

Northeast Research & Extension Center

2008 KIH-485 applied PRE in corn with sequential glyphosate application

Trial ID: 23 08 KIH Corn3PREfbRR Protocol ID: 08 KIH Corn 3 PRE fbRR
Location: Concord, NE Study Director: Stevan Knezevic
Investigator: Stevan Knezevic

General Trial Information

Study Director: Stevan Knezevic
Investigator: Stevan Knezevic

Trial Location

City: Concord
State/Prov.: NE
Postal Code: 68728
Country: USA

Cooperator/Landowner

Cooperator: Haskell Agricultural Laboratory Country: USA
Organization: University of Nebraska Phone No: 402-584-2261
Address 1: 57905 866 RD Fax No: 402-584-3859
City: Concord
State/Prov: NE
Postal Code: 68728

Crop Description

Crop 1: ZEAMX Zea mays Corn
Variety: Pioneer 35F40 Description: HX1 LL RR2
BBCH Scale: BCOR Planting Date: 06-04-08
Planting Method: seeded Rate, Unit: 24503 s/a
Depth, Unit: 1.75 in
Row Spacing, Unit: 30 in
Soil Moisture: ABOVE NORMAL
Harvest Date: 11-26-08 Harvest Equipment: Almaco 40
Harvested Width, Unit: 5 ft Harvested Length, Unit: 27 ft
% Standard Moisture: 15.5 Moisture Meter: Almaco
Weighing Equipment: Almaco

Pest Description

Pest 1 Type: W Code: SETVI Setaria viridis (L.) P.Beauv.
Common Name: Foxtail, green
Pest 2 Type: W Code: ABUTH Abutilon theophrasti Medik.
Common Name: Velvetleaf
Pest 3 Type: W Code: AMATU Amaranthus tuberculatos (Moq.) J
Common Name: Waterhemp, tall

Site and Design

Plot Width, Unit: 10 FT Site Type: FIELD
Plot Length, Unit: 30 FT Tillage Type: NO-TILL
Replications: 3 Study Design: Randomized Complete Block

Table with 4 columns: Previous Crops, Previous Pesticides, Year. Row 1: Soybean, glyphosate, 2007

Maintenance

Table with 9 columns: No., Date, Maintenance Treatment Name, Form Conc, Form Unit, Form Type, Rate, Rate Unit, Tank Mix. Rows 1-2: glyphosate applications on 05-18-08 and 06-04-08.

Soil Description

% Sand: 12 % OM: 3.4 Texture: SILT LOAM
% Silt: 62 pH: 6.7 Soil Name: Baltic
% Clay: 26 CEC: 20.4 Fert. Level: excellent

Application Description

	A	B	C
Application Date:	06-04-08	06-18-08	07-01-08
Time of Day:	5:00 pm	11:00 am	10:00 am
Application Method:	spray	spray	spray
Application Timing:	PRE	EPOST	POST
Application Placement:	surface	foliar	foliar
Applied By:	js	ad	ad
Air Temperature, Unit:	75 F	81 F	78 F
% Relative Humidity:	70	40	60
Wind Velocity, Unit:	1 mph	2 mph	2.5 mph
Wind Direction:	var	S	S
Dew Presence (Y/N):	n	n	n
Soil Temperature, Unit:	68 F	72 F	65 F
Soil Moisture:	EXCESSIVE	ADEQUATE	ADEQUATE
% Cloud Cover:	100	50	10
Next Rain Occurred On:	06-05-08		

Crop Stage At Each Application

	A	B	C
Crop 1 Code, BBCH Scale:	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR
Stage Scale Used:		BBCH	BBCH
Stage Majority, Percent:		V2 90	V7 50
Stage Maximum, Percent:		V3 10	V8 50
Height, Unit:		6 in	24 in

Pest Stage At Each Application

	A	B	C
Pest 1 Code, Disc., Scale:	SETVI W	SETVI W	SETVI W
Height, Unit:		1.5 in	3.5 in
Height Minimum, Maximum:		1 2	3 4
Density, Unit:		20 m2	5 m2
Pest 2 Code, Disc., Scale:	ABUTH W	ABUTH W	ABUTH W
Height, Unit:		1.5 in	5 in
Height Minimum, Maximum:		1 2	4 6
Density, Unit:		10 m2	5 m2
Pest 3 Code, Disc., Scale:	AMATU W	AMATU W	AMATU W
Height, Unit:		1 in	5 in
Height Minimum, Maximum:			4 6
Density, Unit:		1 m2	5 m2

