

**Study Name:** Weed control in corn (0729)

**Objectives:** Compare weed control options in corn

**Results:**

This study compared early, late, and split glyphosate applications with standard herbicides for weed control in corn. Pioneer '63N81' RR corn was planted May 3 at 18,000 pls/A into 30-inch rows in a conventionally tilled field. Herbicide treatments were applied preemergence on May 11, postemergence at the V2 stage on June 6, or postemergence at the V6 stage on June 20. On June 6, yellow foxtail was emerging to 3-inches tall with 20-25 plants/ft<sup>2</sup>; redroot pigweed was 1-inch tall with 3 plants/ft<sup>2</sup>. On June 20, yellow foxtail was 5-8 inches tall with 20-30 plants/ft<sup>2</sup> (in the untreated); yellow foxtail was 1-3 inches tall with 5-15 plants/ft<sup>2</sup> (in plots treated at V2 stage); redroot pigweed was 2-4 inches tall with 5-10 plants/ft<sup>2</sup>. Individual plots were 10 x 30 ft and replicated three times.

Treatments containing glyphosate applied at the V6 stage provided good to excellent (>87%) yellow foxtail and redroot pigweed control. Treatments applied only at the V2 stage did not control later weed flushes. In a noticeable anomaly, the V6 glyphosate application provided slightly better foxtail control than the glyphosate split application. This occurred because the heavy foxtail population killed by the single V6 application provided a weed "mulch layer" that inhibited further weed emergence. In contrast, the glyphosate split application controlled foxtail early and did not leave a weed mulch; instead leaving black soil that did not inhibit new weed emergence.

Harness (PRE) followed by WideMatch provided excellent early-season foxtail control, but some foxtail emerged later that resulted in slightly lower mid-season control (79%). Harness followed by glyphosate at the V6 stage provided excellent weed control. Resolve + glyphosate applied at the V2 stage did not control later weed flushes. Steadfast and Option did not control the larger, dense foxtail populations.

Treatment <sup>a</sup>	Rate	Timing	Yellow foxtail		Redroot pigweed	
			-----% control-----			
			Jun 20	July 16	Jun 20	July 16
Untreated			0	0	0	0
Glyphosate	22fl oz	V2	87	37	99	67
Glyphosate	22fl oz	V6	0	95	0	100
Glyphosate / Glyphosate	16fl oz / 22fl oz	V2 / V6	87	87	96	98
Harness / Glyphosate + Atrazine + Superb	1.75pt / 22fl oz + 0.375lb ai + 0.5%	PRE / V6	99	99	97	100
Balance Pro / Glyphosate + Atrazine + Superb	2.5fl oz / 22fl oz + 0.375lb ai + 0.5%	PRE / V6	85	94	100	100
Steadfast + Clarity + Atrazine + MSO + UAN	0.75oz + 4fl oz + 0.375lb ai + 1.5pt + 2qt	V6	0	77	0	97
Option + Status + MSO + UAN	1.5oz + 5oz + 1.5pt + 2qt	V6	0	59	0	95
Harness / WideMatch	1.75pt / 1pt	PRE / V6	96	79	99	95
Resolve + Glyphosate + NIS	1oz + 22fl oz + 0.125%	V2	93	53	99	80
LSD (0.05)			5	17	3.5	18
CV			5	15	3	12

<sup>a</sup> Glyphosate (4.5 lb ae/gal) applied with AMS (2.5 gal/100 gal).