

**Syngenta Two-Pass and Competitive Programs for Corn**

**Trial ID: CN Syngnta 2 Pass 03      Study Director:**  
**Location: Ashland Otto East      Investigator: David L Regehr**

Crop Description			
Crop 1: ZEAMX	Zea mays		Corn
Variety:	Asgrow RX718RR		
BBCH Scale:	BCOR	Planting Date:	12/May/2003
Planting Method:	White 6700	Rate, Unit:	23000 S/A
Depth, Unit:	1.5 in		
Row Spacing, Unit:	30 in		
Seed Bed: Good		Soil Temperature, Unit:	62 F
Soil Moisture: Moist		Emergence Date:	19/May/2003

Pest Description			
Pest 1 Type: W	Code: ABUTH	Abutilon theophrasti	
	Common Name: Velvetleaf		
	Description: planted row		
Pest 2 Type: W	Code: HELAN	Helianthus annuus	
	Common Name: Common sunflower		
	Description: planted row, oil-seed sunflower		
Pest 3 Type: W	Code: IPOHE	Ipomoea hederacea	
	Common Name: Morningglory, ivyleaf		
	Description: planted row		
Pest 4 Type: W	Code: SORBI	Sorghum bicolor	
	Common Name: Rox orange forage sorghum		
	Description: planted row, shattercane mimic		
Pest 5 Type: W	Code: DIGSA	Digitaria sanguinalis	
	Common Name: Crabgrass, large		
	Description: broadcast over-seeded		

Site and Design

Plot Width, Unit: 6.67 FT      Site Type: cropland  
 Plot Length, Unit: 25 FT      Tillage Type: conventional  
 Replications: 3      Study Design: Randomized Complete Block

Trial Initiation Comments:

	Previous Crops	Previous Pesticides	Year
1.	grain sorghum		2002

Field Prep./Maintenance:  
 Fall chisel; spring disk; spring field cultivate

Soil Description

% Sand: 14      % OM: 2.3      Texture: Silt loam  
 % Silt: 62      pH: 6.3      Soil Name: Reading  
 % Clay: 24      CEC: 18      Fert. Level: good

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## Application Description

	A	B	C
Application Date:	12/May/2003	11/Jun/2003	19/Jun/2003
Time of Day:	6:45 PM	10:30 PM	11:45 AM
Application Method:	BRDCST	BRDCST	BRDCST
Application Timing:	PRE	MP	2ndFlush
Application Placement:	SOIL	FOLIAR	FOLIAR
Applied By:	D. REGEHR	C. MINIHAN	C. MINIHAN
Air Temperature, Unit:	77 F	84 F	81 F
% Relative Humidity:	37	51	62
Wind Velocity, Unit:	9 S	6 E	1.5 E
Dew Presence (Y/N):	N	N	N
Water Hardness:	City H20	City H20	City H20
Soil Temperature, Unit:	69 F	68 F	78 F
Soil Moisture:	MOIST	ADEQUATE	ADEQUATE
% Cloud Cover:	5	50	95

## Crop Stage At Each Application

	A	B	C
Crop 1 Code, BBCH Scale:	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR
Stage Scale Used:	BBCH	BBCH	BBCH
Stage Majority, Percent:		4LF 4CL 100	26 IN 100
Height, Unit:		15 IN	26 IN

## Pest Stage At Each Application

	A	B	C
Pest 1 Code, Disc., Scale:	ABUTH W	ABUTH W	ABUTH W
Stage Majority, Percent:		4-5 LF	4 lf
Height, Unit:		7 IN	6 IN
Pest 2 Code, Disc., Scale:	HELAN W	HELAN W	HELAN W
Stage Majority, Percent:		6-8LF	no new
Height, Unit:		16 IN	
Pest 3 Code, Disc., Scale:	IPOHE W	IPOHE W	IPOHE W
Stage Majority, Percent:		6 IN	chloro
Height, Unit:		6 IN	6 IN
Pest 4 Code, Disc., Scale:	SORBI W	SORBI W	SORBI W
Stage Majority, Percent:		6 IN	no new
Height, Unit:		6 IN	
Pest 5 Code, Disc., Scale:	DIGSA W	DIGSA W	DIGSA W
Stage Majority, Percent:		3 lf	new em
Height, Unit:		2 IN	0.5 IN

Application Equipment

	A	B	C
Appl. Equipment:	TRACTOR	TRACTOR	TRACTOR
Operating Pressure:	20	20	20
Pressure Unit:	PSI	PSI	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:	6.67 FT	6.67 FT	6.67 FT
Boom Height, Unit:	17 IN	31 IN	43 IN
Ground Speed, Unit:	4.1 MPH	4.1 MPH	4.1 MPH
Carrier:	Water	Water	Water
Spray Volume:	15	15	15
Volume Unit:	GAL/AC	GAL/AC	GAL/AC
Propellant:	Comp. Air	Comp. Air	Comp. Air

Trial Comments

This experiment evaluated some of the common one- and two-pass herbicide programs for field corn, across most companies. Glyphosate-tolerant corn was used, which permitted including postemergence glyphosate treatments. There was 0.32 inch rainfall within 4 days after planting, and 1.72 inch within 11 days, providing very good activation for preemergence herbicides. Similarly, growing conditions were excellent for the postemergence treatments.

