Early preplant Valor in corn. Zollinger, Richard K. and Jerry L. Ries. An experiment was conducted near Prosper, ND, to evaluate crop response and weed efficacy application timings in corn. The entire plot area was double worked with a field cultivator at a 2 to 3 inch depth on May 11, 2007. 14 DBP (days before planting) treatments were applied on May 11 at 2:30 pm with 58 F air, 58 F soil at a four inch depth, 60% relative humidity, 100% cloud cover, 3 to 8 mph E wind, moist soil surface, and wet subsoil. 7 DBP treatments were applied on May 18 at 9:10 am with 70 F air, 58 F soil at a soil inch depth, 57% relative humidity, 30% cloud cover, 7 to 12 mph N wind, dry soil surface, and moist subsoil. DeKalb 'DKC42-95' corn was planted on May 25 followed by the application of PRE treatments at 1:00 pm with 54 F air, 53 F soil at a four inch depth, 51% relative humidity, 100% cloud cover, 3 to 5 mph E wind, moist soil surface, and wet subsoil. Soil characteristics were 29.5% sand, 4.2% silt, 25.3% clay, loam texture, 3.9% OM, and pH 7.5. POST treatments were applied on June 21 at 10:15 am with 73 F air, 72 F soil surface, 50% relative humidity, 50% cloud cover, 8 to 12 mph SE wind, dry soil surface, moist subsoil, excellent crop vigor, and no dew present to V4 (12 to 16 inch) corn. Weed species present in plots with POST only applications were: 4 to 14 inch (20 to 50/ft^2) yellow foxtail; 8 inch to bloom (1 to 15/yd^2) wild mustard; 6 to 14 inch (5 to 50/yd^2) common ragweed; 3 to 6 inch (10 to 15/yd^2) hairy nightshade; 4 to 14 inch (1 to 10/ yd^2) common lambsquarters; 4 to 12 inch (1 to 5/yd^2) redroot pigweed, 1 to 3 inch (1/yd^2) wild buckwheat, and 1 to 3 inch (1/yd^2) marshelder

Treatments were applied to the center 6.7 feet of the 10 by 40 foot plots with a bike-type plot sprayer delivering 17 gpa at 40 psi through 11002 Turbo TeeJet flat-fan nozzles for 14 DBP, 7 DBP, and PRE treatments and 8.5 gpa at 40 psi through 11001 Turbo TeeJet flat-fan nozzles with a backpack-type plot sprayer for POST treatments. The experiment had randomized complete block design with three replicates per treatment.

Corn was planted May 3 but PRE treatments were delayed in application (May 10) because of rain. Glyphosate was applied across the entire study to kill emerging weeds. Weather was cool and wet through June 15. No PRE treatment caused any corn injury at any evaluation timing. Valor injury was stunting and some slight chlorosis to treatment applications of 14 DBP and 7 DBP. On June 28 (7 DAT POST) there was no corn injury. Corn was 3 to 4 feet tall and all corn in plots with no PRE or early application treatment showed significant yellowing and stunting from weed competition. Valor improves broadleaf weed control. (Dept. of Plant Sciences, North Dakota State University, Fargo).

Table. Early preplant Valor in corn (Zollinger and Ries).

Treatment[1]	Rate	05-July-07, Prior to POST Applications								
		Corn	Yeft	Wimu	Rrpw	Colq	Hans	Wibw	Corw	Mael
	(product/A)	- % injury -	---------- % control ----------							
14DBP[2]/POST										
RUOM+AMS/RUOM+AMS	22fl oz+2.5lb/22fl oz+2.5lb	15	72	72	72	73	77	33	67	48
RUOM+AMS+Valor/RUOM+AMS	22fl oz+2.5lb+2oz/22fl oz+2.5lb	25	69	99	99	99	99	20	68	72
RUOM+AMS+Valor+Atrazine/RUOM+AMS	22fl oz+2.5lb+2oz+0.56lb/22fl oz+2.5lb	22	92	99	99	99	99	52	72	87
RUOM+AMS+Valor/RUOM+Atrazine+AMS	22fl oz+2.5lb+2oz/22fl oz+0.56lb+2.5lb	17	80	93	99	99	96	95	65	96
RUOM+AMS+Valor/Ruom+AMS+Resource	22fl oz+2.5lb+2oz/22fl oz+2.5lb+3fl oz	23	78	92	99	99	99	22	75	96
7DBP[3]/POST										
RUOM+AMS/RUOM+AMS	22fl oz+2.5lb/22fl oz+2.5lb	23	82	99	99	99	99	96	68	96
RUOM+AMS+Valor+Atrazine/RUOM+AMS	22fl oz+2.5lb+2oz+0.56lb/22fl oz+2.5lb	0	98	99	99	99	99	99	95	96
PRE/POST										
RUOM+AMS+Balance Pro/RUOM+AMS	22fl oz+2.5lb+1.5fl oz/22fl oz+2.5lb	0	89	99	99	99	99	22	99	75
RUOM+AMS+Surpass/RUOM+AMS	22fl oz+2.5lb+2pt/22fl oz+2.5lb	6	93	67	80	84	90	45	65	65
RUOM+AMS+Lumax/RUOM+AMS	22fl oz+2.5lb+3pt/22fl oz+2.5lb	4	96	99	99	99	99	99	99	99
RUOM+AMS+Radius/RUOM+AMS	22fl oz+2.5lb+10fl oz/22fl oz+2.5lb	0	93	95	99	99	99	40	99	99
RUOM+AMS+Prowl H_2O/RUOM+AMS	22fl oz+2.5lb+3pt/22fl oz+2.5lb	0	73	57	90	88	50	27	33	7
RUOM+AMS+Resolve/RUOM+AMS	22fl oz+2.5lb+1oz/22fl oz+2.5lb	0	98	99	99	99	68	30	27	91
RUOM+AMS+Atrazine/RUOM+AMS	22fl oz+2.5lb+0.56lb/22fl oz+2.5lb	0	72	73	73	72	77	53	47	47
Untreated		0	0	0	0	0	0	0	0	0
LSD (0.05)		2	7	5	5	5	5	7	6	9

[1]RUOM = Roundup OriginalMax; AMS = ammonium sulfate.
[2]14DBP = 14 days before planting.
[3]7DBP = 7 days before planting.

Table cont. Early preplant Valor in corn (Zollinger and Ries).

Treatment[1]	Rate	14 DAT - POST								28 and 42 DAT - POST							
		Yeft	Wimu	Rrpw	Colq	Hans	Wibw	Corw	Mael	Yeft	Wimu	Rrpw	Colq	Hans	Wibw	Corw	Mael
	(product/A)	% control								% control							
14DBP[2]/POST																	
RUOM+AMS/RUOM+AMS	22fl oz+2.5lb/22fl oz+2.5lb	99	99	93	81	99	72	63	99	99	99	90	72	99	72	60	99
RUOM+AMS+Valor/RUOM+AMS	22fl oz+2.5lb+2oz/22fl oz+2.5lb	99	99	99	99	99	99	68	99	90	99	87	99	99	99	72	99
RUOM+AMS+Valor+Atrazine/RUOM+AMS	22fl oz+2.5lb+2oz+0.56lb/22fl oz+2.5lb	95	99	99	99	99	93	72	99	90	99	99	99	99	93	95	99
RUOM+AMS+Valor/RUOM+Atrazine+AMS	22fl oz+2.5lb+2oz/22fl oz+0.56lb+2.5lb	99	99	99	99	96	96	62	99	99	99	99	99	96	96	96	99
RUOM+AMS+Valor/Ruom+AMS+Resource	22fl oz+2.5lb+2oz/22fl oz+2.5lb+3fl oz	99	93	99	99	99	99	75	99	92	99	99	99	99	99	96	99
7DBP[3]/POST																	
RUOM+AMS/RUOM+AMS	22fl oz+2.5lb/22fl oz+2.5lb	99	99	99	99	99	98	78	99	99	99	99	99	99	98	78	99
RUOM+AMS+Valor+Atrazine/RUOM+AMS	22fl oz+2.5lb+2oz+0.56lb/22fl oz+2.5lb	99	99	99	99	99	99	95	99	89	99	99	99	99	99	95	99
PRE/POST																	
RUOM+AMS+Balance Pro/RUOM+AMS	22fl oz+2.5lb+1.5fl oz/22fl oz+2.5lb	99	99	99	99	99	99	84	99	88	99	99	99	99	99	94	99
RUOM+AMS+Surpass/RUOM+AMS	22fl oz+2.5lb+2pt/22fl oz+2.5lb	99	99	92	99	96	57	68	99	99	99	99	99	96	99	97	99
RUOM+AMS+Lumax/RUOM+AMS	22fl oz+2.5lb+3pt/22fl oz+2.5lb	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
RUOM+AMS+Radius/RUOM+AMS	22fl oz+2.5lb+10fl oz/22fl oz+2.5lb	99	99	99	99	99	78	99	99	99	99	99	99	99	99	99	99
RUOM+AMS+Prowl H_2O/RUOM+AMS	22fl oz+2.5lb+3pt/22fl oz+2.5lb	99	99	99	99	82	63	30	99	99	99	99	99	82	63	30	99
RUOM+AMS+Resolve/RUOM+AMS	22fl oz+2.5lb+1oz/22fl oz+2.5lb	99	99	99	99	91	57	50	99	99	99	99	99	91	60	62	99
RUOM+AMS+Atrazine/RUOM+AMS	22fl oz+2.5lb+0.56lb/22fl oz+2.5lb	99	99	99	99	99	99	72	99	88	99	99	99	99	99	99	99
Untreated		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LSD (0.05)		2	2	3	7	3	6	5	NS	2	0	1	1	3	4	3	NS

[1]RUOM = Roundup OriginalMax; AMS = ammonium sulfate.
[2]14DBP = 14 days before planting.
[3]7DBP = 7 days before planting.

Weed control from KIH-485 + atrazine. Zollinger, Richard K. And Jerry L. Ries. An experiment was conducted near Prosper, ND, to evaluate weed efficacy from treatments applied PRE. DeKalb 'DKC38-92' RUR corn was planted May 3, 2007. PRE treatments were applied on May 10 at 11:00 am with 63 F air, 59 soil at a 4 inch depth, 50% relative humidity, 0% cloud cover, 10 to 15 mph N wind, dry soil surface, and wet subsoil. Soil characteristics were 27.2% sand, 46.2% silt, 26.6% clay, loam texture, 3.9% OM, and pH 6.7. Treatments were applied to the center 6.7 feet of the 10 by 40 foot plots with a bicycle-type plot sprayer delivering 17 gpa at 40 psi through 11002 Turbo TeeJet flat-fan nozzles. The experiment had randomized complete block design with three replicates per treatment.

Corn was planted May 3 but PRE treatments were delayed in application (May 10) because of rain. Glyphosate was applied across the entire study to kill emerging weeds. Weather was cool and wet through June 15. No PRE treatment caused any corn injury at any evaluation timing. KIH-485 + atrazine controlled most weeds and did not injure corn. (Dept. of Plant Sciences, North Dakota State University, Fargo).

Table. Weed control from KIH-485 + atrazine (Zollinger and Ries).

		29 DAT - PRE							
Treatment[1]	Rate	Yeft	Wimu	Rrpw	Colq	Hans	Koch	Corw	Cocb
	(product/A)	% control							
Atrazine	0.56lb	53	90	72	72	91	99	33	13
Bicep Lite II Magnum	1.63pt	68	68	70	70	60	50	40	20
Atrazine+KIH-485	0.56lb+1.07oz	90	99	99	99	99	99	50	30
Atrazine+KIH-485	0.56lb+1.47oz	95	99	93	93	99	99	73	43
Atrazine+KIH-485	0.56lb+2.35oz	99	99	99	99	99	99	99	99
Atrazine	1.11lb	90	99	99	99	99	99	75	70
Bicep Lite II Magnum	3.25pt	99	99	99	99	99	99	95	70
Atrazine+KIH-485	1.11lb+2.7oz	99	99	99	99	99	99	99	99
Atrazine+KIH-485	1.11lb+2.94oz	99	99	99	99	99	99	99	99
Atrazine+KIH-485	1.11lb+4.7oz	99	99	99	99	99	99	99	99
Atrazine	1.67lb	99	99	99	99	99	99	99	99
Bicep Lite II Magnum	4.9pt	99	99	99	99	99	99	99	99
Atrazine+KIH-485	1.67lb+3.2oz	99	99	99	99	99	99	99	99
Atrazine+KIH-485	1.67lb+4.4oz	99	99	99	99	99	99	99	99
Atrazine+KIH-485	1.67lb+7.06oz	99	99	99	99	99	99	99	99
Untreated		0	0	0	0	0	0	0	0
LSD (0.05)		4	3	3	3	1	8	3	5

[1]KIH-485 = pyroxasulfone from Kumiai America.