Application Equipment

	A	B	C
Appl. Equipment:	backpack	BACKPACK	BACKPACK
Operating Pressure, Unit:	20 psi	40 PSI	40 PSI
Nozzle Type:	Turbo Tee	TURBO TEE	TURBO TEE
Nozzle Size:	11003	11002	11002
Nozzle Spacing, Unit:	20 IN	20 IN	20 IN
Boom Length, Unit:	10 FT	10 FT	10 FT
Boom Height, Unit:	12 IN	12 IN	12 IN
Ground Speed, Unit:	2.7 MPH	2.7 MPH	2.7 MPH
Carrier:	WATER	WATER	WATER
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA
Mix Size, Unit:	1.8 Liters	1.8 Liters	1.8 Liters
Propellant:	co2	co2	co2

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Trial ID: 23 08 KIH Corn3PREfbRR Protocol ID: 08 KIH Corn 3 PRE fbRR
 Location: Concord, NE Study Director: Stevan Knezevic
 Investigator: Stevan Knezevic

Description						Corn, field	Corn, field	Corn, field	Corn, field	Corn, field	Green foxtail	Green foxtail	Green foxtail	Green foxtail
Rating Date						11-26-08	11-26-08	07-03-08	07-18-08	08-06-08	07-03-08	07-18-08	07-18-08	08-06-08
Rating Data Type						Yield	Moisture	Stunting	Stunting	Stunting	Control	Control	Density	Control
Rating Unit						Bu/A15.5	%	Percent	Percent	Percent	Percent	Percent	m2 RunCH	Percent
Days After First/Last Applic.						175 148	175 148	29 2	44 17	63 36	29 2	44 17	44 17	63 36
Plant-Eval Interval						175 DP-1	175 DP-1	29 DP-1	44 DP-1	63 DP-1	29 DP-1	44 DP-1	44 DP-1	63 DP-1
Trt No.	Treatment Name	Rate	Other Rate	Other Rate	Growth Stage									
1	Nontreated Check					154.1 b	14.6 a-d	0.0 a	0.0 b	0.0 a	0.0 f	0.0 f		0.0 e
2	KIH-485	1.4 oz/a	83 g a/ha		PRE	196.5 a	14.6 a-d	0.0 a	5.0 a	0.0 a	51.7 e	85.0 de	13.3 a	99.0 a
	Roundup PowerMAX	22 oz/a	1060 g a/ha		POST									
	Ammonium Sulfate	17 lb/100 gal			POST									
3	KIH-485	2.1 oz/a	125 g a/ha		PRE	197.6 a	14.0 d	0.0 a	5.0 a	0.0 a	60.0 de	88.3 cd	35.0 a	99.0 a
	Roundup PowerMAX	22 oz/a	1060 g a/ha		POST									
	Ammonium Sulfate	17 lb/100 gal			POST									
4	KIH-485	2.8 oz/a	166 g a/ha		PRE	186.0 a	14.4 cd	0.0 a	5.0 a	0.0 a	73.3 bcd	88.3 cd	21.7 a	99.0 a
	Roundup PowerMAX	22 oz/a	1060 g a/ha		POST									
	Ammonium Sulfate	17 lb/100 gal			POST									
5	KIH-485	3.5 oz/a	209 g a/ha		PRE	196.2 a	14.3 cd	0.0 a	5.0 a	0.0 a	82.3 abc	95.0 ab	23.3 a	99.0 a
	Roundup PowerMAX	22 oz/a	1060 g a/ha		POST									
	Ammonium Sulfate	17 lb/100 gal			POST									
6	Dual II Magnum	1.67 pt/a	1790 g a/ha		PRE	200.2 a	14.2 d	0.0 a	5.0 a	0.0 a	81.7 abc	91.7 bc	28.3 a	99.0 a
	Roundup PowerMAX	22 oz/a	1060 g a/ha		POST									
	Ammonium Sulfate	17 lb/100 gal			POST									