Corn injury (PHYGEN = general phytotoxicity) was minor in this experiment. Treatments containing dicamba showed some brace root injury, and some treatments containing ALS-inhibiting herbicides had chlorotic leaves.

Excellent large crabgrass (DIGSA) control was seen in all preemergence treatments. As soils became dry in July and August, there was no more crabgrass germination. Treatments with a mid-post application only, did not give satisfactory crabgrass control.

All treatments, both one- and two-pass gave perfect control of Palmer amaranth (AMAPA). Amaranth populations were low, but check plots contained at least 25 plants. Soils were too dry for germination later in summer.

Ivyleaf morningglory (IPOHE) control by preemergence treatments was good to excellent when the atrazine content approached 1.0 lb/acre, but much poorer with less atrazine. Lumax did not give satisfactory control without additional atrazine. Two applications of WeatherMax gave only fair morningglory control. Mid-post treatments with good control usually contained dicamba or/and atrazine.

Velvetleaf (ABUTH) control was excellent for most treatments. Treatments that relied on postemergence dicamba gave fair to good control of velvetleaf, but it did not die, and probably would have recovered under more favorable weather conditions.

Rox orange forage sorghum (SORBI) was largely controlled by preemergence treatments containing Lumax or acetochlor. This may be attributed to the acid amide (S-metolachlor or acetochlor) effects on unsafened sorghum seed). Treatments with Distinct showed sorghum activity. Of course, there was excellent sorghum control with postemergence glyphosate or nicosulfuron/rimsulfuron.

Sunflower (HELAN) control was very good with preemergence treatments containing full rates of Lumax or Lumax with additional atrazine. Preemergence Keystone gave fair control. Postemergence control was generally excellent for treatments containing Callisto or some form of dicamba.

Corn yields ranged from 33 to 99 bu/acre, with the untreated check at 44 bu/acre. Yields appeared to be far more influenced by variations in soils and moisture than by weed control treatments.

## Syngenta Two-Pass and Competitive Programs for Corn

Trial ID: CN Syngnta 2 Pass 03

Study Director:

Location: Ashland Otto East

Investigator: David L Regehr

Pest Type				W Weed DIGSA	W Weed DIGSA	W Weed DIGSA				
Pest Code										
Crop Code										
BBCH Scale										
Rating Date										
Rating Data Type										
Rating Unit										
Days After Last Applic.										
ARM Action Codes										
Trt No.	Treatment Name	Other Rate	Other Rate Unit	Growth Stage	1	8	15	2	9	16
1	Untreated check				0 a	0 a	0 b	0 b	0 d	0 e
2	Lumax	2.5 qt/a		Preemerg	1 a	0 a	0 b	99 a	99 a	99 a
3	Lumax Atrazine	2.5 qt/a 1 qt/a		Preemerg Preemerg	0 a	0 a	0 b	99 a	99 a	99 a
4	Bicep II Magnum Callisto AAtrex Crop Oil Conc UAN 28%	2.1 qt/a 3 fl oz/a 0.5 qt/a 1 % v/v 2.5 % v/v		Preemerg MidPost MidPost MidPost MidPost	0 a	0 a	1 b	99 a	99 a	99 a
5	Degree Xtra Yukon Crop Oil Conc UAN 28%	3.2 qt/a 4 oz/a 1 % v/v 2.5 % v/v		Preemerg MidPost MidPost MidPost	0 a	2 a	1 b	99 a	99 a	99 a
6	Outlook Marksman Nonionic Surfactant	18 fl oz/a 1.5 qt/a 0.125 % v/v		Preemerg MidPost MidPost	0 a	5 a	6 a	99 a	99 a	99 a
7	Guardsman Max Distinct Nonionic Surfactant UAN 28%	2 qt/a 4 oz/a 0.25 % v/v 2.5 % v/v		Preemerg MidPost MidPost MidPost	0 a	2 a	1 b	99 a	99 a	99 a
8	Keystone Hornet WDG 68.5 Nonionic Surfactant UAN 28%	2.6 qt/a 3 oz/a 0.25 % v/v 2.5 % v/v		Preemerg MidPost MidPost MidPost	0 a	1 a	0 b	99 a	99 a	99 a
9	Cinch ATZ Steadfast Atrazine Crop Oil Conc UAN 28%	0.75 qt/a 0.75 oz/a 1 qt/a 1 % v/v 2.5 % v/v		Preemerg MidPost MidPost MidPost MidPost	0 a	0 a	0 b	99 a	99 a	99 a
10	Harness Xtra 5.6L RU WeatherMax Ammonium Sulfate	1 qt/a 0.67 qt/a 12 lb/100 gal		Preemerg MidPost MidPost	0 a	0 a	0 b	99 a	99 a	96 a
11	RU WeatherMax Ammonium Sulfate RU WeatherMax Ammonium Sulfate	0.67 qt/a 12 lb/100 gal 0.5 qt/a 12 lb/100 gal		MidPost MidPost LatePost LatePost		0 a	0 b		95 a	99 a
12	Basis Gold Clarity Nonionic Surfactant UAN 28%	14 oz/a 4 fl oz/a 0.25 % v/v 2.5 % v/v		MidPost MidPost MidPost MidPost		2 a	1 b		76 b	53 c
13	Celebrity Plus Nonionic Surfactant UAN 28%	4.7 oz/a 0.25 % v/v 2.5 % v/v		MidPost MidPost MidPost		3 a	1 b		64 c	37 d
14	Steadfast Atrazine Callisto Crop Oil Conc UAN 28%	0.75 oz/a 0.5 qt/a 3 fl oz/a 1 % v/v 2.5 % v/v		MidPost MidPost MidPost MidPost MidPost		1 a	0 b		89 a	81 b