Table cont. Weed control from KIH-485 + atrazine (Zollinger and Ries).

Treatment[1]	Rate	42 DAT - PRE								56 DAT - PRE							
		Yeft	Wimu	Rrpw	Colq	Hans	Koch	Corw	Cocb	Yeft	Wimu	Rrpw	Colq	Hans	Koch	Corw	Cocb
	(product/A)	% control								% control							
Atrazine	0.56lb	53	90	73	75	91	99	33	13	53	90	73	75	91	99	33	13
Bicep Lite II Magnum	1.63pt	61	62	67	67	57	47	33	13	61	62	67	67	57	47	33	13
Atrazine+KIH-485	0.56lb+1.07oz	96	99	99	99	99	99	89	33	96	99	99	99	99	99	83	33
Atrazine+KIH-485	0.56lb+1.47oz	97	99	99	99	99	99	87	50	97	99	99	99	99	99	96	50
Atrazine+KIH-485	0.56lb+2.35oz	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
Atrazine	1.11lb	88	99	99	99	99	99	78	70	88	99	99	99	99	99	78	70
Bicep Lite II Magnum	3.25pt	99	99	99	99	99	99	95	73	87	99	83	85	99	99	78	72
Atrazine+KIH-485	1.11lb+2.7oz	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
Atrazine+KIH-485	1.11lb+2.94oz	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
Atrazine+KIH-485	1.11lb+4.7oz	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
Atrazine	991.67lb	99	99	99	99	99	99	99	99	78	99	99	99	99	99	99	99
Bicep Lite II Magnum	4.9pt	99	99	99	99	99	99	99	99	82	99	99	99	99	99	99	99
Atrazine+KIH-485	1.67lb+3.2oz	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
Atrazine+KIH-485	1.67lb+4.4oz	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
Atrazine+KIH-485	1.67lb+7.06oz	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
Untreated		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LSD (0.05)		3	1	3	3	3	2	4	6	4	1	3	3	3	3	4	6

[1]KIH-485 = pyroxasulfone from Kumiai America.

KIH-485 in corn. Zollinger, Richard K. and Jerry L. Ries. An experiment was conducted near Prosper and Valley City, ND, to evaluate weed control from pre-emergence and two pass programs. At Prosper, DeKalb 'DKC38-92' corn was planted on May 3, 2007. PRE treatments were applied on May 10 at 10:35 am with 63 F air, 54 F soil at a four inch depth, 54% relative humidity, 0% cloud cover, 8 to 15 mph N wind, dry soil surface, and wet subsoil. Soil characteristics were 27.2% sand, 46.2% silt, 36.6% clay, loam texture, 3.9% OM, and pH 6.1. POST treatments were applied on June 21 at 9:45 am with 73 F air, 72 F soil surface, 40% relative humidity, 50% cloud cover, 8 to 12 mph SE wind, dry soil surface, wet subsoil, excellent crop vigor, and no dew present to V4 (12 to 16 inch) corn. Weed species present in plots with PRE applications were: 3 to 8 inch (1 to 10/yd^2) yellow foxtail; 2 to 6 inch (1 to 5/yd^2) common lambsquarters; 1 to 3 inch (1/yd^2) hairy nightshade; 4 to 12 inch (1 to 10/yd^2) common cocklebur; 2 to 6 inch (1 to 2/yd^2) wild mustard, 1to 4 inch (1 to 2/yd^2) redroot pigweed, 1 to 2 inch (1/yd^2) kochia and 2 to 4 inch (1 to 2/yd^2) common ragweed. Weed species present in plots with POST only applications were: 4 to 10 inch (10 to 25/ft^2) yellow foxtail; 4 to 12 inch (1 to 3/ yd^2) common lambsquarters; 3 to 6 inch (10 to 30/yd^2) hairy nightshade; 4 to 6 inch (1/yd^2) common cocklebur; 4 to 10 inch (1/yd^2) common ragweed; 4 to 8 inch (1 to 3/yd^2) redroot pigweed; 4 to 6 inch (1/yd^2) kochia; and 6 inch to bloom (1 to 2/yd^2) wild mustard.

At Valley City, Croplan '238' corn was planted on May 9, 2007. PRE treatments were applied on May 11 at 2:10 pm with 59 F air, 61 F soil at a four inch depth, 51% relative humidity, 90% cloud cover, 5 to 8 mph E wind, dry soil surface, and moist subsoil. Soil characteristics were 50.5% sand, 34.3 silt, 15.2% clay, loam texture, 3.5% OM, pH 6.4. POST treatments were applied on June 20 at 10:45 am with 72 F air, 75 F soil surface, 45% relative humidity, 30% cloud cover, 6 to 10 mph N wind, moist soil surface, wet subsoil, excellent crop vigor, and no dew present to V3 to V4 (10 to 14 inch) corn. Weed species present with POST only applications were: 1 to 3 inch(5 to 15/ft^2) green foxtail; blooming (1/yd^2) wild mustard; 6 to 14 inch (3 to 5/ft^2) marshelder; and 2 to 5 inch (5 to 8/ft^2) common ragweed.

Treatments at both locations were applied to the center 6.7 feet of the 10 by 40 foot plots with a bicycle-type plot sprayer delivering 17 gpa at 40 psi through 11002 Turbo TeeJet flat-fan nozzles for PRE treatments and 8.5 gpa at 40 psi through 11001 Turbo TeeJet flat-fan nozzles for POST treatments. The experiment had randomized complete block design with three replicates per treatment.

PROSPER - Corn was planted May 3 but PRE treatments were delayed in application (May 10) because of rain. Glyphosate was applied across the entire study to kill emerging weeds. Weather was cool and wet through June 15 which also delayed application of POST treatments. No PRE treatment caused any corn injury at any evaluation timing. Weed control from KIH-485 was adequate at 3.5 oz/A which would be the X rate for the soil type.

VALLEY CITY - RUOM was applied on June 20 where corn was 10 to 14 inches tall. Green foxtail, marshelder, and common ragweed was 4 to 14 inches tall at application. Application was delayed due to 2 to 3 weeks of rain.

(Dept. of Plant Sciences, North Dakota State University, Fargo).

Table. KIH-485 in corn, Prosper (Zollinger and Ries).

Treatment[1]	Rate	PRE Ratings - 41 DAT							
		Yeft	Wimu	Rrpw	Colq	Hans	Koch	Corw	Cocb
	(product/A)	% control							
PRE									
KIH-485	1.4oz	47	27	43	20	33	33	0	0
KIH-485	1.76oz	67	30	53	33	53	48	20	0
KIH-485	2.52oz	70	38	62	40	53	48	20	0
KIH-485	3.02oz	84	85	72	62	73	78	22	0
KIH-485	3.5oz	91	98	98	92	94	97	40	13
KIH-485	4.2oz	94	99	95	93	91	99	48	20
Dual II Magnum	1.67pt	72	43	58	50	52	28	20	7
PRE/POST									
KIH-485/Roundup OriginalMax+AMS	1.4oz/22.3fl oz+4lb.100gal	43	55	60	20	37	25	0	0
KIH-485/Roundup OriginalMax+AMS	1.76oz/22.3fl oz+4lb.100gal	67	83	72	37	52	47	22	0
KIH-485/Roundup OriginalMax+AMS	2.52oz/22.3fl oz+4lb.100gal	77	85	73	62	68	55	30	7
KIH-485/Roundup OriginalMax+AMS	3.02oz/22.3fl oz+4lb.100gal	79	93	72	60	75	72	72	8
KIH-485/Roundup OriginalMax+AMS	3.5oz/22.3fl oz+4lb.100gal	90	99	99	80	93	93	77	15
KIH-485/Roundup OriginalMax+AMS	4.2oz/22.3fl oz+4lb.100gal	94	96	96	91	93	97	73	25
Dual II Magnum/Roundup Original Max+AMS	1.67pt/22.3fl oz+4lb/100gal	72	43	62	45	52	25	20	17
Untreated		0	0	0	0	0	0	0	0
LSD (0.05)		8	8	12	13	10	8	9	12

[1]KIH-485 = pyroxasulfone from Kumiai America; AMS = ammonium sulfate.

Table cont. KIH-485 in corn, Prosper (Zollinger and Ries).

Treatment[1]	Rate	14 DAT - POST								28 DAT POST							
		Yeft	Wimu	Rrpw	Colq	Hans	Koch	Corw	Cocb	Yeft	Wimu	Rrpw	Colq	Hans	Koch	Corw	Cocb
	(product/A)	% control								% control							
PRE																	
KIH-485	1.4oz	47	27	43	20	33	33	0	0	89	72	99	99	99	99	47	0
KIH-485	1.76oz	67	30	63	33	53	48	20	0	88	85	99	99	99	99	50	0
KIH-485	2.52oz	70	38	52	40	53	48	20	0	85	92	99	85	99	99	60	0
KIH-485	3.02oz	84	85	72	62	73	78	22	0	86	98	99	99	99	99	62	0
KIH-485	3.5oz	91	98	98	92	94	97	40	13	93	99	99	99	99	99	70	13
KIH-485	4.2oz	94	99	95	93	91	99	48	20	94	99	99	99	99	99	70	20
Dual II Magnum	1.67pt	99	72	43	58	50	52	28	20	70	72	40	55	47	48	27	20
PRE/POST																	
KIH-485/Roundup OriginalMax+AMS	1.4oz/22.3fl oz+4lb.100gal	99	99	99	99	99	99	99	99	80	99	99	99	99	99	99	99
KIH-485/Roundup OriginalMax+AMS	1.76oz/22.3fl oz+4lb.100gal	99	99	99	99	99	99	99	99	80	99	99	99	99	99	99	99
KIH-485/Roundup OriginalMax+AMS	2.52oz/22.3fl oz+4lb.100gal	99	99	99	99	99	99	99	99	80	99	99	99	99	99	99	99
KIH-485/Roundup OriginalMax+AMS	3.02oz/22.3fl oz+4lb.100gal	99	99	99	99	99	99	99	99	80	99	99	99	99	99	99	99
KIH-485/Roundup OriginalMax+AMS	3.5oz/22.3fl oz+4lb.100gal	99	99	99	99	99	99	99	99	80	99	99	99	99	99	99	99
KIH-485/Roundup OriginalMax+AMS	4.2oz/22.3fl oz+4lb.100gal	99	99	99	99	99	99	99	99	80	99	99	99	99	99	99	99
Dual II Magnum/Roundup Original Max+AMS	1.67pt/22.3fl oz+4lb/100gal	99	99	99	99	99	99	99	99	80	99	99	99	99	99	99	99
Untreated		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LSD (0.05)		4	5	6	6	7	5	5	5	2	2	0	3	3	1	3	5

[1]KIH-485 = pyroxasulfone from Kumiai America; AMS = ammonium sulfate.

Table KIH-485 in corn, Valley City (Zollinger and Ries).

Treatment[1]	Rate	9 DAT - PRE					14 DAT - POST				
		Corn	Grft	Wimu	Mael	Corw	Corn	Grft	Wimu	Mael	Corw
	(product/A)	% injury	% injury				% injury	% injury			
PRE											
KIH-485	1.4oz	0	43	22	33	33	0	43	22	33	33
KIH-485	1.76oz	0	58	32	38	40	0	58	32	38	40
KIH-485	2.52oz	0	69	85	61	48	0	69	85	61	48
KIH-485	3.02oz	12	84	99	73	80	12	84	99	73	80
KIH-485	3.5oz	8	93	99	77	74	8	96	99	77	74
KIH-485	4.2oz	7	94	99	75	75	7	94	99	75	75
Dual II Magnum	1.67pt	0	73	22	0	20	0	73	22	0	20
PRE/POST											
KIH-485/Roundup OriginalMax+AMS	1.4oz/22.3fl oz+4lb/100gal	0	43	23	38	32	0	99	99	99	75
KIH-485/Roundup OriginalMax+AMS	1.76oz/22.3fl oz+4lb/100gal	0	53	42	45	38	0	99	99	99	75
KIH-485/Roundup OriginalMax+AMS	2.52oz/22.3fl oz+4lb/100gal	0	67	85	63	47	0	99	99	99	75
KIH-485/Roundup OriginalMax+AMS	3.02oz/22.3fl oz+4lb/100gal	12	78	99	67	66	12	99	99	99	75
KIH-485/Roundup OriginalMax+AMS	3.5oz/22.3fl oz+4lb/100gal	10	86	99	68	78	10	99	99	99	75
KIH-485/Roundup OriginalMax+AMS	4.2oz/22.3fl oz+4lb/100gal	22	95	99	74	86	15	99	99	99	75
Dual II Magnum/Roundup Original Max+AMS	1.67pt/22.3fl oz+4lb/100gal	0	67	20	0	12	0	99	99	99	75
Untreated		0	0	0	0	0	0	0	0	0	0
LSD (0.05)		6	10	4	9	9	6	7	3	7	5

[1]KIH-485 = pyroxasulfone from Kumiai America; AMS = ammonium sulfate.