7	Surpass	1.52 pt/a	1489 g a/ha		PRE	187.3 a	14.3 d	0.0 a	5.0 a	0.0 a	68.3 cd	90.0 bcd	16.7 a	99.0 a
	Roundup PowerMAX	22 oz/a	1060 g a/ha		POST									
	Ammonium Sulfate	17 lb/100 gal			POST									
8	KIH-485	8.4 oz/a	500 g a/ha		PRE	188.7 a	15.0 abc	0.0 a	5.0 a	0.0 a	88.0 ab	99.0 a	40.0 a	99.0 a
	Roundup PowerMAX	22 oz/a	1060 g a/ha		POST									
	Ammonium Sulfate	17 lb/100 gal			POST									
9	KIH-485	1.4 oz/a	83 g a/ha		V2-V3	192.0 a	15.2 a	0.3 a	0.0 b	0.0 a	94.3 a	81.7 e	46.7 a	75.0 d
	Roundup PowerMAX	22 oz/a	1060 g a/ha		V2-V3									
	Ammonium Sulfate	17 lb/100 gal			V2-V3									
10	KIH-485	2.1 oz/a	125 g a/ha		V2-V3	192.0 a	15.1 ab	0.0 a	0.0 b	0.0 a	96.3 a	86.7 cde	33.3 a	82.3 c
	Roundup PowerMAX	22 oz/a	1060 g a/ha		V2-V3									
	Ammonium Sulfate	17 lb/100 gal			V2-V3									
11	KIH-485	3.5 oz/a	209 g a/ha		V2-V3	194.2 a	14.4 bcd	0.0 a	0.0 b	0.0 a	96.3 a	88.3 cd	43.3 a	84.0 b
	Roundup PowerMAX	22 oz/a	1060 g a/ha		V2-V3									
	Ammonium Sulfate	17 lb/100 gal			V2-V3									
LSD (P=.05)						15.32	0.75	0.30	0.00	0.00	15.04	5.14	25.34	1.56
Standard Deviation						9.00	0.44	0.17	0.00	0.00	8.83	3.02	14.77	0.92
CV						4.75	3.01	574.46	0.0	0.0	12.26	3.71	48.96	1.08
Grand Mean						189.52	14.55	0.03	3.18	0.0	72.03	81.27	30.17	84.94
Replicate F						2.242	0.994	1.000	0.000	0.000	4.388	1.000	0.474	1.119
Replicate Prob(F)						0.1323	0.3876	0.3855	1.0000	1.0000	0.0263	0.3855	0.6302	0.3462
Treatment F						5.852	2.368	1.000	0.000	0.000	30.358	247.000	1.778	3111.199
Treatment Prob(F)						0.0004	0.0484	0.4755	1.0000	1.0000	0.0001	0.0001	0.1428	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Description						Velvetleaf	Velvetleaf	Velvetleaf	Velvetleaf	Waterhemp	Waterhemp	Waterhemp	Waterhemp
Rating Date						07-03-08	07-18-08	07-18-08	08-06-08	07-03-08	07-18-08	07-18-08	08-06-08
Rating Data Type						Control	Control	Density	Control	Control	Control	Density	Control
Rating Unit						Percent	Percent	m2 RunCH	Percent	Percent	Percent	m2 RunCH	Percent
Days After First/Last Applic.						29 2	44 17	44 17	63 36	29 2	44 17	44 17	63 36
Plant-Eval Interval						29 DP-1	44 DP-1	44 DP-1	63 DP-1	29 DP-1	44 DP-1	44 DP-1	63 DP-1
Trt No.	Treatment Name	Rate	Other Rate	Other Rate Unit	Growth Stage								
1	Nontreated Check					0.0 d	0.0 e		0.0 f	0.0 d	0.0 b		0.0 c
2	KIH-485 Roundup PowerMAX Ammonium Sulfate	1.4 oz/a 22 oz/a 17 lb/100 gal	83 g a/ha 1060 g a/ha		PRE POST POST	48.3 c	88.3 cd	16.7 a	99.0 a	60.0 c	97.3 a	28.3 a	99.0 a
