup> RPM=Roundup PowerMax. All treatments including application timings include Class Act Ridion at 2% v/v except PRE no. 7 and 8.															
<sup>3</sup> PRE=May 16; POST1=May 30; POST2=June 15; POST3=June 28.															