Weed control systems in corn. Zollinger, Richard K. and Jerry L. Ries. An experiment was conducted near Prosper, ND, to evaluate crop response and weed efficacy to corn herbicide programs. PPI treatments were applied on May 14, 2007 at 8:20 am with 67 F air, 64 F soil at a four inch depth, 53% relative humidity, 75% cloud cover, 5 to 10 mph N wind, dry soil surface, and wet subsoil. PPI treatments were double incorporated with a field cultivator at a 2 to 2.5 inch depth followed by the planting of DeKalb 'DKC38-33' corn. Soil characteristics were 5.8% sand, 50.6% silt, 43.6% clay, silty clay texture, 6.6% OM, and pH 6.8. PRE applications immediately followed the planting of corn on May 14 at 9:00 am with 69 F air, 64 F soil at a four inch depth, 51% relative humidity, 75% cloud cover, 5 to 10 mph N wind, dry soil surface, and wet subsoil. POST treatments were applied on June 21 at 4:20 pm with 75 F air, 78 F soil surface, 52% relative humidity, 10% cloud cover, 8 to 15 mph SE wind, dry soil surface, moist subsoil, excellent crop vigor, and no dew present to V4 (12 to 16 inch) corn. Weed species present in plots with POST only applications were: 2 to 6 inch (1 to 3/yd^2) foxtail; 3 to 8 inch (1 to 2/ yd^2) common lambsquarters; 2 to 6 inch (1/yd^2) wild oat; 3 to 6 inch (1 to 2/yd^2) redroot pigweed; and 1 to 3 inch (1/yd^2) lanceleaf sage. Treatments were applied to the center 6.7 feet of the 10 by 40 foot plots with a backpack-type plot sprayer delivering 17 gpa at 40 psi through 11002 Turbo TeeJet flat-fan nozzles for PPI and PRE treatments and 8.5 gpa at 40 psi through 11001 Turbo TeeJet flat-fan nozzles for POST treatments. The experiment had randomized complete block design with three replicates per treatment.

All POST treatments controlled weeds. Lumax gave the greatest wild oat control, probably due to the atrazine. Other research shows complete control of tame oat and complete safety to hard red spring wheat from KIH-485, indicating possibility of wild oat control in wheat. However, this data shows wild oat may have greater tolerance to KIH-485 than tame oat. (Dept. of Plant Sciences, North Dakota State University, Fargo).

Table. Weed control systems in corn (Zollinger and Ries).

Treatment[1]	Rate	PRE Ratings - 45 DAT					14 DAT - POST				
		Fxtl	Wioa	Rrpw	Colq	Llsa	Fxtl	Wioa	Rrpw	Colq	Llsa
	(product/A)	% control					% control				
PPI/POST											
Lumax/Touchdown Total+AMS	4pt/24fl oz+8.5lb/100gal	96	71	91	90	32	99	99	99	99	99
Dual II Magnum/Halex+NIS+AMS	1pt/4pt+0.25% v/v+8.5lb/100gal	85	22	68	64	18	99	99	99	99	99
Dual II Magnum/Callisto+PO+28% N	1.67pt/3fl oz+1% v/v+2.5% v/v	91	22	68	68	18	99	99	99	99	99
Outlook/Status+NIS+28% N	18fl oz/5oz+0.25% v/v+1.25% v/v	96	25	92	67	13	99	99	99	99	99
PRE											
SureStart	2pt	99	53	99	99	93	53	99	99	99	93
KIH-485	4.1oz	97	18	96	99	60	97	18	96	99	60
KIH-485	5oz	99	27	99	99	97	99	51	99	99	97
PRE/POST											
KIH-485/Buccaneer Plus+AMS	4.1oz/1.5pt+8.5lb/100gal	96	22	99	86	47	99	99	99	99	99
SureStart/Buccaneer Plus+AMS	1.75pt/1.5pt+8.5lb/100gal	99	53	99	99	91	99	99	99	99	99
Lumax/Touchdown Total+AMS	4pt/24fl oz+8.5lb/100gal	97	60	90	90	40	99	99	99	99	99
Camix/Touchdown Total+AMS	1.3qt/24fl oz+8.5lb/100gal	96	43	97	97	35	99	99	99	99	99
POST											
Lumax+Touchdown Total+AMS	4pt+24fl oz+8.5lb/100gal						99	99	99	99	99
Halex+NIS+AMS	4pt+0.25% v/v+8.5lb/100gal						99	99	99	99	99
Callisto+Touchdown Total+AMS	3fl oz+24fl oz+8.5lb/100gal						99	99	99	99	99
Callisto+Atrazine+Steadfast+PO+28% N	3fl oz+0.28lb+0.75oz+1% v/v+2.5% v/v						99	99	99	99	99
Status+Option+MSO+28% N	5oz+1.5oz+1.5pt+1qt						99	99	99	99	99
Makaze+AMS	32fl oz+8.5lb/100gal						99	99	99	99	99
Makaze+Choice WeatherMaster	32fl oz+0.5% v/v						99	99	99	99	99
Impact+MSO+28% N	0.5fl oz+1.5pt+1.25% v/v						99	99	99	99	99
Impact+Buccaneer Plus+Superb HC+AMS	0.5fl oz+1.5pt+0.5% v/v+8.5lb/100 gal						99	99	99	99	99
Laudis+MSO+28% N	2fl oz+1.5pt+1.25% v/v						99	99	99	99	99
Laudis+MSO+28% N	3fl oz+1.5pt+1.25% v/v						99	99	99	99	99
Laudis+Buccaneer Plus+Superb HC+AMS	2fl oz+1.5pt+0.5% v/v+8.5lb/100 gal						99	99	99	99	99
LSD (0.05)		4	8	6	6	13	1	14	2	1	6

[1]AMS = ammonium sulfate; NIS = nonionic surfactant = R-11; PO = petroleum oil concentrate = Herbimax; KIH-485 = pyroxasulfone from Kumiai America; Choice WeatherMaster = water conditioning agents; Superb HC = high surfactant oil concentrates.

Harness weed control in corn. Zollinger, Rich K. and Jerry L. Ries. An experiment was conducted near Prosper, ND, to evaluate weed control from a two-pass control system in corn.

On May 3, 2007, four rows of Pioneer '39F27' conventional corn was planted in a plot sized 10 by 40 feet. Four rows of Pioneer '39D85' LibertyLink/Roundup Ready corn was planted adjacent to the Pioneer '39F27' a plot sized 10 by 40 feet. A 10 foot border was placed between and on the outsides of both varieties. DeKalb 'DKC38-33' corn was then planted to the entire rest of the study.

PRE treatments were applied on May 10 at 9:35 am with 61 F air, 59 F soil at a four inch depth, 53% relative humidity, 0% cloud cover, 8 to 13 mph N wind, dry soil surface, and wet subsoil. Soil characteristics were 29.3% sand, 40.8% silt, 30% clay, clay loam texture, 3.6% OM, and pH 6.1. POST treatments were applied on June 21 at 8:45 am with 71 F air, 72 F soil surface, 40% relative humidity, 90% cloud cover, 9 to 12 mph SW wind, dry soil surface, moist subsoil, excellent crop vigor, and no dew present to V4 (12 to 16 inch) corn hybrids. Weed species present in plots with PRE applications were: 3 to 8 inch (1 to 10/yd^2) yellow foxtail; 2 to 6 inch (1 to 5/yd^2) common lambsquarters; 1 to 3 inch (1/yd^2) hairy nightshade; 4 to 12 inch (1 to 10/yd^2) common cocklebur; 2 to 4 inch (1 to 2/yd^2) common ragweed. Weed species present in plots with POST only applications were: 4 to 10 inch (10 to 25/ft^2) yellow foxtail; 4 to 12 inch (1 to 3/ yd^2) common lambsquarters; 3 to 6 inch (10 to 30/yd^2) hairy nightshade; 4 to 6 inch (1/yd^2) common cocklebur; 4 to 10 inch (1/yd^2) common ragweed; 4 to 8 inch (1 to 3/yd^2) redroot pigweed; 4 to 6 inch (1/yd^2) kochia; and 6 inch to bloom (1 to 2/yd^2) wild mustard. Treatments were applied to the center 6.7 feet of the 10 by 40 foot plots with a bike-type plot sprayer delivering 17 gpa at 40 psi through 11002 Turbo TeeJet flat-fan nozzles for PRE treatments and 8.5 gpa at 40 psi through 11001 Turbo TeeJet flat-fan nozzles with a backpack-type plot sprayer for POST treatments. The experiment had randomized complete block design with three replicates per treatment.

Corn was planted May 3 but PRE treatments were delayed in application (May 10) because of rain. Glyphosate was applied Pre to corn across the entire study to kill emerging weeds. Weather was cool and wet through June 15 which also delayed application of POST treatments. No PRE treatment caused any corn injury at any evaluation timing.

On June 28 (7 DAT POST) no injury was seen except for slight speckling from Buctril. All treatments gave 99% control of yellow foxtail, wild mustard, redroot pigweed, common lambsquarters, hairy nightshade, kochia, common ragweed, and common cocklebur at 14 and 28 DAT POST.

Table. Harness weed control in corn (Zollinger and Ries).

Treatment	Rate	PRE - 41 DAT								Corn
		Yeft	Wimu	Rrpw	Colq	Hans	Koch	Corw	Cocb	Yield
	(product/A)	% control								bu/A
PRE/POST										
Outlook/Status	21.3fl oz/5oz	87	47	99	86	75	48	43	42	177
Outlook/Liberty	21.3fl oz/30fl oz	87	40	99	85	73	45	40	45	127
Harness/RUWM+AMS	1.5pt/22fl oz+17lb/100gal	91	72	99	92	97	92	52	50	197
Harness+Atrazine/RUWM+AMS	1.5pt+0.42lb/22fl oz+17lb/100gal	92	73	99	93	96	91	78	47	188
Harness/RUWM+Status+AMS	1.5pt/22fl oz+5oz+17lb/100gal	94	72	99	93	93	83	73	30	175
Harness/RUWM+Buctril+AMS	1.5pt/22fl oz+1pt+17lb/100gal	95	73	99	92	94	82	68	23	172
Harness/RUWM+Basis+AMS	1.5pt/22fl oz+0.33oz+17lb/100gal	95	80	99	95	95	80	67	33	179
Harness/RUWM+WideMatch+AMS	1.5pt/22fl oz+1.33pt+17lb/100gal	95	80	99	95	95	80	65	33	171
POST										
RUWM+Atrazine+Banvel+AMS	22fl oz+0.42lb+4fl oz+17lb/100gal	-	-	-	-	-	-	-	-	174
LSD (0.05)		2	6	0	4	3	4	6	6	42

[1]RUWM = Roundup WeatherMax; AMS = ammonium sulfate.

Systems approach to corn weed control. Zollinger, Richard K. and Jerry L. Ries. An experiment was conducted near Prosper, ND, to weed efficacy from corn herbicide weed control programs. DeKalb 'DKC42-95' corn was planted on May 3, 2007. PRE treatments were applied on May 10 at 9:15 am with 60 F air, 59 F soil at a four inch depth, 55% relative humidity, 0% cloud cover, 10 to 15 mph N wind, dry soil surface, and wet subsoil. Soil characteristics were 29.3% sand, 40.7% silt, 30% clay, clay loam texture, 3.6% OM, pH 6.1. POST treatments were applied on June 21 at 10:15 am with 73 F air, 72 F soil surface, 40% relative humidity, 50% cloud cover, 7 to 13 mph SE wind, dry soil surface, wet subsoil, excellent crop vigor, and no dew present to V4 (12 to 16 inch) corn. Weed species present in plots with PRE applications were: 3 to 8 inch (1 to 10/yd^2) yellow foxtail, 2 to 6 inch (1 to 5/yd^2) common lambsquarters, 1 to 3 inch (1/yd^2) hairy nightshade; 4 to 12 inch (1 to 10/yd^2) common cocklebur; 2 to 6 inch (1 to 2/yd^2) wild mustard, 1to 4 inch (1 to 2/yd^2) redroot pigweed, 1 to 2 inch (1/yd^2) kochia, and 2 to 4 inch (1 to 2/yd^2) common ragweed. Weed species present in plots with POST only applications were: 3 to 10 inch (15 to 50/ft^2) yellow foxtail; 8 to 12 inch (1 to 2/ yd^2) common cocklebur; 4 to 12 inch (3 to 10/yd^2) redroot pigweed; 4 to 14 inch (1 to 2/yd^2) common lambsquaters; 4 to 8 inch (1/yd^2) common ragweed; 4 to 10 inch (1/yd^2) wild mustard; and 2 to 3 inch (1 to 5/yd^2) hairy nightshade. Treatments were applied to the center 6.7 feet of the 10 by 40 foot plots with a bicycle-type plot sprayer delivering 17 gpa at 40 psi through 11002 Turbo TeeJet flat-fan nozzles for PRE treatments and 8.5 gpa at 40 psi through 11001 Turbo TeeJet flat-fan nozzles for POST treatments. The experiment had randomized complete block design with three replicates per treatment.