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Pest Type				W Weed	W Weed	W Weed				
Pest Code				DIGSA	DIGSA	DIGSA				
Crop Code										
BBCH Scale										
Rating Date										
Rating Data Type										
Rating Unit										
Days After Last Applic.										
ARM Action Codes										
Trt No.	Treatment Name	Other Rate	Other Rate Unit	Growth Stage	1	8	15	2	9	16
15	Cinch ATZ	0.75	qt/a	Preemerg	0 a	2 a	0 b	99 a	98 a	99 a
	Basis Gold	14	oz/a	MidPost						
	Clarity	4	fl oz/a	MidPost						
	Nonionic Surfactant	0.25	% v/v	MidPost						
	UAN 28%	2.5	% v/v	MidPost						
16	Outlook	6	fl oz/a	Preemerg	0 a	3 a	1 b	99 a	98 a	99 a
	Celebrity Plus	4.7	oz/a	MidPost						
	Nonionic Surfactant	0.25	% v/v	MidPost						
	UAN 28%	2.5	% v/v	MidPost						
17	Dual II Magnum	0.83	qt/a	Preemerg	0 a	0 a	0 b	99 a	99 a	99 a
	Callisto	3	fl oz/a	MidPost						
	AAtrex	0.5	qt/a	MidPost						
	Crop Oil Conc	1	% v/v	MidPost						
	UAN 28%	2.5	% v/v	MidPost						
18	Bicep Lite II Magnum	1.5	qt/a	Preemerg	0 a	0 a	0 b	99 a	99 a	99 a
	Callisto	3	fl oz/a	MidPost						
	AAtrex	0.25	qt/a	MidPost						
	Crop Oil Conc	1	% v/v	MidPost						
	UAN 28%	2.5	% v/v	MidPost						
19	Degree	2.1	qt/a	Preemerg	0 a	4 a	0 b	99 a	99 a	99 a
	Yukon	4	oz/a	MidPost						
	Crop Oil Conc	1	% v/v	MidPost						
	UAN 28%	2.5	% v/v	MidPost						
20	G-Max Lite	1.5	qt/a	Preemerg	0 a	1 a	0 b	99 a	99 a	99 a
	Distinct	4	oz/a	MidPost						
	Nonionic Surfactant	0.25	% v/v	MidPost						
	UAN 28%	2.5	% v/v	MidPost						
21	Keystone	2.1	qt/a	Preemerg	0 a	0 a	0 b	99 a	99 a	99 a
	Hornet WDG 68.5	3	oz/a	MidPost						
	Nonionic Surfactant	0.25	% v/v	MidPost						
	UAN 28%	2.5	% v/v	MidPost						
22	Cinch ATZ Lite	0.75	qt/a	Preemerg	0 a	3 a	1 b	99 a	98 a	99 a
	Steadfast	0.75	oz/a	MidPost						
	Clarity	4	fl oz/a	MidPost						
	Crop Oil Conc	1	% v/v	MidPost						
	UAN 28%	2.5	% v/v	MidPost						
23	Bicep Lite II Magnum	1.1	qt/a	Preemerg	0 a	0 a	0 b	99 a	99 a	99 a
	Steadfast	0.75	oz/a	MidPost						
	Crop Oil Conc	1	% v/v	MidPost						
	UAN 28%	2.5	% v/v	MidPost						
LSD (P=.05)		0.5			0.5	2.6	1.8	0.0	7.0	8.4
CV		568.95			568.95	129.21	207.9	0.0	4.61	5.74

