

Northeast Research & Extension Center

2008 BAS 800H No Till Corn Burndown and Residual medium soil

Trial ID: 10 08 BAS C97 Corn EPP Protocol ID: 08 BAS C97 Corn EPP
 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 HX1 RR2 LL
 BBCH Scale: BCOR Planting Date: 06-04-08
 Planting Method: seeded Rate, Unit: 24503 s/a
 Depth, Unit: 2 in
 Row Spacing, Unit: 30 in
 Harvest Date: 11-18-08 Harvest Equipment: Gleaner K almaco
 Harvested Width, Unit: 7.5 ft Harvested Length, Unit: 27.5 ft
 % Standard Moisture: 15.5

Pest Description

Pest 1 Type: W Code: LAMAM Lamium amplexicaule L.
 Common Name: Henbit

Pest 2 Type: W Code: ERICA Erigeron canadensis L.
 Common Name: Horseweed

Pest 3 Type: W Code: THLAR Thlaspi arvense L.
 Common Name: Pennycress, field

Pest 4 Type: W Code: DESPI Descurainia pinnata (Walt.) Brit
 Common Name: Tansymustard

Pest 5 Type: W Code: SETVI Setaria viridis (L.) P.Beauv.
 Common Name: Foxtail, green

Pest 6 Type: W Code: DIGSA Digitaria sanguinalis (L.) Scop.
 Common Name: Crabgrass, large

Pest 7 Type: W Code: CCHIN Cenchrus incertis M.A.Curtis
 Common Name: Sandbur, field

Pest 8 Type: W Code: ABUTH Abutilon theophrasti Medik.
 Common Name: Velvetleaf

Pest 9 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

Soil Description

% Sand: 60 % OM: 2.0 Texture: SANDY LOAM
 % Silt: 32 pH: 7.4
 % Clay: 8 CEC: 12.7 Fert. Level: EXCELLENT

Application Description

	A	B	C
Application Date:	05-09-08	05-26-08	06-05-08
Time of Day:	4 pm	4 pm	11 am
Application Method:	spray	spray	spray
Application Timing:	EPP 26	EPP 9	PRE
Application Placement:	foliar	foliar	surface
Applied By:	js	js	rr su
Air Temperature, Unit:	61 F	66 F	65 F
% Relative Humidity:	58	50	90
Wind Velocity, Unit:	2 mph	8 mph	8 mph
Wind Direction:	sw	nw	e
Dew Presence (Y/N):	n	n	y
Soil Temperature, Unit:	52 F	60 F	64 F
Soil Moisture:	EXCESSIVE	EXCESSIVE	EXCESSIVE
% Cloud Cover:	100	10	

Crop Stage At Each Application

	A	B	C
Crop 1 Code, BBCH Scale:	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR

Pest Stage At Each Application

	A	B	C
Pest 1 Code, Disc., Scale:	LAMAM W	LAMAM W	LAMAM W
Diameter, Unit:	4 in	8 in	
Height, Unit:	4 in	8 in	
Density, Unit:	4 m2	4 m2	
Pest 2 Code, Disc., Scale:	ERICA W	ERICA W	ERICA W
Diameter, Unit:	4 in	6 in	
Height, Unit:	2 in	6 in	
Density, Unit:	20 m2	20 m2	
Pest 3 Code, Disc., Scale:	THLAR W	THLAR W	THLAR W
Diameter, Unit:	4 in	6 in	
Height, Unit:	8 in	15 in	
Height Minimum, Maximum:		12 15	
Density, Unit:	20 m2	20 m2	
Pest 4 Code, Disc., Scale:	DESPI W	DESPI W	DESPI W
Diameter, Unit:	4 in	6 in	
Height, Unit:	7 in	15 in	
Height Minimum, Maximum:	6 8	12 18	
Density, Unit:	20 m2	20 m2	
Pest 5 Code, Disc., Scale:	SETVI W	SETVI W	SETVI W
Pest 6 Code, Disc., Scale:	DIGSA W	DIGSA W	DIGSA W
Pest 7 Code, Disc., Scale:	CCHIN W	CCHIN W	CCHIN W
Pest 8 Code, Disc., Scale:	ABUTH W	ABUTH W	ABUTH W
Pest 9 Code, Disc., Scale:	AMATU W	AMATU W	AMATU W

Application Equipment

	A	B	C
Appl. Equipment:	backpack	backpack	backpack
Operating Pressure, Unit:	20 psi	20 psi	20 psi
Nozzle Type:	Turbo Tee	Turbo Tee	Turbo Tee
Nozzle Size:	11003	11003	11003
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

Date 11-18-08 By js Notes Yield data while presented should not be considered representative of 800 in general. Trial was placed on slope with rep 3 having 60% + sand, rep 2 slightly less and rep 1 closer to 30% sand. Yields are more related to sand content than weed control.

