



Engenia Prime versus Competitors for Early Postemergence Weed Control in Dicamba Tolerant Soybean

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The purpose of this study was to compare postemergence herbicide programs for crop injury and weed control in dicamba-tolerant soybean.

Materials and Methods

The study was established using a randomized complete block design with three replications. The crop rotation was soybean following corn. The pre-plant seedbed was prepared with a chisel plow in the fall and field cultivator prior to planting in the spring. XtendFlex Soybean, Asgrow AG22XF1, was planted at 154,000 seeds/acre in 30-in. rows May 26. Early postemergence (EPOST) treatments were applied June 10 to VE soybean delivering 15 gal./acre with 11015TTI and 11015TT tips at 35 psi. Weed species in the study included velvetleaf, common waterhemp, common lambsquarters, and ivyleaf morningglory. The common waterhemp population in the trial was very resistant to glyphosate. Weed sizes ranged from 0.25 to 1.0 in. across all weeds. Average population densities for velvetleaf and ivyleaf morningglory were 8 and 3 plants per plot, respectively. Common waterhemp and common lambsquarters were at 12 and 2 plants per ft.², respectively. Visual estimates of percent soybean injury and weed control during the growing season were compared with an untreated control; 0% = no injury or control, and 99% = complete crop kill or control.

Summary

Summarized in Tables 1 and 2 are the results of the study. All herbicide treatments caused 10% injury to soybean and gave complete burndown control of all weeds at 15 days after the EPOST application (data not shown). However, by July 10, 30 days after application (DAA), Tavium Plus VaporGrip Technology gave significantly lower residual velvetleaf control than Engenia Prime and Xtendimax With VaporGrip Technology + Warrant with 88% compared with 99% and 96%, respectively (Table 1).

Table 1. Engenia Prime vs. Competitors for Early Postemergence Weed Control in Dicamba Tolerant Soybean.

Treatment	Rate	Appln timing	Abuth ^c July 10	Amata July 10	Cheal July 10	Ipohe July 10
	product/acre		% weed control			
Untreated			0	0	0	0
Engenia Prime + Roundup PowerMAX + Sentris + Induce	16.0 fl.oz. + 32.0 fl.oz.+ 8.0fl.oz.+ 0.25% v/v ^a	EPOST	99	83	99	95
Xtendimax with VaporGrip Technology + Warrant + Roundup PowerMAX + Sentris + Induce	22.0 fl.oz. + 48fl.oz. + 32.0 fl.oz.+ 8.0 fl.oz.+ 0.25% v/v	EPOST	96	88	99	65
Tavium Plus VaporGrip Technology + Roundup PowerMax + Volt-Edge + Induce	56.5 fl.oz. + 32.0fl.oz. + 20.0 fl.oz.+ 0.25% v/v	EPOST	88	83	99	60
Prefix +	32.0 fl.oz. +	EPOST	92	83	93	33
Roundup PowerMAX + COC ^b Anthem Maxx + Roundup PowerMAX + COC	32.0 fl.oz.+ 1.0% v/v 3.25 fl.oz. + 32.0fl.oz. + 1.0% v/v	EPOST	94	43	96	57
LSD (P=.05)			8	11	5	10

^av/v = volume of product per volume tank mix.

^bCOC = Prime Oil Crop Oil Concentrate

^cAbuth = velvetleaf, Amata = common waterhemp, cheal = common lambsquarters, ipohe = ivyleaf morningglory

Prefix and Anthem Maxx gave similar velvetleaf control with 92% and 94%, respectively. Velvetleaf control remained unchanged on July 30 for Engenia Prime, Xtendimax with VaporGrip Technology + Warrant and Anthem Maxx while decreasing for Tavium Plus VaporGrip Technology and Prefix (Table 2).

Common waterhemp control at 30 and 50 DAA was 83-88% and 72-83%, respectively, for Engenia Prime, Xtendimax with VaporGrip Technology + Warrant, Tavium Plus VaporGrip and Prefix. Anthem Maxx gave 43% and 33% common waterhemp control for 30 and 50 DAA, respectively.

Common lambsquarters control by the herbicide treatments were 93-99% and 92-99% at 30 and 50 DAA, respectively.

Engenia Prime provided 95% ivyleaf morningglory control on July 10. Xtendimax with VaporGrip Technology + Warrant, Tavium Plus VaporGrip Technology and Anthem Maxx gave 57-65%, and Prefix gave 33% ivyleaf morningglory control. By 50 DAA, control across treatments dropped only 3-7% for all treatments.

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Table 2. Engenia Prime versus Competitors for Early Postemergence Weed Control in Dicamba Tolerant Soybean.

Treatment	Rate	Appln timing	Abuth ^c	Amata	Cheal	Ipohe
	product/acre		July 10	July 10	July 10	July 10
			% weed control			
Untreated			0	0	0	0
Engenia Prime + Roundup PowerMAX + Sentris + Induce	16.0 fl.oz. + 32.0 fl.oz + 8.0 fl.oz + 0.25% v/v ^a	EPOST	99	72	99	90
Xtendimax With VaporGrip Technology + Warrant + Roundup PowerMAX + Sentris + Induce	22.0 fl oz + 48 fl.oz + 32.0 fl.oz + 8.0 fl.oz + 0.25% v/v	EPOST	96	83	99	58
Tavium Plus VaporGrip Technology + Roundup PowerMax + Volt-Edge + Induce	56.5 fl.oz + 32.0 fl.oz. + 20.0 fl.oz. + 0.25% v/v	EPOST	82	73	95	57
Prefix + Roundup PowerMAX + COC ^b	32.0 fl.oz. + 32.0 fl.oz. + 1.0% v/v	EPOST	85	78	92	27
Anthem Maxx + Roundup PowerMAX + COC	3.25 fl.oz. + 32.0 fl.oz. + 1.0% v/v	EPOST	94	33	98	53
LSD (P=.05)			12	14	5	12

^av/v = volume of product per volume tank mix.

^bCOC = Prime Oil Crop Oil Concentrate

^cAbuth = velvetleaf, Amata = common waterhemp, cheal = common lambsquarters, ipohe = ivyleaf morningglory