Corn was planted May 3 but PRE treatments were delayed in application (May 10) because of rain. Glyphosate was applied across the entire study to kill emerging weeds. Weather was cool and wet through June 15 which also delayed application of EPOST/POST, treatments made at the same time. No PRE treatment caused any corn injury at any evaluation timing. On June 28 there was no injury. (Dept. of Plant Sciences, North Dakota State University, Fargo).

Table. Systems approach to weed control in corn (Zollinger and Ries).

Treatment	Rate	41 DAT - PRE								14 DAT - EPOST/POST							
		Yeft	Wimu	Rrpw	Colq	Hans	Koch	Corw	Cocb	Yeft	Wimu	Rrpw	Colq	Hans	Koch	Corw	Cocb
	(product/A)	% control								% control							
PRE																	
Lexar	6pt	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
PRE/POST																	
Harness Xtra/RUOM+AMS	3pt/22fl oz+17lb/100gal	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
Degree Xtra/RUOM+AMS	4pt/22fl oz+17lb/100gal	99	99	99	99	99	99	89	84	99	99	99	99	99	99	99	99
Guardsman Max/RUOM+AMS	2.5pt/22fl oz+17lb/100gal	98	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
Guardsman Max/RUOM+AMS	3pt/22fl oz+17lb/100gal	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
Harness/RUOM+AMS	1.5pt/22fl oz+17lb/100gal	99	99	99	99	99	99	98	98	99	99	99	99	99	99	99	99
Degree/RUOM+AMS	3pt/22fl oz+17lb/100gal	86	77	99	99	99	99	99	85	99	99	99	99	99	99	99	99
Outlook/RUOM+AMS	12fl oz/22fl oz+17lb/100gal	76	82	99	99	75	50	80	52	99	99	99	99	99	99	99	99
Outlook/RUOM+AMS	16fl oz/22fl oz+17lb/100gal	82	72	99	88	85	58	74	52	99	99	99	93	99	99	99	99
Lexar/TD Total+AMS	4pt/24fl oz+17lb/100gal	97	99	99	99	99	99	99	82	99	99	99	99	99	99	99	99
Bicep II Mag/TD Total+AMS	2.9pt/24fl oz+17lb/100gal	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
Atrazine/RUOM+AMS	1.67lb/22fl oz+17lb/100gal	88	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
Balance Pro/RUOM+AMS	2fl oz/22fl oz+17lb/100gal	84	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
Resolve+Atrazine/Steadfast+ Callisto+PO	1oz+1.11lb/0.75oz+ 2fl oz+1% v/v	86	99	99	99	99	99	99	72	99	99	99	99	99	99	99	99
EPOST/POST																	
RUOM/RUOM	22fl oz/22fl oz									99	99	99	99	99	99	99	99
POST																	
RUOM	22fl oz									99	99	99	99	99	99	99	99
LSD (0.05)		4	3	0	4	3	1	8	8	NS	NS	NS	5	NS	NS	NS	NS

[1]RUOM = Roundup OrignalMax; AMS = ammonium sulfate; TD Total = Touchdown Total; Bicep II Mag = Bicep II Magnum; PO = petroleum oil concentrate = Herbimax.

Table cont. Systems approach to weed control in corn (Zollinger and Ries).

Treatment	Rate	28 DAT - POST								Corn
		Yeft	Wimu	Rrpw	Colq	Hans	Koch	Corw	Cocb	Yield
	(product/A)	% control								bu/A
PRE										
Lexar	6pt	99	99	99	99	99	99	99	99	172
PRE/POST										
Harness Xtra/RUOM+AMS	3pt/22fl oz+17lb/100gal	81	99	99	99	99	99	99	99	201
Degree Xtra/RUOM+AMS	4pt/22fl oz+17lb/100gal	99	99	99	99	99	99	99	99	184
Guardsman Max/RUOM+AMS	2.5pt/22fl oz+17lb/100gal	88	99	99	99	99	99	99	99	187
Guardsman Max/RUOM+AMS	3pt/22fl oz+17lb/100gal	99	99	99	99	99	99	99	99	168
Harness/RUOM+AMS	1.5pt/22fl oz+17lb/100gal	88	99	99	99	99	99	99	99	186
Degree/RUOM+AMS	3pt/22fl oz+17lb/100gal	99	99	99	99	99	99	99	99	191
Outlook/RUOM+AMS	12fl oz/22fl oz+17lb/100gal	86	99	99	99	99	99	99	99	183
Outlook/RUOM+AMS	16fl oz/22fl oz+17lb/100gal	82	99	99	96	89	99	87	82	151
Lexar/TD Total+AMS	4pt/24fl oz+17lb/100gal	94	99	99	99	99	99	99	99	182
Bicep II Mag/TD Total+AMS	2.9pt/24fl oz+17lb/100gal	99	99	99	99	99	99	99	99	188
Atrazine/RUOM+AMS	1.67lb/22fl oz+17lb/100gal	88	99	99	99	99	99	99	99	196
Balance Pro/RUOM+AMS	2fl oz/22fl oz+17lb/100gal	73	99	99	99	99	99	99	99	196
Resolve+Atrazine/Steadfast+ Callisto+PO	1oz+1.11lb/0.75oz+ 2fl oz+1% v/v	99	99	99	99	99	99	99	99	183
EPOST/POST										
RUOM/RUOM	22fl oz/22fl oz	99	99	99	99	99	99	99	99	131
POST										
RUOM	22fl oz	99	99	99	99	99	99	99	99	170
LSD (0.05)		5	NS	NS	5	1	0	1	1	33

[1]RUOM = Roundup OrignalMax; AMS = ammonium sulfate; TD Total = Touchdown Total; Bicep II Mag = Bicep II Magnum; PO = petroleum oil concentrate = Herbimax.

Weed control in Roundup Ready corn (BASF). Zollinger, Richard K. and Jerry L. Ries. An experiment was conducted near Prosper, ND, to evaluate weed efficacy and crop response to corn herbicide programs. DeKalb 'DKC38-92' corn was planted on May 3, 2007. PRE treatments were applied on May 10 at 10:25 am with 62 F air, 59 F soil at a four inch depth, 50% relative humidity, 0% cloud cover, 8 to 15 mph N wind, dry soil surface, and wet subsoil. Soil characteristics were 27.2% sand, 46.2% silt, 26.6% clay, loam texture, 3.9% OM, and pH 6.7. POST and LPOST treatments were applied on June 21 at 9:45 am with 72 F air, 72 F soil surface, 60% relative humidity, 100% cloud cover, 8 to 12 mph SW wind, dry soil surface, wet subsoil, excellent crop vigor, and no dew present to V4 (12 to 14 inch) corn. Weed species present in plots with PRE applications were: 3 to 8 inch (1 to 10/yd^2) yellow foxtail, 2 to 6 inch (1 to 5/yd^2) common lambsquarters, 1 to 3 inch (1/yd^2) hairy nightshade; 4 to 12 inch (1 to 10/yd^2) common cocklebur; 2 to 6 inch (1 to 2/yd^2) wild mustard, 1to 4 inch (1 to 2/yd^2) redroot pigweed, 1 to 2 inch (1/yd^2) kochia, and 2 to 4 inch (1 to 2/yd^2) common ragweed. Weed species present in plots with POST only applications were: 4 to 10 inch (10 to 25/ft^2) yellow foxtail; 4 to 12 inch (1 to 3/ yd^2) common lambsquarters; 3 to 6 inch (10 to 30/yd^2) hairy nightshade; 4 to 6 inch (1/yd^2) common cocklebur; 4 to 10 inch (1/yd^2) common ragweed; 4 to 8 inch (1 to 3/yd^2) redroot pigweed; 4 to 6 inch (1/yd^2) kochia; 6 inch to bloom (1 to 2/yd^2) wild mustard. Treatments were applied to the center 6.7 feet of the 10 by 40 foot plots with a bicycle-type plot sprayer delivering 17 gpa at 40 psi through 11002 Turbo TeeJet flat-fan nozzles for PRE treatments and 8.5 gpa at 40 psi through 11001 Turbo TeeJet flat-fan nozzles with a backpack-type plot sprayer for POST treatments. The experiment had randomized complete block design with three replicates per treatment.

Corn was planted May 3 but PRE treatments were delayed in application (May 10) because of rain. Glyphosate was applied across the entire study to kill emerging weeds. Weather was been cool and wet through June 15 which also delayed application of POST and LPOST treatments. POST and LPOST applications were made at the same time. No PRE treatment caused any corn injury at any evaluation timing. On June 28 (7 dat POST) there was no corn injury. Corn was 3 to 4 feet tall and all corn in plots with no PRE treatment showed significant yellowing and stunting from weed competition. Normally, other weed flushes would emerge after POST and LPOST glyphosate applications but none occurred in this study. Also, normally yield loss would occur through weed competition by delaying POST application to LPOST. In this study no yield loss was seen probably because no weed flushed emerged after treatments were applied. (Dept. of Plant Sciences, North Dakota State University, Fargo).

Table. Weed control in Roundup Ready corn (BASF) (Zollinger and Ries).

Treatment[1]	Rate	PRE Ratings - 41 DAT								14, 28, 42 DAT - POST								Corn
		Yeft	Wimu	Rrpw	Colq	Hans	Kochia	Corw	Cocb	Yeft	Wimu	Rrpw	Colq	Hans	Kochia	Corw	Cocb	Yield
	(product/A)	% control								% control								bu/A
PRE/LPOST																		
Outlook/Status+ NIS+AMS	21fl oz/5oz+ 0.25%v/v+5lb/100gal	96	55	99	73	83	50	35	18	99	99	99	99	99	99	99	99	192
Dual II Magnume+Callisto+Atrazine+ PO+AMS	1.67pt/3fl oz+0.56lb+ 1% v/v+8.5lb/100gal	77	40	95	70	69	35	18	0	99	99	99	99	99	99	99	99	182
Outlook/RUWM+ AMS	12fl oz/22fl oz+ 8.5lb/100gal	96	55	99	73	83	50	35	18	99	99	99	99	99	99	99	99	191
Outlook/RUWM+Status+ AMS	12fl oz/22fl oz+2.5oz+ 8.5lb/100gal	96	55	99	73	83	50	35	18	99	99	99	99	99	99	99	99	185
POST																		
RUWM+AMS	22fl oz+8.5lb/100gal									99	99	99	99	99	99	99	99	160
RUWM+Status+ AMS	22fl oz+2.5oz+ 8.5lb/100 gal									99	99	99	99	99	99	99	99	169
RUWM+Status+ AMS	22fl oz+5oz+ 8.5lb/100 gal									99	99	99	99	99	99	99	99	155
RUWM+Callisto+ AMS	22fl oz+1.5fl oz+ 8.5lb/100gal									99	99	99	99	99	99	99	99	157
BAS 756+NIS+ AMS	3pt+0.25% v/v+ 8.5lb/100gal									99	99	99	99	99	99	99	99	167
BAS 756+Status+NIS+ AMS	3pt+2.5oz+0.25% v/v+ 8.5lb/100gal									99	99	99	99	99	99	99	99	142
RUWM+Outlook+Clarity+ AMS	22fl oz+12fl oz+8fl oz+ 8.5lb/100gal									99	99	99	99	99	99	99	99	165
LPOST																		
RUWM+AMS	22fl oz+8.5lb/100gal									99	99	99	99	99	99	99	99	155
LSD (0.05)		3	5	5	3	3	5	3	3	NS	NS	NS	NS	NS	NS	NS	NS	26

[1]RUWM = Roundup WeatherMax; BAS 756 = proprietary compound herbicide from BASF; NIS = nonionic surfactant = R-11; AMS = ammonium sulfate; PO = petroleum oil concentrate = Herbimax.