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Description							Corn, field	Corn, field	Corn, field	Corn, field	Corn, field	Henbit	Marestail	Pennycress	Tansymustard
Rating Date							11-18-08	11-18-08	11-18-08	11-18-08	11-18-08	05-31-08	05-31-08	05-31-08	05-31-08
Rating Data Type							Yield	Moisture	Plot wt.	Plot width	Plot length	Control	Control	Control	Control
Rating Unit							bu/A	Percent	lb	ft	ft	Percent	Percent	Percent	Percent
Days After First/Last Applic.							193 166	193 166	193 166	193 166	193 166	22 5	22 5	22 5	22 5
Plant-Eval Interval							167 DP-1	167 DP-1	167 DP-1	167 DP-1	167 DP-1	-4 DP-1	-4 DP-1	-4 DP-1	-4 DP-1
Trt No.	Treatment Name	Rate	Unit	Other Rate	Other Rate Unit	Growth Stage									
12	LUMAX	53.6	oz/a	3.35	pt/a	EPP 9	117.0 ab	15.5 a	31.1 abc	7.5 a	27.5 a	66.7 d	71.7 c	60.0 c	60.0 d
	Roundup PowerMAX	17.4	oz/a	840	g a/ha	EPP 9									
	NIS	0.25	% v/v			EPP 9									
	Ammonium Sulfate	17	lb/100 gal			EPP 9									
	LUMAX	26.8	oz/a	1.68	pt/a	PRE									
LSD (P=.05)							31.47	4.78	8.07	0.00	0.00	6.47	5.34	7.99	8.29
Standard Deviation							18.59	2.82	4.76	0.00	0.00	3.82	3.15	4.72	4.90
CV							16.94	18.18	16.3	0.0	0.0	5.66	4.19	6.94	7.15
Grand Mean							109.7	15.51	29.22	7.5	27.5	67.5	75.36	68.06	68.47
Replicate F							150.715	2.992	165.935	0.000	0.000	0.429	4.541	0.592	1.505
Replicate Prob(F)							0.0001	0.0709	0.0001	1.0000	1.0000	0.6568	0.0223	0.5618	0.2439
Treatment F							5.764	0.886	6.124	0.000	0.000	126.182	233.328	91.977	87.313
Treatment Prob(F)							0.0002	0.5667	0.0002	1.0000	1.0000	0.0001	0.0001	0.0001	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		Corn, field		Winter annuals	Grass species	Velvetleaf	Waterhemp	Winter annuals	Green foxtail				
Rating Date	Rating Data Type	Rating Unit	Days After First/Last Applic.	Plant-Eval Interval	06-18-08	07-09-08	07-09-08	07-09-08	09-05-08				
		Rate	Other Rate	Other Rate Unit	Growth Stage	Epinastry Percent	Epinastry Percent	Overall Con Percent	Control Percent	Control Percent	Control Percent	Control Percent	
		Rate Unit	Rate Unit	Rate Unit		Percent	Percent	Percent	Percent	Percent	Percent	Percent	
						40 13	61 34	61 34	61 34	61 34	61 34	119 92	119 92
						14 DP-1	35 DP-1	35 DP-1	35 DP-1	35 DP-1	35 DP-1	93 DP-1	93 DP-1
1	Nontreated Check					0.0 e	0.0 a	50.0 b	0.0 b	0.0 b	0.0 b	50.0 d	0.0 d
2	BAS 80004H	1 oz/a	25 g a/ha		EPP 26	0.0 e	0.0 a	99.0 a	99.0 a	99.0 a	99.0 a	99.0 a	88.0 bc
	Roundup PowerMAX	17.4 oz/a	840 g a/ha		EPP 26								
	COC	1 % v/v			EPP 26								
	Ammonium Sulfate	17 lb/100 gal			EPP 26								
	BAS 78102H	20 oz/a	980 g a/ha		PRE								
3	BAS 80004H	2 oz/a	50 g a/ha		EPP 26	11.7 a	0.0 a	99.0 a	99.0 a	99.0 a	99.0 a	99.0 a	86.7 c
	Roundup PowerMAX	17.4 oz/a	840 g a/ha		EPP 26								
	COC	1 % v/v			EPP 26								
	Ammonium Sulfate	17 lb/100 gal			EPP 26								
	BAS 78102H	20 oz/a	980 g a/ha		PRE								
