Evaluation of glyphosate + growth regulator programs in corn. Abendroth, Julie A., Alex R. Martin, and Kevin T. Horky. A field study was conducted to evaluate the efficacy and crop response of PRE+POST and POST alone herbicide programs in conventionally-tilled, glyphosate-tolerant corn. A randomized complete block design with three replications per treatment was utilized. The study was conducted on a Colo silt loam with 2.4% organic matter and a pH of 6.9. Seedbed preparation consisted of disking prior to planting and one field cultivation the day of planting. Individual plots consisted of six 30-inch rows, each 30 feet long. 'Asgrow RX741RR' corn was planted May 22 at a population of 20,600 seeds/acre. Treatments were applied with a tractor-mounted sprayer traveling 3.0 mph. To simplify the data table, July 5 is actually a compilation of two rating times; the PRE + EPOST and EPOST alone treatments were rated on July 2 (16 DAT) and the PRE + MPOST and MPOST alone treatments were rated on July 7 (10 DAT). Application, crop, weed, and environmental data are presented:

Date	May 22	Jun 16	June 27
Treatment	PRE	EPOST	MPOST
Sprayer			
gpa	15	15	15
psi	30	30	30
Temperature (°F)			
Air	71	85	68
Soil (4 inch)	61	79	68
Soil Moisture	Adequate	Adequate	Adequate
Wind (mph)	4	2	2
Sky (% cloudy)	60	5	0
Relative Humidity (%)	37	43	53
Precip. after appl.			
Week 1 (inch)	0.04	2.25	0.36
Week 2 (inch)	0.8	0.36	0.12
Corn			
Leaf no.	--	4	6
Height (inch)	--	10	20
Velvetleaf			
Leaf no.	--	4	7
Height (inch)	--	4	17
Infestation (m^2)	--	36	44
Pigweed species			
Leaf no.	--	10+	many
Height (inch)	--	4	23
Infestation (m^2)	--	50	98
Common sunflower			
Leaf no.	--	6	13
Height (inch)	--	5	17
Infestation (m^2)	--	3	1
Annual grasses			
Leaf no.	--	3	5
Height (inch)	--	5	14
Infestation (m^2)	--	19	40

Summary comments: Moisture was adequate throughout May and June; July and August saw limited amounts of moisture, with 1.03" and 1.31" respectively. The majority of Amaranthus species, AMASS, were Palmer amaranth with some waterhemp. Annual grasses, GGGAN, were primarily green and giant foxtail. While no goosenecking symptomology was seen with EPOST treatments, this injury occurred with all MPOST treatments. Two to five percent of corn demonstrated goosenecking 10 DAT; there was no significant difference between the MPOST treatments. Overall, efficacy was good for all treatment combinations; the EPOST alone treatments that included pendimethalin and glyphosate provided excellent season-long control. Results of the study are summarized in the following table. (Dept. of Agronomy and Horticulture, University of Nebraska-Lincoln)

Table. Evaluation of glyphosate + growth regulator programs in corn (Abendroth, Martin, and Horky).

Treatment	Application		-------ABUTH-------			-------AMASS[a]-------			-------HELAN-------			-------GGGAN[b]-------		
	Rate	Timing	7/5	7/24	8/20	7/5	7/24	8/20	7/5	7/24	8/20	7/5	7/24	8/20
	(lb/A)		----------% weed control----------											
Pendimethalin+	0.99	EPOST	98	98	96	92	96	91	100	100	100	97	99	99
glyphosate[c]+	0.75													
NIS[d]+	0.25%													
AMS[e]	2.5													
Pendimethalin+	0.99	MPOST	81	86	77	78	86	78	88	100	100	100	97	93
glyphosate[c]+	0.75													
NIS+	0.25%													
AMS	2.5													
Dimethenamid-P/	0.56	PRE/	92	87	84	98	99	97	100	100	100	99	99	98
dicamba+	0.25	EPOST												
glyphosate[c]+	0.5													
NIS+	0.25%													
AMS	2.5													
Dimethenamid-P/	0.56	PRE/	68	67	67	80	95	94	91	96	97	100	99	96
dicamba+	0.25	MPOST												
glyphosate[c]+	0.5													
NIS+	0.25%													
AMS	2.5													
Dimethenamid-P+	0.56	EPOST	94	86	82	96	99	96	100	100	100	99	99	97
dicamba+	0.25													
glyphosate[c]+	0.5													
NIS+	0.25%													
AMS	2.5													
Dicamba+	0.25	EPOST	94	89	83	94	94	89	100	100	100	98	95	86
glyphosate[c]+	0.5													
NIS+	0.25%													
AMS	2.5													
Dicamba&	0.125	EPOST	94	89	83	96	95	91	100	100	100	96	95	91
diflufenzopyr+	0.05													
glyphosate[c]+	0.5													
NIS+	0.25%													
AMS	2.5													
Glyphosate[f]+	0.95	EPOST	92	81	78	93	94	87	100	100	100	97	98	94
AMS	2.5													
Dimethenamid-P/	0.56	PRE/	78	86	80	78	94	92	82	94	99	100	100	100
dicamba&	0.0625	MPOST												
diflufenzopyr+	0.025													
glyphosate[c]+	0.5													
NIS+	0.25%													
AMS	2.5													
Dimethenamid-P/	0.56	PRE/	85	83	82	90	96	91	93	99	99	100	100	100
dicamba&	0.125	MPOST												
diflufenzopyr+	0.05													
glyphosate[c]+	0.5													
NIS+	0.25%													
AMS	2.5													
Dimethenamid-P/	0.56	PRE/	75	77	73	93	98	93	100	100	100	100	100	100
glyphosate[f]+	0.95	MPOST												
AMS	2.5													
Check			0	0	0	0	0	0	0	0	0	0	0	0

(continued)

Table. Evaluation of glyphosate + growth regulator programs in corn (Abendroth, Martin, and Horky), continued.

Treatment	Application		-------ABUTH-------			-------AMASS[a]-------			-------HELAN-------			-------GGGAN[b]-------		
	Rate	Timing	7/5	7/24	8/20	7/5	7/24	8/20	7/5	7/24	8/20	7/5	7/24	8/20
	(lb/A)		----------% weed control----------											
Pendimethalin+	0.99	EPOST	96	98	96	94	98	93	99	100	100	98	98	96
dicamba+	0.25													
glyphosate[c]+	0.5													
AMS	2.5													
Pendimethalin+	0.99	MPOST	82	91	85	77	85	80	87	100	100	98	96	97
dicamba+	0.25													
glyphosate[c]+	0.5													
AMS	2.5													
Dimethenamid-P&	0.53	PRE/	91	89	86	100	100	100	100	100	100	99	99	99
atrazine/	1.03													
dicamba&	0.125	EPOST												
diflufenzopyr+	0.05													
glyphosate[c]+	0.5													
AMS	2.5													
Dimethenamid-P&	0.53	PRE/	90	89	83	99	99	99	100	99	99	99	100	100
atrazine/	1.03													
dicamba+	0.25	EPOST												
glyphosate[c]+	0.5													
AMS	2.5													
LSD (P=.05)			6	6	6	7	4	6	9	2	1	2	3	5

[a]AMASS = primarily Palmer amaranth, with some waterhemp

[b]GGGAN = green and giant foxtail, with some fall panicum and large crabgrass

[c]glyphosate = Roundup Original

[d]NIS = Preference by Agriliance

[e]AMS = N Pa-K by Agriliance

[f]glyphosate = Roundup WeatherMAX