Weed control in Roundup Ready corn (Syngenta). Zollinger, Richard K. and Jerry L. Ries. An experiment was conducted near Prosper, ND, to evaluate weed efficacy from herbicide treatments applied at several timings. DeKalb 'DKC38-92' corn was planted on May 3, 2007. PRE treatments were applied on May 10 at 11:20 am with 64 F air, 59 F soil at a four inch depth, 64% relative humidity, 0% cloud cover, 10 to 15 mph N wind, dry soil surface, and wet subsoil. Soil characteristics were 29.5% sand, 45.2% silt, 25.3% clay, loam texture, 3.9% OM, and pH 7.5. POST treatments were applied on June 21 at 10:35 am with 74 F air, 72 F soil surface, 39% relative humidity, 50% cloud cover, 8 to 13 mph SE wind, dry soil surface, moist subsoil, excellent crop vigor, and no dew present to V4 (12 to 16 inch) corn. Weed species present in plots with PRE applications were: 3 to 8 inch (1 to 10/yd^2) yellow foxtail; 2 to 6 inch (1 to 5/yd^2) common lambsquarters; 1 to 3 inch (1/yd^2) hairy nightshade; 4 to 12 inch (1 to 10/yd^2) common cocklebur; 2 to 6 inch (1 to 2/yd^2) wild mustard, 1to 4 inch (1 to 2/yd^2) redroot pigweed, 1 to 2 inch (1/yd^2) kochia, and 2 to 4 inch (1 to 2/yd^2) common ragweed. Weed species present in plots with POST only applications were: 4 to 10 inch (10 to 25/ft^2) yellow foxtail; 4 to 12 inch (1 to 3/ yd^2) common lambsquarters; 3 to 6 inch (10 to 30/yd^2) hairy nightshade; 4 to 6 inch (1/yd^2) common cocklebur; 4 to 10 inch (1/yd^2) common ragweed; 4 to 8 inch (1 to 3/yd^2) redroot pigweed; 4 to 6 inch (1/yd^2) kochia; and 6 inch to bloom (1 to 2/yd^2) wild mustard. Treatments were applied to the center 6.7 feet of the 10 by 40 foot plots with a bicycle-type plot sprayer delivering 17 gpa at 40 psi through 11002 Turbo TeeJet flat-fan nozzles for PRE treatments and 8.5 gpa at 40 psi through 11001 Turbo TeeJet flat-fan nozzles with a back-pack type plot sprayer for POST treatments. The experiment had randomized complete block design with three replicates per treatment.

Corn was planted May 3 but PRE treatments were delayed in application (May 10) because of rain. Touchdown Total was applied across the entire study to kill emerging weeds. Weather was cool and wet through June 15 which also delayed application of POST treatments, The EPOST, POST, and LPOST treatments were made at the same time because of weed size. No PRE treatment caused any corn injury at any evaluation timing.

At June 28 (7 DAT POST) there was no corn injury. Corn was 3 to 4 feet tall and all corn in plots with no PRE treatment showed significant yellowing and stunting from weed competition. All treatments at 14 DAT controlled yellow foxtail, wild mustard, redroot pigweed, common lambsquarters, hairy nightshade, wild buckwheat, and common cocklebur at 28 and 56 DAT. Yield was adjusted to 15.5% moisture. (Dept. of Plant Sciences, North Dakota State University, Fargo).

Table. Weed control in Roundup Ready corn (Syngenta) (Zollinger and Ries).

Treatment[1]	Rate	41 DAT - PRE								14 DAT	28 and 56 DAT		Corn
		Yeft	Wimu	Rrpw	Colq	Hans	Wibw	Corw	Cocb	Corw	Yeft	Corw	Yield
	(product/A)	% control								% control	% control		bu/A
PRE/LPOST													
Lumax/TD Total+AMS	6pt/24fl oz+8.5lb/100gal	99	99	99	99	99	99	99	99	99	99	99	172
Harness Xtra/RUOM+AMS	1.5qt/22fl oz+8.5lb/100gal	99	99	99	99	99	99	47	65	99	99	99	162
EPOST													
Halex+AMS+NIS	4pt+8.5lb/100gal+0.25% v/v									99	99	99	142
Halex+Atrazine+AMS+NIS	4pt+0.56lb+8.5lb/100gal+0.25% v/v									99	99	99	157
POST													
RUOM+AMS	22fl oz+8.5lb/100gal									65	86	65	148
EPOST/LPOST													
RUOM+AMS/ RUOM+AMS	22fl oz+8.5lb/100gal/ 22fl oz+8.5lb/100gal									72	86	72	129
Untreated		0	0	0	0	0	0	0	0	0	0	0	144
LSD (0.05)		NS	NS	NS	NS	NS	NS	14	12	4	1	4	51

[1]TD Total = Touchdown Total; AMS = ammonium sulfate; RUOM = Roundup OriginalMax; NIS = nonionic surfactant = R-11.

Weed control in Roundup Ready/Liberty Link corn. Zollinger, Richard K. and Jerry L. Ries. An experiment was conducted near Prosper, ND, to evaluate weed efficacy and crop response to corn tank-mixtures. Pioneer '39D85' corn was planted on May 3, 2007. PRE treatments were applied on May 10 at 10:20 am with 62 F air, 59 F soil at a four inch depth, 50% relative humidity, 0% cloud cover, 10 to 15 mph N wind, dry soil surface, and wet subsoil. Soil characteristics were 29.3% sand, 40.7% silt, 30% clay, clay loam texture, 3.6% OM, and pH 6.1. POST treatments were applied on June 21 at 9:15 am with 71 F air, 72 F soil surface, 55% relative humidity, 100% cloud cover, 5 to 10 mph SW wind, dry soil surface, moist subsoil, excellent crop vigor, and no dew present to V4 (12 to 16 inch) corn. Weed species present in plots with PRE applications were: 3 to 8 inch (1 to 10/yd^2) yellow foxtail; 2 to 6 inch (1 to 5/yd^2) common lambsquarters; 1 to 3 inch (1/yd^2) hairy nightshade; 4 to 12 inch (1 to 10/yd^2) common cocklebur; 2 to 6 inch (1 to 2/yd^2) wild mustard, 1to 4 inch (1 to 2/yd^2) redroot pigweed, 1 to 2 inch (1/yd^2) kochia, and 2 to 4 inch (1 to 2/yd^2) common ragweed. Weed species present in plots with POST only applications were: 4 to 10 inch (10 to 25/ft^2) yellow foxtail; 4 to 12 inch (1 to 3/ yd^2) common lambsquarters; 3 to 6 inch (10 to 30/yd^2) hairy nightshade; 4 to 6 inch (1/yd^2) common cocklebur; 4 to 10 inch (1/yd^2) common ragweed; 4 to 8 inch (1 to 3/yd^2) redroot pigweed; 4 to 6 inch (1/yd^2) kochia; and 6 inch to bloom (1 to 2/yd^2) wild mustard. Treatments were applied to the center 6.7 feet of the 10 by 40 foot plots with a bicycle-type plot sprayer delivering 17 gpa at 40 psi through 11002 Turbo TeeJet flat-fan nozzles for PRE treatments and 8.5 gpa at 40 psi through 11001 Turbo TeeJet flat-fan nozzles with a backpack-type plot sprayer for POST treatments. The experiment had randomized complete block design with three replicates per treatment.

Corn was planted May 3 but PRE treatments were delayed in application (May 10) because of rain. Glyphosate was applied across the entire study to kill emerging weeds. Weather was cool and wet through June 15 which also delayed application of POST treatments. No PRE treatment caused any corn injury at any evaluation timing. On June 28 (7 dat POST) there was no corn injury. Corn was 3 to 4 feet tall and all corn in plots with no PRE treatment showed significant yellowing and stunting from weed competition. The 42 DAT ratings were the same as 28 DAT. Laudis applied alone or with other herbicides provides excellent broadleaf weed control. Laudis applied alone also provides good to excellent yellow foxtail control which is different than Callisto, another HPPD inhibitor herbicide. (Dept. of Plant Sciences, North Dakota State University, Fargo).

Table. Weed control in Roundup Ready/Liberty Link corn (Zollinger and Ries).

Treatment	Rate	PRE Ratings - 41 DAT								14 DAT - POST							
		Yeft	Wimu	Rrpw	Colq	Hans	Kochia	Corw	Cocb	Yeft	Wimu	Rrpw	Colq	Hans	Kochia	Corw	Cocb
	(product/A)	% control								% control							
PRE/POST																	
Radius/Laudis+Atrazine+ MSO+28% N	10fl oz/3fl oz+0.42 lb+ 1.2pt+1.5qt	92	99	99	99	72	99	98	33	99	99	99	99	99	99	99	99
POST																	
Laudis+Atrazine+ MSO+28% N	3fl oz+0.42lb+ 1.2pt+1.5qt									82	99	99	99	99	99	99	99
Laudis+Atrazine+Liberty+ AMS	3fl oz+0.42lb+32fl oz+ 8.5lb/100gal									93	99	99	99	99	99	99	99
Liberty+Atrazine+ AMS	32fl oz+0.42lb+ 8.5lb/100gal									93	99	99	99	99	99	99	99
Laudis+Atrazine+RUOM+ AMS	3fl oz+0.42lb+22fl oz+ 8.5/100gal									91	99	99	99	99	99	99	99
Laudis+Atrazine+RUOM+ AMS	2fl oz+0.42lb+22fl oz+ 8.5/100gal									96	99	99	99	99	99	99	99
Laudis+Atrazine+RUOM+ AMS	1fl oz+0.42lb+22fl oz+ 8.5/100gal									96	99	99	99	99	99	99	99
RUOM+Atrazine+ AMS	22fl oz+0.42lb+ 8.5lb/100gal									96	99	99	99	99	99	99	99
Option+Define+Status+ MSO+28% N	1.5oz+10fl oz+2.5oz+ 1.5pt+1.5qt									55	90	86	88	88	89	86	84
Untreated		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LSD (0.05)		NS	NS	NS	NS	NS	NS	NS	NS	4	1	1	1	1	1	1	2

[1]RUOM = Roundup OriginalMax; MSO = methylated seed oil = Scoil.

Table cont. Weed control in Roundup Ready/Liberty Link corn (Zollinger and Ries).

Treatment	Rate	28 and 42 DAT - POST								Corn
		Yeft	Wimu	Rrpw	Colq	Hans	Kochia	Corw	Cocb	Yield
	(product/A)	% control								bu/A
PRE/POST										
Radius/Laudis+Atrazine+ MSO+28% N	10fl oz/3fl oz+0.42 lb+ 1.2pt+1.5qt	93	99	99	99	99	99	99	99	128
POST										
Laudis+Atrazine+ MSO+28% N	3fl oz+0.42lb+ 1.2pt+1.5qt	72	99	99	99	99	99	99	99	105
Laudis+Atrazine+Liberty+ AMS	3fl oz+0.42lb+32fl oz+ 8.5lb/100gal	87	99	92	99	99	99	99	99	99
Liberty+Atrazine+ AMS	32fl oz+0.42lb+ 8.5lb/100gal	87	99	99	99	99	99	99	99	91
Laudis+Atrazine+RUOM+ AMS	3fl oz+0.42lb+22fl oz+ 8.5/100gal	97	99	93	98	95	99	98	98	122
Laudis+Atrazine+RUOM+ AMS	2fl oz+0.42lb+22fl oz+ 8.5/100gal	96	99	99	99	99	99	93	99	102
Laudis+Atrazine+RUOM+ AMS	1fl oz+0.42lb+22fl oz+ 8.5/100gal	96	99	93	94	95	99	91	99	114
RUOM+Atrazine+ AMS	22fl oz+0.42lb+ 8.5lb/100gal	93	99	95	92	90	98	91	98	113
Option+Define+Status+ MSO+28% N	1.5oz+10fl oz+2.5oz+ 1.5pt+1.5qt	50	88	85	86	86	87	84	83	98
Untreated		0	0	0	0	0	0	0	0	81
LSD (0.05)		4	2	2	2	4	2	3	3	30

[1]RUOM = Roundup OriginalMax; MSO = methylated seed oil = Scoil.