4	Roundup PowerMAX	17.4 oz/a	840 g a/ha		EPP 26	0.0 e	0.0 a	99.0 a	99.0 a	99.0 a	99.0 a	99.0 a	90.0 abc
	NIS	0.25 % v/v			EPP 26								
	Ammonium Sulfate	17 lb/100 gal			EPP 26								
	LUMAX	80.4 oz/a	5.03 pt/a		PRE								
5	AIM	1 oz/a			EPP 26	10.0 ab	0.0 a	99.0 a	99.0 a	99.0 a	99.0 a	99.0 a	89.7 abc
	Roundup PowerMAX	17.4 oz/a	840 g a/ha		EPP 26								
	NIS	0.25 % v/v			EPP 26								
	Ammonium Sulfate	17 lb/100 gal			EPP 26								
	BAS 78102H	20 oz/a	980 g a/ha		PRE								
6	BAS 78102H	13 oz/a	635 g a/ha		EPP 26	0.0 e	0.0 a	99.0 a	99.0 a	99.0 a	99.0 a	96.0 b	94.7 abc
	Roundup PowerMAX	17.4 oz/a	840 g a/ha		EPP 26								
	COC	1 % v/v			EPP 26								
	Ammonium Sulfate	17 lb/100 gal			EPP 26								
	BAS 78102H	7 oz/a	340 g a/ha		PRE								
7	BAS 80004H	1 oz/a	25 g a/ha		EPP 9	7.7 c	0.0 a	99.0 a	99.0 a	99.0 a	99.0 a	90.0 c	97.7 ab
	Roundup PowerMAX	17.4 oz/a	840 g a/ha		EPP 9								
	COC	1 % v/v			EPP 9								
	Ammonium Sulfate	17 lb/100 gal			EPP 9								
	BAS 78102H	20 oz/a	980 g a/ha		PRE								
8	BAS 80004H	2 oz/a	50 g a/ha		EPP 9	8.3 bc	0.0 a	99.0 a	99.0 a	99.0 a	99.0 a	90.0 c	99.0 a
	Roundup PowerMAX	17.4 oz/a	840 g a/ha		EPP 9								
	COC	1 % v/v			EPP 9								
	Ammonium Sulfate	17 lb/100 gal			EPP 9								
	BAS 78102H	20 oz/a	980 g a/ha		PRE								
9	Roundup PowerMAX	17.4 oz/a	840 g a/ha		EPP 9	0.0 e	0.0 a	99.0 a	99.0 a	99.0 a	99.0 a	90.0 c	94.3 abc
	NIS	0.25 % v/v			EPP 9								
	Ammonium Sulfate	17 lb/100 gal			EPP 9								
	LUMAX	80.4 oz/a	5.03 pt/a		PRE								
10	AIM	1 oz/a			EPP 9	5.0 d	0.0 a	99.0 a	99.0 a	99.0 a	99.0 a	90.0 c	94.7 abc
	Roundup PowerMAX	17.4 oz/a	840 g a/ha		EPP 9								
	NIS	0.25 % v/v			EPP 9								
	Ammonium Sulfate	17 lb/100 gal			EPP 9								
	BAS 78102H	20 oz/a	980 g a/ha		PRE								
11	BAS 78102H	13 oz/a	635 g a/ha		EPP 9	0.0 e	0.0 a	99.0 a	99.0 a	99.0 a	99.0 a	90.0 c	94.3 abc
	Roundup PowerMAX	17.4 oz/a	840 g a/ha		EPP 9								
	COC	1 % v/v			EPP 9								
	Ammonium Sulfate	17 lb/100 gal			EPP 9								
	BAS 78102H	7 oz/a	340 g a/ha		PRE								
12	LUMAX	53.6 oz/a	3.35 pt/a		EPP 9	0.0 e	0.0 a	99.0 a	99.0 a	99.0 a	99.0 a	90.0 c	96.0 abc
	Roundup PowerMAX	17.4 oz/a	840 g a/ha		EPP 9								
	NIS	0.25 % v/v			EPP 9								
	Ammonium Sulfate	17 lb/100 gal			EPP 9								
	LUMAX	26.8 oz/a	1.68 pt/a		PRE								
LSD (P=.05)						2.18	0.00	0.00	0.00	0.00	0.00	2.54	10.98
Standard Deviation						1.29	0.00	0.00	0.00	0.00	0.00	1.50	6.49
CV						36.28	0.0	0.0	0.0	0.0	0.0	1.66	7.59
Grand Mean						3.56	0.0	94.92	90.75	90.75	90.75	90.17	85.42
Replicate F						2.821	0.000	0.000	0.000	0.000	0.000	1.000	0.870
Replicate Prob(F)						0.0812	1.0000	1.0000	1.0000	1.0000	1.0000	0.3840	0.4330
Treatment F						38.944	0.000	0.000	0.000	0.000	0.000	237.535	52.642
Treatment Prob(F)						0.0001	1.0000	1.0000	1.0000	1.0000	1.0000	0.0001	0.0001