3	KIH-485 Roundup PowerMAX Ammonium Sulfate	2.1 oz/a 22 oz/a 17 lb/100 gal	125 g a/ha 1060 g a/ha		PRE POST POST	46.7 c	91.7 bc	21.7 a	99.0 a	75.0 bc	99.0 a	8.3 a	99.0 a
4	KIH-485 Roundup PowerMAX Ammonium Sulfate	2.8 oz/a 22 oz/a 17 lb/100 gal	166 g a/ha 1060 g a/ha		PRE POST POST	70.0 b	90.0 bc	8.3 a	99.0 a	94.7 a	98.7 a	18.3 a	99.0 a
5	KIH-485 Roundup PowerMAX Ammonium Sulfate	3.5 oz/a 22 oz/a 17 lb/100 gal	209 g a/ha 1060 g a/ha		PRE POST POST	92.0 a	95.0 ab	25.0 a	98.3 ab	96.7 a	99.0 a	8.3 a	99.0 a
6	Dual II Magnum Roundup PowerMAX Ammonium Sulfate	1.67 pt/a 22 oz/a 17 lb/100 gal	1790 g a/ha 1060 g a/ha		PRE POST POST	43.3 c	90.0 bc	8.3 a	99.0 a	78.0 b	97.7 a	20.0 a	99.0 a
7	Surpass Roundup PowerMAX Ammonium Sulfate	1.52 pt/a 22 oz/a 17 lb/100 gal	1489 g a/ha 1060 g a/ha		PRE POST POST	18.3 d	86.7 cd	8.3 a	95.3 b	86.3 ab	96.3 a	10.0 a	99.0 a
8	KIH-485 Roundup PowerMAX Ammonium Sulfate	8.4 oz/a 22 oz/a 17 lb/100 gal	500 g a/ha 1060 g a/ha		PRE POST POST	90.7 a	99.0 a	25.0 a	99.0 a	99.0 a	99.0 a	15.0 a	99.0 a
9	KIH-485 Roundup PowerMAX Ammonium Sulfate	1.4 oz/a 22 oz/a 17 lb/100 gal	83 g a/ha 1060 g a/ha		V2-V3 V2-V3 V2-V3	88.0 ab	83.3 d	23.3 a	80.0 e	99.0 a	96.3 a	20.0 a	98.0 ab
10	KIH-485 Roundup PowerMAX Ammonium Sulfate	2.1 oz/a 22 oz/a 17 lb/100 gal	125 g a/ha 1060 g a/ha		V2-V3 V2-V3 V2-V3	98.3 a	86.7 cd	15.0 a	84.3 d	99.0 a	97.3 a	23.3 a	98.3 a
11	KIH-485 Roundup PowerMAX Ammonium Sulfate	3.5 oz/a 22 oz/a 17 lb/100 gal	209 g a/ha 1060 g a/ha		V2-V3 V2-V3 V2-V3	96.0 a	90.0 bc	16.7 a	88.3 c	99.0 a	97.3 a	8.3 a	95.7 b
LSD (P=.05)						19.35	5.01	16.05	3.06	15.88	2.79	16.35	2.58
Standard Deviation						11.36	2.94	9.35	1.80	9.32	1.64	9.53	1.51
CV						18.06	3.59	55.57	2.1	11.56	1.84	59.57	1.69
Grand Mean						62.88	81.88	16.83	85.58	80.61	88.91	16.0	89.55
Replicate F						3.850	0.614	1.667	1.248	2.303	0.913	0.358	0.753
Replicate Prob(F)						0.0385	0.5511	0.2167	0.3086	0.1258	0.4173	0.7041	0.4839
Treatment F						26.624	262.358	1.597	791.486	30.391	971.624	1.676	1154.819
Treatment Prob(F)						0.0001	0.0001	0.1901	0.0001	0.0001	0.0001	0.1678	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)
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Additional Treatment Information
Rate Unit
OZ/A = Ounces Product per Acre (Metric=ML-G/HA)O
LB/100 GAL = Pounds Dry Product per 100 Gallons Mix (Metric=KG/100 L)]
PT/A = Pints Product per Acre (Metric=L/HA)]P
Other Rate Unit
G A/HA = Grams Active Ingredient per Hectare