Weed control in corn. Zollinger, Richard K. and Jerry L. Ries. An experiment was conducted near Prosper, ND, to evaluate weed efficacy and crop response to corn herbicide programs. DeKalb 'DKC38-92' corn was planted on May 3, 2007. PRE treatments were applied on May 10 at 11:25 am with 64 F air, 59 F soil at a four inch depth, 53% relative humidity, 0% cloud cover, 10 to 12 mph N wind, dry soil surface, and wet subsoil. Soil characteristics were 29.5% sand, 45.2% silt, 25.3% clay, loam texture, 3.9% OM, and pH 7.5. POST treatments were applied on June 21 at 10:35 am with 74 F air, 72 F soil surface, 40% relative humidity, 50% cloud cover, 10 to 13 mph SE wind, dry soil surface, wet subsoil, excellent crop vigor, and no dew present to V4 (12 to 16 inch) corn. Weed species present in plots with PRE applications were: 3 to 8 inch (1 to 10/yd^2) yellow foxtail; 2 to 6 inch (1 to 5/yd^2) common lambsquarters; 2 to 6 inch (1 to 5/yd^2) redroot pigweed, 1 to 3 inch (1/yd^2) hairy nightshade; 4 to 12 inch (1 to 10/yd^2) common cocklebur; 1 to 3 inch (1/yd^2) wild buckwheat, and 2 to 4 inch (1 to 2/yd^2) common ragweed. Weed species present in plots with POST only applications were: 4 to 10 inch (10 to 25/ft^2) yellow foxtail; 4 to 12 inch (1 to 3/ yd^2) common lambsquarters; 3 to 6 inch (10 to 30/yd^2) hairy nightshade; 4 to 6 inch (1/yd^2) common cocklebur; 4 to 10 inch (1/yd^2) common ragweed; 4 to 8 inch (1 to 3/yd^2) redroot pigweed; and 4 to 6 inch (1/yd^2) wild buckwheat. Treatments were applied to the center 6.7 feet of the 10 by 40 foot plots with a bicylce-type plot sprayer delivering 17 gpa at 40 psi through 11002 Turbo TeeJet flat-fan nozzles for PRE treatments and 8.5 gpa at 40 psi through 11001 Turbo TeeJet flat-fan nozzles with a backpack-type plot sprayer for POST treatments. The experiment had randomized complete block design with three replicates per treatment.

Corn was planted May 3 but PRE treatments were delayed in application (May 10) because of rain. Glyphosate was applied across the entire study to kill emerging weeds. Weather was cool and wet through June 15 which also delayed application of POST treatments. No PRE treatment caused any corn injury at any evaluation timing and gave 90% yellow foxtail, 99% redroot pigweed, 99% common lambsquarters, 93% hairy nightshade, 50% wild buckwheat, 40% common ragweed, and 40% common cocklebur control. The 56 DAT ratings were the same as 28 DAT evaluation. Most treatments gave excellent control of weeds present in the study. Callisto did not provide adequate common ragweed control. (Dept. of Plant Sciences, North Dakota State University, Fargo).

Table. Weed control in corn (Zollinger and Ries).

Treatment[1]	Rate	14 DAT - POST							28 and 56 DAT - POST						
		Yeft	Rrpw	Colq	Hans	Wibw	Corw	Cocb	Yeft	Rrpw	Colq	Hans	Wibw	Corw	Cocb
	(product/A)	% control							% control						
PRE															
Surpass	1.25pt	90	99	99	93	53	40	40	90	99	99	93	78	57	50
PRE/POST															
Surpass/Imapact+Atrazine+ MSO+28% N	1.25pt/0.5fl oz+0.42lb+ 1% v/v+2.5% v/v	99	99	99	99	99	99	99	87	99	99	99	95	93	99
Surpass/Imapact+Atrazine+ MSO+28% N	1.25pt/0.75fl oz+0.42lb+ 1% v/v+2.5% v/v	99	99	99	99	99	99	99	92	99	99	99	92	99	99
Surpass/Callisto+Atrazine+ MSO+28% N	1.25pt/3fl oz+0.42lb+ 1% v/v+2.5% v/v	99	99	99	99	99	63	99	93	99	99	99	99	67	99
Surpass/Laudis+Atrazine+ MSO+28% N	1.25pt/2fl oz+0.42lb+ 1% v/v+2.5% v/v	99	99	99	99	99	99	99	93	99	99	99	99	99	99
POST															
Impact+Atrazine+ MSO+28% N	0.5fl oz+0.42lb+ 1% v/v+2.5% v/v	99	99	99	99	99	73	99	92	92	99	99	99	83	99
Impact+Atrazine+ MSO+28% N	0.75fl oz+0.42lb+ 1% v/v+2.5% v/v	99	99	99	99	99	93	99	95	99	99	99	99	94	99
Untreated		0	0	0	0	0	0	0	0	0	0	0	0	0	0
LSD (0.05)		5	NS	NS	4	4	4	9	3	1	NS	4	5	6	9

[1]MSO = methylated seed oil = Scoil.

Corn weed control with isoxadifen safener. Zollinger, Richard K. and Jerry L. Ries. An experiment was conducted near Prosper, ND, to crop response and weed efficacy to corn herbcides and safener. Pioneer '39D85' LibertyLink/Roundup Ready corn was planted on May 3, 2007. PRE treatments were applied on May 10 at 10:00 am with 61 F air, 59 F soil at a four inch depth, 54% relative humidity, 0% cloud cover, 8 to 15 mph N wind, dry soil surface, and wet subsoil. Soil characteristics were 29.3% sand, 40.8% silt, 30% clay, clay loam texture, 3.6% OM, pH 6.1. POST treatments were applied on June 21 at 9:00 am with 71 F air, 72 F soil surface, 61% relative humidity, 100% cloud cover, 6 to 10 mph SW wind, dry soil surface, moist subsoil, excellent crop vigor, and no dew present to V4 (12 to 16 inch) corn. Weed species present in plots with PRE applications were: 3 to 8 inch (1 to 10/yd^2) yellow foxtail; 2 to 6 inch (1 to 5/yd^2) common lambsquarters; 1 to 3 inch (1/yd^2) hairy nightshade; 4 to 12 inch (1 to 10/yd^2) common cocklebur; 2 to 6 inch (1 to 2/yd^2) wild mustard, 1to 4 inch (1 to 2/yd^2) redroot pigweed, 1 to 2 inch (1/yd^2) kochia, and 2 to 4 inch (1 to 2/yd^2) common ragweed. Weed species present in plots with POST only applications were: 4 to 10 inch (10 to 25/ft^2) yellow foxtail; 4 to 12 inch (1 to 3/ yd^2) common lambsquarters; 3 to 6 inch (10 to 30/yd^2) hairy nightshade; 4 to 6 inch (1/yd^2) common cocklebur; 4 to 10 inch (1/yd^2) common ragweed; 4 to 8 inch (1 to 3/yd^2) redroot pigweed; 4 to 6 inch (1/yd^2) kochia; and 6 inch to bloom (1 to 2/yd^2) wild mustard. Treatments were applied to the center 6.7 feet of the 10 by 40 foot plots with a bicycle-type plot sprayer delivering 17 gpa at 40 psi through 11002 Turbo TeeJet flat-fan nozzles for PRE treatments and 8.5 gpa at 40 psi through 11001 Turbo TeeJet flat-fan nozzles for POST treatments. The experiment had randomized complete block design with three replicates per treatment.

Corn was planted May 3 but PRE treatments were delayed in application (May 10) because of rain. Glyphosate was applied across the entire study to kill emerging weeds. Weather was cool and wet through June 15 which also delayed application of POST treatments. No PRE treatment caused any corn injury at any evaluation timing. Isoxadifen is a safener imparting greater herbicide tolerance to corn by increasing metabolism of different active ingredients. On June 28 (7 dat POST) there was no corn injury. Corn was 3 to 4 feet tall and all corn in plots with no PRE treatment showed significant yellowing and stunting from weed competition. On July 19 and July 28 there was no observable differences in tasseling and on August 16 there was no observable differences in ear development. Some treatments of Impact applied with other herbicides did not adequately control common ragweed which applied alone usually provides excellent control. (Dept. of Plant Sciences, North Dakota State University, Fargo).

Table. Corn weed control with isoxadifen safener (Zollinger and Ries).

Treatment[1]	Rate	PRE Ratings - 41 DAT							
		Yeft	Wimu	Rrpw	Colq	Hans	Kochia	Corw	Cocb
	(product/A)	% control							
PRE/POST									
Dual II Mag/Resolve+Accent+Isoxadifen+Impact+Atrazine+ MSO+AMS	1pt/1oz+0.5oz+0.25oz+0.5fl oz+0.56lb+ 1% v/v+2lb	62	48	78	72	38	38	22	7
Dual II Mag/Accent+Harmony GT+Isoxadifen+Impact+Atrazine+ MSO+AS	1pt/0.67oz+0.12oz+0.5oz+0.5fl oz+ 1% v/v+2lb	63	43	73	73	33	33	23	13
Dual II Mag/Resolve+Harmony GT+Isoxadifen+RUOM+ NIS+AMS	1pt/0.76oz+0.28oz+0.19oz+27fl oz+ 0.25% v/v+2lb	63	43	73	73	33	33	23	13
Dual II Mag/Resolve +Harmony GT+Isoxadifen+RUOM+ NIS+AMS	1pt/0.92oz+0.1oz+0.23oz+27fl oz+ 0.25% v/v+2lb	63	43	73	68	33	33	23	13
Dual II Mag/Resolve+Dicamba+Isoxadifen+Impact+Atrazine+ MSO+AMS	1pt/1oz+2.76oz+0.25oz+0.5fl oz+0.56lb+ 1%v v/v+2lb	62	43	73	52	33	33	23	13
Dual II Mag/RUOM+AMS	1pt/27fl oz+2lb	62	43	73	43	33	33	23	13
Resolve+Atrazine/RUOM+AMS	1oz+0.56lb/27fl oz+2lb	73	99	99	82	96	70	32	0
Untreated		0	0	0	0	0	0	0	0
LSD (0.05)		5	2	2	6	2	5	5	15

[1]MSO = methylated seed oil = Scoil; AMS = ammonium sulfate; Dual II Mag = Dual II Magnum; RUOM = Roundup OriginalMax.

Table cont. Corn weed control with isoxadifen safener (Zollinger and Ries).

Treatment[1]	Rate	POST Ratings - 14 DAT							
		Yeft	Wimu	Rrpw	Colq	Hans	Kochia	Corw	Cocb
	(product/A)	% control							
PRE/POST									
Dual II Mag/Resolve+Accent+Isoxadifen+Impact+Atrazine+ MSO+AMS	1pt/1oz+0.5oz+0.25oz+0.5fl oz+0.56lb+ 1% v/v+2lb	99	99	99	99	99	99	70	99
Dual II Mag/Accent+Harmony GT+Isoxadifen+Impact+Atrazine+ MSO+AMS	1pt/0.67oz+0.12oz+0.5oz+0.5fl oz+ 1% v/v+2lb	99	99	99	99	99	99	70	99
Dual II Mag/Resolve+Harmony GT+Isoxadifen+RUOM+ NIS+AMS	1pt/0.76oz+0.28oz+0.19oz+27fl oz+ 0.25% v/v+2lb	99	99	99	99	99	99	99	99
Dual II Mag/Resolve +Harmony GT+Isoxadifen+RUOM+ NIS+AMS	1pt/0.92oz+0.1oz+0.23oz+27fl oz+ 0.25% v/v+2lb	99	99	99	87	99	99	99	99
Dual II Mag/Resolve+Dicamba+Isoxadifen+Impact+Atrazine+ MSO+AMS	1pt/1oz+2.76oz+0.25oz+0.5fl oz+0.56lb+ 1%v v/v+2lb	87	91	82	72	85	72	67	68
Dual II Mag/RUOM+AMS	1pt/27fl oz+2lb	96	99	99	99	99	99	99	99
Resolve+Atrazine/RUOM+AMS	1oz+0.56lb/27fl oz+2lb	96	99	99	99	99	99	99	99
POST									
Resolve+Accent+Isoxadifen+Impact+Atrazine+ MSO+AMS	1oz+0.5oz+0.25oz+0.5fl oz+0.56lb+ 1% v/v+2lb	70	99	99	99	99	99	70	99
Accent+Harmony GT+Isoxadifen+Impact+Atrazine+ MSO+AS	0.67oz+0.12oz+0.5oz+0.5fl oz+ 1% v/v+2lb	70	99	99	99	99	99	72	99
Resolve+Harmony GT+Isoxadifen+RUOM+ NIS+AMS	0.76oz+0.28oz+0.19oz+27fl oz+ 0.25% v/v+2lb	99	99	99	99	99	99	99	99
Resolve+Harmony GT+Isoxadifen+RUOM+ NIS+AMS	0.92oz+0.1oz+0.23oz+27fl oz+ 0.25% v/v+2lb	99	99	99	99	99	99	99	99
Resolve+Dicamba+Isoxadifen+Impact+Atrazine+ MSO+AMS	1oz+2.76oz+0.25oz+0.5fl oz+0.56lb+ 1%v v/v+2lb	86	99	99	87	99	99	99	99
Resolve+Harmony GT+Isoxadifen+Liberty+Atrazine+ NIS+AMS	0.76oz+0.28oz+0.19oz+2pt+13.3oz 0.25% v/v+2lb	93	99	99	99	99	99	99	99
RUOM+AMS	27fl oz+2lb	96	99	99	99	99	99	99	99
Liberty+Atrazine+AMS	2pt+13.3oz+2lb	84	99	99	99	99	99	99	99
Untreated		0	0	0	0	0	0	0	0
LSD (0.05)		4	1	1	2	2	1	2	1

[1]MSO = methylated seed oil = Scoil; AMS = ammonium sulfate; Dual II Mag = Dual II Magnum; RUOM = Roundup OriginalMax.