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Description	Corn, field	Corn, field	Winter annuals	Grass species	Velvetleaf	Waterhemp	Winter annuals	Green foxtail
Rating Date	06-18-08	07-09-08	07-09-08	07-09-08	07-09-08	07-09-08	09-05-08	09-05-08
Rating Data Type	Epinasty	Epinasty	Overall Con	Control	Control	Control	Control	Control
Rating Unit	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Days After First/Last Applic.	40 13	61 34	61 34	61 34	61 34	61 34	119 92	119 92
Plant-Eval Interval	14 DP-1	35 DP-1	35 DP-1	35 DP-1	35 DP-1	35 DP-1	93 DP-1	93 DP-1

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						Large crabgrass	Velvetleaf	Waterhemp	Sandbur
Rating Date						09-05-08	09-05-08	09-05-08	09-05-08
Rating Data Type						Control	Control	Control	Control
Rating Unit						Percent	Percent	Percent	Percent
Days After First/Last Applic.						119 92	119 92	119 92	119 92
Plant-Eval Interval						93 DP-1	93 DP-1	93 DP-1	93 DP-1
Trt No.	Treatment Name	Rate	Other Rate	Other Rate Unit	Growth Stage				
1	Nontreated Check					0.0 d	0.0 c	0.0 c	0.0 e
2	BAS 80004H	1 oz/a	25 g a/ha		EPP 26	86.7 bc	99.0 a	99.0 a	80.0 bcd
	Roundup PowerMAX	17.4 oz/a	840 g a/ha		EPP 26				
	COC	1 % v/v			EPP 26				
	Ammonium Sulfate	17 lb/100 gal			EPP 26				
	BAS 78102H	20 oz/a	980 g a/ha		PRE				
3	BAS 80004H	2 oz/a	50 g a/ha		EPP 26	83.3 c	99.0 a	99.0 a	75.0 d
	Roundup PowerMAX	17.4 oz/a	840 g a/ha		EPP 26				
	COC	1 % v/v			EPP 26				
	Ammonium Sulfate	17 lb/100 gal			EPP 26				
	BAS 78102H	20 oz/a	980 g a/ha		PRE				
4	Roundup PowerMAX	17.4 oz/a	840 g a/ha		EPP 26	94.7 ab	99.0 a	99.0 a	96.3 a
	NIS	0.25 % v/v			EPP 26				
	Ammonium Sulfate	17 lb/100 gal			EPP 26				
	LUMAX	80.4 oz/a	5.03 pt/a		PRE				
5	AIM	1 oz/a			EPP 26	91.3 abc	99.0 a	99.0 a	81.7 bcd
	Roundup PowerMAX	17.4 oz/a	840 g a/ha		EPP 26				
	NIS	0.25 % v/v			EPP 26				
	Ammonium Sulfate	17 lb/100 gal			EPP 26				
	BAS 78102H	20 oz/a	980 g a/ha		PRE				
6	BAS 78102H	13 oz/a	635 g a/ha		EPP 26	96.0 ab	96.0 b	96.3 ab	77.5 cd
	Roundup PowerMAX	17.4 oz/a	840 g a/ha		EPP 26				
	COC	1 % v/v			EPP 26				
	Ammonium Sulfate	17 lb/100 gal			EPP 26				
	BAS 78102H	7 oz/a	340 g a/ha		PRE				
7	BAS 80004H	1 oz/a	25 g a/ha		EPP 9	97.7 a	99.0 a	99.0 a	85.0 a-d
	Roundup PowerMAX	17.4 oz/a	840 g a/ha		EPP 9				
	COC	1 % v/v			EPP 9				