Table cont. Corn weed control with isoxadifen safener (Zollinger and Ries).

Treatment[1]	Rate	POST Ratings - 28 and 56 DAT							
		Yeft	Wimu	Rrpw	Colq	Hans	Kochia	Corw	Cocb
	(product/A)	% control							
PRE/POST									
Dual II Mag/Resolve+Accent+Isoxadifen+Impact+Atrazine+ MSO+AMS	1pt/1oz+0.5oz+0.25oz+0.5fl oz+0.56lb+ 1% v/v+2lb	92	99	99	99	99	99	70	99
Dual II Mag/Accent+Harmony GT+Isoxadifen+Impact+Atrazine+ MSO+AS	1pt/0.67oz+0.12oz+0.5oz+0.5fl oz+ 1% v/v+2lb	99	99	99	99	99	99	70	99
Dual II Mag/Resolve+Harmony GT+Isoxadifen+RUOM+ NIS+AMS	1pt/0.76oz+0.28oz+0.19oz+27fl oz+ 0.25% v/v+2lb	99	99	99	99	99	99	99	99
Dual II Mag/Resolve +Harmony GT+Isoxadifen+RUOM+ NIS+AMS	1pt/0.92oz+0.1oz+0.23oz+27fl oz+ 0.25% v/v+2lb	99	99	99	87	99	99	99	99
Dual II Mag/Resolve+Dicamba+Isoxadifen+Impact+Atrazine+ MSO+AMS	1pt/1oz+2.76oz+0.25oz+0.5fl oz+0.56lb+ 1%v v/v+2lb	93	99	92	70	82	72	67	68
Dual II Mag/RUOM+AMS	1pt/27fl oz+2lb	96	99	99	99	99	99	99	99
Resolve+Atrazine/RUOM+AMS	1oz+0.56lb/27fl oz+2lb	96	99	99	99	99	99	99	99
POST									
Resolve+Accent+Isoxadifen+Impact+Atrazine+ MSO+AMS	1oz+0.5oz+0.25oz+0.5fl oz+0.56lb+ 1% v/v+2lb	68	99	99	99	99	99	70	99
Accent+Harmony GT+Isoxadifen+Impact+Atrazine+ MSO+AS	0.67oz+0.12oz+0.5oz+0.5fl oz+ 1% v/v+2lb	76	99	99	99	99	99	72	99
Resolve+Harmony GT+Isoxadifen+RUOM+ NIS+AMS	0.76oz+0.28oz+0.19oz+27fl oz+ 0.25% v/v+2lb	99	99	99	99	99	99	99	99
Resolve +Harmony GT+Isoxadifen+RUOM+ NIS+AMS	0.92oz+0.1oz+0.23oz+27fl oz+ 0.25% v/v+2lb	93	99	99	99	99	99	99	99
Resolve+Dicamba+Isoxadifen+Impact+Atrazine+ MSO+AMS	1oz+2.76oz+0.25oz+0.5fl oz+0.56lb+ 1%v v/v+2lb	73	66	93	87	88	96	96	98
Resolve+Harmony GT+Isoxadifen+Liberty+Atrazine+ NIS+AMS	0.76oz+0.28oz+0.19oz+2pt+13.3oz 0.25% v/v+2lb	78	99	99	99	99	99	99	99
RUOM+AMS	27fl oz+2lb	90	99	99	99	99	99	99	99
Liberty+Atrazine+AMS	2pt+13.3oz+2lb	72	99	91	83	87	92	92	96
Untreated		0	0	0	0	0	0	0	0
LSD (0.05)		4	0	2	2	2	3	3	3

[1]MSO = methylated seed oil = Scoil; AMS = ammonium sulfate; Dual II Mag = Dual II Magnum; RUOM = Roundup OriginalMax.

Weed control in corn. (Jenks, Willoughby, Mazurek). 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^2; redroot pigweed was 1-inch tall with 3 plants/ft^2. On June 20, yellow foxtail was 5-8 inches tall with 20-30 plants/ft^2 (in the untreated); yellow foxtail was 1-3 inches tall with 5-15 plants/ft2 (in plots treated at V2 stage); redroot pigweed was 2-4 inches tall with 5-10 plants/ft^2. 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.

			Yellow foxtail		Redroot pigweed	
			----------% control----------			
Treatment[a]	Rate	Timing	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

[a] *Glyphosate (4.5 lb ae/gal) applied with AMS (2.5 gal/100 gal)*

Buccaneer Plus in Roundup Ready corn. Zollinger, Richard K. and Jerry L. Ries. An experiment was conducted near Prosper, ND, to evaluate weed efficacy from POST applications. DeKalb 'DKC38-92' Roundup Ready corn was planted May 3, 2007. POST treatments were applied on June 21 at 3:30 pm with 85 F air, 83 soil surface, 35% relative humidity, 25% cloud cover, 4 to 8 mph S wind, dry soil surface, moist subsoil, excellent corp vigor, and no dew present. Weed species in plots at time of application were: 4 to 14 inch (20 to 50/ft^2) yellow foxtail; 8 inch to bloom (1 to 15/yd^2) wild mustard; 6 to 14 inch (5 to 50/yd^2) common ragweed; 3 to 6 inch (10 to 15/yd^2) hairy nightshade; 4 to 14 inch (1 to 10/yd^2) common lambsquarters; 1 to 4 inch (1/yd^2) kochia, 1 to 4 inch (1/yd^2) common cocklebur, and 4 to 12 inch (1 to 5/ft^2) redroot pigweed. Treatments were applied to the center 6.7 feet of the 10 by 40 foot plots with a backpack-type plot sprayer delivering 8.5 gpa at 40 psi through 11001 Turbo TeeJet flat-fan nozzles. The experiment had randomized complete block design with three replicates per treatment.

At 14 and 28 DAT, all treatments gave 99% control of yellow foxtail, wild mustard, redroot pigweed, common lambsquarters, hairy nightshade, kochia, and common cocklebur. (Dept. of Plant Sciences, North Dakota State University, Fargo).

Table. Buccaneer Plus in Roundup Ready corn (Zollinger and Ries).

Treatment[1]	Rate	14 DAT Corw	28 DAT Corw
	(product/A)	- % control -	- % control -
Buccaneer Plus+	1pt+		
Callisto+Premier 90+Premium AMS	1.5fl oz+0.5% v/v+8.5lb/100gal	40	47
Callisto+Trophy Gold+Premium AMS	1.5fl oz+0.25% v/v+8.5lb/100gal	43	52
Callisto+Trophy Gold+N-Tense	1.5fl oz+0.25% v/v+0.5% v/v	40	82
Callisto+N-Tense	1.5fl oz+0.5% v/v	52	80
Impact+Premier 90+Premium AMS	0.25fl oz+0.5% v/v+8.5lb/100gal	47	40
Impact+Trophy Gold+Premium AMS	0.25fl oz+0.25% v/v+8.5lb/100gal	50	50
Impact+Trophy Gold+N-Tense	0.25fl oz+0.25% v/v+0.5% v/v	52	50
Impact+N-Tense	0.25fl oz+0.5% v/v	52	52
Status+Premier 90+Premium AMS	2.5oz+0.5% v/v+8.5lb/100gal	82	93
Status+Tropy Gold+N-Tense	2.5ox+0.25% v/v+0.5% v/v	82	92
Status+Trophy Gold+Premium AMS	2.5oz+0.25% v/v+8.5lb/100gal	87	97
LSD (0.05)		6	4

[1]Premier 90 = nonionic surfactant; Premium AMS = ammonium sulfate; Trophy Gold = oil based surfactants; N-Tense = surfactants + water conditioning agents.

HPPD herbicide weed control. Zollinger, Richard K. and Jerry L. Ries. An experiment was conducted near Leonard, ND, to evaluate weed control from HPPD-type herbicide tank-mixes. Wensman '6117' corn was planted on May 2, 2007. POST treatments were applied on June 27 at 8:45 am with 65 F air, 67 F soil surface, 67% relative humidity, 0% cloud cover, 4 to 7 mph NW wind, dry soil surface, moist subsoil, excellent crop vigor, and no dew present to V4 to V5 (18 to 24 inch) corn. Weed species present were: 4 to 12 inch (5 to 50/ft^2) yellow foxtail, and 3 to 12 inch (10 to 20/yd^2) common lambsquarters. Treatments were applied to the center 6.7 feet of the 10 by 40 foot plots with a backpack-type plot sprayer delivering 8.5 gpa at 40 psi through 11001 Turbo TeeJet flat-fan nozzles. The experiment had randomized complete block design with three replicates per treatment.

Isoxadifen is a safener imparting greater herbicide tolerance to corn by increasing metabolism of different active ingredients, including Balance Pro which is labeled only for soil application. Laudis and Impact applied with atrazine controlled yellow foxtail. (Dept. of Plant Sciences, North Dakota State University, Fargo).

Table. HPPD herbicide weed control (Zollinger and Ries).

Treatment[1]	Rate	14 DAT		28 and 42 DAT	
		Yeft	Colq	Yeft	Colq
	(product/A)	- - % control - -		- - % control - -	
Callisto+Atrazine+MSO+28% N	3fl oz+0.42lb+1.2pt+2.5% v/v	72	95	68	99
Laudis+Atrazine+MSO+28% N	2fl oz+0.42lb+1.2pt+2.5% v/v	78	90	85	99
Laudis+Atrazine+MSO+28% N	3fl oz+0.42lb+1.2pt+2.5% v/v	96	97	99	99
Impact+Atrazine+MSO+28% N	2fl oz+0.42lb+1.2pt+2.5% v/v	83	95	94	99
Impact+Atrazine+MSO+28% N	3fl oz+0.42lb+1.2pt+2.5% v/v	96	95	97	99
Steadfast+Callisto+Atrazine+ MSO+28% N	0.75oz+3fl oz+0.42lb+ 1.2pt+2.5% v/v	73	95	73	99
Accent+Resolve+Isoxadifen+Callisto+Atrazine+ MSO+28% N	0.5oz+0.38oz+0.25oz+0.42lb+ 1.2pt+2.5% v/v	73	95	73	99
Steadfast+Laudis+Atrazine+ MSO+28% N	0.75oz+2fl oz+0.42lb+ 1.2pt+2.5% v/v	72	95	83	99
Steadfast+Impact+Atrazine+ MSO+28% N	0.75oz+2fl oz+0.42lb+ 1.2pt+2.5% v/v	96	95	98	99
Resolve+Isoxadifen+Clarity+Atrazine+ MSO+28% N	1oz+0.25oz+4fl oz+0.42lb 1.2pt+2.5% v/v	53	91	63	99
Resolve+Isoxadifen+Balance Pro	1oz+0.25oz+1.5oz	50	99	62	99
Resolve+Isoxadifen+Harmony GT+Atrazine+ MSO+28% N	1oz+0.25oz+0.1oz+0.42lb+ 1.2pt+2.5% v/v	70	83	73	99
LSD (0.05)		8	5	6	NS

[1]MSO = methylated seed oil = Scoil; Isoxadifen = herbicide safener.

Glyphosate + Pursuit formulations. Zollinger, Richard K. and Jerry L. Ries. An experiment was conducted near Prosper, ND, to weed efficacy from application timings. 14 DBP (days before planting) treatments were applied on May 10 at 12:00 pm with 64 F air, 59 F soil at a four inch depth, 51% relative humidity, 0% cloud cover, 8 to 12 mph N wind, dry soil surface, and wet subsoil. Soil characteristics were 29.5% sand, 45.2% silt, 25.3% clay, loam texture, 3.9% OM, pH 7.5. Asgrow 'AG0801' soybean was planted on May 24, 2007. 21 DAP (days after planting) treatments were applied on June 21 at 10:35 am with 74 F air, 72 F soil surface, 50% relative humidity, 40% cloud cover, 8 to 13 mph SE wind, dry soil surface, moist subsoil, excellent crop vigor, and no dew present to V2 (4 to 6 inch) soybean. Weed species present in plots with POST only applications were: 4 to 10 inch (1 to 50/ft^2) yellow foxtail; 2 to 3 inch (1/yd^2) common cocklebur; (1/yd^2) common ragweed; 1 to 4 inch (5 to 10/yd^2) hairy nightshade; 1 to 3 inch (1 to 2/yd^2) common lambsquarters, 1 to 3 inch (1/yd^2) wild buckwheat, and 1 to 3 inch (1 to 2/yd^2) redroot pigweed. Treatments were applied to the center 6.7 feet of the 10 by 40 foot plots with a backpack-type plot sprayer delivering 17 gpa at 40 psi through 11002 Turbo TeeJet flat-fan nozzles for PRE treatments and 8.5 gpa at 40 psi through 11001 Turbo TeeJet flat-fan nozzles with a backpack-type plot sprayer for POST treatments. The experiment had randomized complete block design with three replicates per treatment.

On June 28 (7 dat), there was no injury. On July 5 and 19, all treatments gave 99% control of yellow foxtail, redroot pigweed, common lambsquarters, hairy nightshade, and wild buckwheat (data not shown). (Dept. of Plant Sciences, North Dakota State University, Fargo).

Table. Glyphosate + Pursuit formulations (Zollinger and Ries).

		June 20							July 5		July 19	
Treatment[1]	Rate	Yeft	Rrpw	Colq	Hans	Wibw	Corw	Cocb	Corw	Cocb	Corw	Cocb
	(product/A)	% control							% control		% control	
14 DBP												
Glyfos Extra+Pursuit+AMS	1qt+2fl oz+2.5lb	85	99	75	99	87	52	45	42	42	22	20
Glyfos Extra+Pursuit+AMS	1qt+3fl oz+2.5lb	90	99	73	95	95	68	62	72	82	70	85
Extreme+R-11+AMS	3pt+0.25% v/v+2.5lb	96	99	95	99	95	89	93	68	92	73	95
14DBP/21DAP												
Glyfos Extra+Pursuit+AMS/ Glyfos Extra+Pursuit+AMS	1qt+2fl oz+2.5lb/ 1qt+2fl oz+2.5lb	96	99	95	99	95	89	88	99	99	99	99
21 DAP												
Glyfos Extra+Pursuit+AMS	1qt+2fl oz+2.5lb								91	99	95	99
Glyfos Extra+Pursuit+AMS	1qt+3fl oz+2.5lb								96	99	96	99
Extreme+R-11+AMS	3pt+0.25% v/v+2.5lb								82	99	94	99
LSD (0.05)		4	NS	10	6	3	8	8	6	3	5	12

[1]AMS = ammonium sulfate.

PRE soybean weed control. Zollinger, Richard K. and Jerry L. Ries. An experiment was conducted near Prosper, ND, to evaluate weed efficacy from PRE and PRE fb POST applications. Asgorw 'AG0401' soybean was planted on May 10, 2007. PRE treatments were applied on May 11 at 3:00 pm with 57 F air, 58 F soil at a four inch depth, 80% relative humidity, 100% cloud cover, 3 to 5 mph E wind, wet soil surface, and wet subsoil. Soil characteristics were 28.2% sand, 45.6% silt, 26.2% clay, loam texture, 3.7% OM, and pH 7.7. POST treatments were applied on June 21 at 10:10 am with 72 F air, 72 F soil surface, 40% relative humidity, 50% cloud cover, 8 to 12 mph SE wind, dry soil surface, moist subsoil, excellent crop vigor, and no dew present to V2 to V3 (6 to 10 inch) soybean. Weed species present in plots with PRE applications were: 4 to 10 inch (5 to 20/ft^2) yellow foxtail; 2 to 8 inch (1/yd^2) common cocklebur; 1 to 3 inch (1 to 2/yd^2) common lambsquarters; 1 to 3 inch (1/yd^2) common ragweed; 2 to 3 inch (1/yd^2) hairy nightshade; and 1 to 3 inch (1/yd^2) wild buckwheat. Weed species present in plots with POST only applications were: 4 to 10 inch (5 to 20/ft^2) yellow foxtail; 4 to 8 inch (1/ yd^2) common cocklebur; 3 to 6 inch (2 to 5 /yd^2) common lambsquarters; 2 to 4 inch (1/yd^2) common ragweed; 12 to 18 inch (5 to 20/yd^2) wild oat; 2 to 3 inch (1/yd^2) hairy nightshade; and 2 to 4 inch (1/yd^2) wild buckwheat. Treatments were applied to the center 6.7 feet of the 10 by 40 foot plots with a backpack-type plot sprayer delivering 17 gpa at 40 psi through 11002 Turbo TeeJet flat-fan nozzles for PRE treatments and 8.5 gpa at 40 psi through 11001 Turbo TeeJet flat-fan nozzles with a backpack-type plot sprayer for POST treatments. The experiment had randomized complete block design with three replicates per treatment.

On June 28 (7 dat) there was no soybean injury. All PRE treatments at 14 and 28 DAT had 99% redroot pigweed control. Rates of Dual Magnum + Reflex are similar to commercial mixtures of Prefix. Authority First controlled all broadleaf weeds. (Dept. of Plant Sciences, North Dakota State University, Fargo).

Table. PRE soybean weed control (Zollinger and Ries).

		41 DAT - PRE					
Treatment	Rate	Yeft	Colq	Hans	Wibw	Corw	Cocb
	(product/A)	% control					
PRE							
Authority First	3.2oz	72	99	99	99	99	99
Authority First	4oz	72	99	99	99	99	99
Dual Magnum+Reflex	1.1pt+1pt	90	47	85	40	75	30
PRE/POST							
Authority First/Roundup OriginalMax	3.2oz/22fl oz	72	99	99	99	99	99
Authority First/Roundup OriginalMax	4oz/22fl oz	72	99	99	99	99	99
Dual Magnum+Reflex/Roundup OriginalMax	1.1pt+1pt/22fl oz	92	40	86	40	73	30
LSD (0.05)		5	5	1	8	2	10

Table cont. PRE soybean weed control (Zollinger and Ries).

		14 DAT - POST							28 DAT - POST						
Treatment	Rate	Yeft	Wioa	Colq	Hans	Wibw	Corw	Cocb	Yeft	Wioa	Colq	Hans	Wibw	Corw	Cocb
	(product/A)	% control							% control						
PRE															
Authority First	3.2oz	72	22	99	99	99	99	99	67	22	99	99	99	99	99
Authority First	4oz	72	72	99	99	99	88	72	70	70	99	99	99	88	88
Dual Magnum+Reflex	1.1pt+1pt	90	50	50	90	52	88	52	95	50	50	93	52	88	52
PRE/POST															
Authority First/Roundup O-max	3.2oz/22fl oz	99	99	99	99	99	99	99	90	99	99	99	99	99	99
Authority First/Roundup O-Max	4oz/22fl oz	99	99	99	99	99	99	99	99	99	99	99	99	99	99
Dual Magnum+Reflex/RU O-max	1.1pt+1pt/22fl oz	99	99	99	99	99	99	99	93	99	99	99	99	99	99
LSD (0.05)		3	3	9	4	2	3	3	6	2	9	2	2	3	6

Soybean weed control with Valor and Sencor. Zollinger, Richard K. And Jerry L. Ries. An experiment was conducted near Buffalo, ND, to evaluate crop injury and weed efficacy from treatments applied PRE. Pioneer '90B43' soybean was planted on May 22, 2007. PRE treatments were applied on May 24 at 10:25 am with 48 F air, 53 soil at a 4 inch depth, 45% relative humidity, 100% cloud cover, 8 to 12 mph W wind, moist soil surface, and wet subsoil. Soil characteristics were 31.4% sand, 49.5% silt, 19.1% clay, 6.3% OM, and pH 7.8. Treatments were applied to the center 6.7 feet of the 10 by 40 foot plots with a bicycle-type plot sprayer delivering 17 gpa at 40 psi through 11002 Turbo TeeJet flat-fan nozzles. The experiment had randomized complete block design with three replicates per treatment.

A high pH soil was desired. All treatment were safe on soybean and completely controlled weeds. (Dept. of Plant Sciences, North Dakota State University, Fargo).

Table. Soybean weed control with Valor and Sencor (Zollinger and Ries).

		24 DAT			
Treatment[1]	Rate	Soybean	Wimu	Koch	Biww
	(product/A)	- % injury -	- - - - - - - - - % control - - - - - - - - -		
Valor	1.75oz	0	99	99	99
Valor+Sencor	1.75oz+3oz	0	99	99	99
Valor+Sencor	1.75oz+4oz	0	99	99	99
Valor+Sencor	1.75oz+5oz	0	99	99	99
Valor+Sencor	1.75oz+6oz	0	99	99	99
Valor+Sencor	1.75oz+8oz	0	99	99	99
Untreated		0	0	0	0
LSD (0.05)		NS	NS	NS	NS

Buccaneer Plus in Roundup Ready soybean. Zollinger, Richard K. and Jerry L. Ries. An experiment was conducted near Prosper, ND, to evaluate weed efficacy from Buccaneer Plus and adjuvants. Asgrow 'AG0401' soybean was planted on May 10, 2007. POST treatments were applied on June 21 at 10:45 am with 74 F air, 72 soil surface, 40% relative humidity, 25% cloud cover, 8 to 13 mph SE wind, dry soil surface, moist subsoil, excellent crop vigor and no dew present to V3 to V4 (6 to 10 inch) soybean. Weed species present were: 6 to 10 inch (20 to 50/ft^2) yellow foxtail; 6 to 10 inch (5 to 15/yd^2) redroot pigweed; 8 to 14 inch (5 to 15/yd^2) common lambsquarters; 2 to 10 inch (1 to 5/yd^2) common cocklebur; 3 to 10 inch (5 to 25/yd^2) common ragweed; 1 to 3 inch (1/yd^2) wild buckwheat; and 2 to 5 inch (5 to 10/yd^2) hairy nightshade. Treatments were applied to the center 6.7 feet of the 10 by 40 foot plots with a backpack-type plot sprayer delivering 8.5 gpa at 40 psi through 11001 Turbo TeeJet flat-fan nozzles. The experiment had randomized complete block design with three replicates per treatment.

Greatest herbicide enhancement was weed and adjuvant specific. (Dept. of Plant Sciences, North Dakota State University, Fargo).

Table. Buccaneer Plus in Roundup Ready soybean (Zollinger and Ries).

		14 DAT							28 DAT						
Treatment[1]	Rate	Yeft	Rrpw	Colq	Hans	Wibw	Corw	Cocb	Yeft	Rrpw	Colq	Hans	Wibw	Corw	Cocb
	(product/A)	% control							% control						
Buccaneer Plus +	1pt +	99	72	82	78	63	65	90	88	74	75	73	63	63	87
Premium AMS	8.5lb/100gal	99	90	86	88	87	79	95	90	88	86	94	92	90	98
N-Tense	0.5% v/v	99	87	82	89	88	77	95	90	73	75	93	91	87	96
WC 060	1% v/v	99	90	87	90	88	85	95	90	90	89	98	93	96	95
WC 061	0.75% v/v	99	87	85	85	86	76	90	90	83	78	80	86	80	90
WC 064	1% v/v	99	90	84	87	89	77	94	90	90	92	92	93	92	95
LSD (0.05)		NS	3	7	7	4	4	1	2	4	3	6	5	8	5

[1]Premium AMS = ammonium sulfate; N-Tense = surfactants + water conditioning agents; WC 060, 061, and 064 = proprietary compounds from West Central.

Weed management in STS/RR soybean, Carrington, 2007. Gregory Endres. The trial had a randomized complete block design with four replicates. Trial area was shallow tilled with a field cultivar prior to planting Pioneer 'STS/RR' soybean at 200,000 pls/A in 7-inch rows on May 28. Herbicide treatment was applied to 5 by 25 ft plots with a CO_2 pressurized hand-held plot sprayer at 10 gal/A and 35 psi through 8001 flat fan nozzles on June 22 with 85 F, 53% RH, 95% clear sky, and 5 mph wind to V1- to 2-stage soybean, 0.5- to 2-inch tall common lambsquarters, 1- to 3-inch diameter common purslane and 0.5- to 3-inch tall redroot pigweed.

Weed control was excellent (94-99%) with Harmony GT + RU Weather Max (Table). No crop injury was detected from herbicides (data not shown).

Table.

		Weed control[1]					
Herbicide[2]		6-Jul-07			20-Jul-07		
Treatment	Rate	colq	copu	rrpw	colq	copu	rrpw
	product/A						
Untreated check	x	0	0	0	0	0	0
Harmony GT + RU WeatherMax + AMS	0.33 oz + 22 fl oz + 64 fl oz	96	97	99	96	94	99
C.V. (%)		3.0	2.8	0	5.8	6.6	0
LSD (0.05)		3	3	0	6	7	0

[1]colq=common lambsquarters; copu=common purslane; rrpw=redroot pigweed.

[2]Treatments: Harmony GT = thifensulfuron formulated as 75XP from DuPont; RU WeatherMax = glyphosate at 4.5 lb ae/gal with full-load adjuvant from Monsanto.