	Ammonium Sulfate	17 lb/100 gal			EPP 9				
	BAS 78102H	20 oz/a	980 g a/ha		PRE				
8	BAS 80004H	2 oz/a	50 g a/ha		EPP 9	99.0 a	99.0 a	99.0 a	88.3 a-d
	Roundup PowerMAX	17.4 oz/a	840 g a/ha		EPP 9				
	COC	1 % v/v			EPP 9				
	Ammonium Sulfate	17 lb/100 gal			EPP 9				
	BAS 78102H	20 oz/a	980 g a/ha		PRE				
9	Roundup PowerMAX	17.4 oz/a	840 g a/ha		EPP 9	97.7 a	99.0 a	99.0 a	93.3 ab
	NIS	0.25 % v/v			EPP 9				
	Ammonium Sulfate	17 lb/100 gal			EPP 9				
	LUMAX	80.4 oz/a	5.03 pt/a		PRE				
10	AIM	1 oz/a			EPP 9	96.3 ab	99.0 a	99.0 a	80.0 bcd
	Roundup PowerMAX	17.4 oz/a	840 g a/ha		EPP 9				
	NIS	0.25 % v/v			EPP 9				
	Ammonium Sulfate	17 lb/100 gal			EPP 9				
	BAS 78102H	20 oz/a	980 g a/ha		PRE				
11	BAS 78102H	13 oz/a	635 g a/ha		EPP 9	96.0 ab	99.0 a	99.0 a	85.0 a-d
	Roundup PowerMAX	17.4 oz/a	840 g a/ha		EPP 9				
	COC	1 % v/v			EPP 9				
	Ammonium Sulfate	17 lb/100 gal			EPP 9				
	BAS 78102H	7 oz/a	340 g a/ha		PRE				
12	LUMAX	53.6 oz/a	3.35 pt/a		EPP 9	97.7 a	99.0 a	96.0 b	90.0 abc
	Roundup PowerMAX	17.4 oz/a	840 g a/ha		EPP 9				
	NIS	0.25 % v/v			EPP 9				
	Ammonium Sulfate	17 lb/100 gal			EPP 9				
	LUMAX	26.8 oz/a	1.68 pt/a		PRE				
LSD (P=.05)						10.15	2.54	2.87	13.79
Standard Deviation						5.99	1.50	1.70	7.96
CV						6.94	1.66	1.88	10.25
Grand Mean						86.36	90.5	90.28	77.68
Replicate F						0.486	1.000	0.241	1.641
Replicate Prob(F)						0.6218	0.3840	0.7876	0.2248
Treatment F						63.683	1084.000	844.295	30.238
Treatment Prob(F)						0.0001	0.0001	0.0001	0.0001

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Description	Large crabgrass	Velvetleaf	Waterhemp	Sandbur
Rating Date	09-05-08	09-05-08	09-05-08	09-05-08
Rating Data Type	Control	Control	Control	Control
Rating Unit	Percent	Percent	Percent	Percent
Days After First/Last Applic.	119 92	119 92	119 92	119 92
Plant-Eval Interval	93 DP-1	93 DP-1	93 DP-1	93 DP-1

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.

<u>Additional Treatment Information</u>
<u>Treatment Name</u>
Ammonium Sulfate =
<u>Rate Unit</u>
OZ/A = Ounces Product per Acre (Metric=ML-G/HA) O
% V/V = Percent, Volume Product per Volume Mix Basis (Metric=same) Z
LB/100 GAL = Pounds Dry Product per 100 Gallons Mix (Metric=KG/100 L)
<u>Other Rate Unit</u>
G A/HA = Grams Active Ingredient per Hectare
PT/A = Pints Product per Acre