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

## Syngenta Two-Pass and Competitive Programs for Corn

Trial ID: CN Syngnta 2 Pass 03

Study Director:

Location: Ashland Otto East

Investigator: David L Regehr

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed	W Weed				
Pest Code	AMAPA	AMAPA	AMAPA	AMAPA	AMAPA	AMAPA				
Crop Code										
BBCH Scale										
Rating Date	9/Jun/2003	2/Jul/2003	25/Aug/2003	9/Jun/2003	2/Jul/2003	25/Aug/2003				
Rating Data Type										
Rating Unit										
Days After Last Applic.	28	13	67	28	13	67				
ARM Action Codes										
Trt No.	Treatment Name	Other Rate	Other Rate Unit	Growth Stage	3	10	17	4	11	18
1	Untreated check				0 b	0 b	0 b	0 d	0 f	0 c
2	Lumax	2.5 qt/a		Preemerg	99 a	99 a	99 a	86 a	63 e	37 b
3	Lumax Atrazine	2.5 qt/a 1 qt/a		Preemerg Preemerg	99 a	99 a	99 a	98 a	99 a	99 a
4	Bicep II Magnum Callisto AAtrex Crop Oil Conc UAN 28%	2.1 qt/a 3 fl oz/a 0.5 qt/a 1 % v/v 2.5 % v/v		Preemerg MidPost MidPost MidPost MidPost	99 a	99 a	99 a	97 a	99 a	99 a
5	Degree Xtra Yukon Crop Oil Conc UAN 28%	3.2 qt/a 4 oz/a 1 % v/v 2.5 % v/v		Preemerg MidPost MidPost MidPost	99 a	99 a	99 a	97 a	99 a	99 a
6	Outlook Marksman Nonionic Surfactant	18 fl oz/a 1.5 qt/a 0.125 % v/v		Preemerg MidPost MidPost	99 a	99 a	99 a	5 d	94 abc	99 a
7	Guardsman Max Distinct Nonionic Surfactant UAN 28%	2 qt/a 4 oz/a 0.25 % v/v 2.5 % v/v		Preemerg MidPost MidPost MidPost	99 a	99 a	99 a	99 a	99 a	99 a
8	Keystone Hornet WDG 68.5 Nonionic Surfactant UAN 28%	2.6 qt/a 3 oz/a 0.25 % v/v 2.5 % v/v		Preemerg MidPost MidPost MidPost	99 a	99 a	99 a	98 a	99 a	99 a
9	Cinch ATZ Steadfast Atrazine Crop Oil Conc UAN 28%	0.75 qt/a 0.75 oz/a 1 qt/a 1 % v/v 2.5 % v/v		Preemerg MidPost MidPost MidPost MidPost	99 a	99 a	99 a	63 b	92 abc	99 a
10	Harness Xtra 5.6L RU WeatherMax Ammonium Sulfate	1 qt/a 0.67 qt/a 12 lb/100 gal		Preemerg MidPost MidPost	99 a	99 a	99 a	81 a	91 abc	99 a
11	RU WeatherMax Ammonium Sulfate RU WeatherMax Ammonium Sulfate	0.67 qt/a 12 lb/100 gal 0.5 qt/a 12 lb/100 gal		MidPost MidPost LatePost LatePost		99 a	99 a		75 d	83 a
12	Basis Gold Clarity Nonionic Surfactant UAN 28%	14 oz/a 4 fl oz/a 0.25 % v/v 2.5 % v/v		MidPost MidPost MidPost MidPost		99 a	99 a		95 ab	99 a
13	Celebrity Plus Nonionic Surfactant UAN 28%	4.7 oz/a 0.25 % v/v 2.5 % v/v		MidPost MidPost MidPost		99 a	99 a		92 abc	99 a
14	Steadfast Atrazine Callisto Crop Oil Conc UAN 28%	0.75 oz/a 0.5 qt/a 3 fl oz/a 1 % v/v 2.5 % v/v		MidPost MidPost MidPost MidPost MidPost		99 a	99 a		82 cd	96 a

## Kansas State University

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed	W Weed				
Pest Code	AMAPA	AMAPA	AMAPA	AMAPA	AMAPA	AMAPA				
Crop Code										
BBCH Scale										
Rating Date	9/Jun/2003	2/Jul/2003	25/Aug/2003	9/Jun/2003	2/Jul/2003	25/Aug/2003				
Rating Data Type										
Rating Unit										
Days After Last Applic.	28	13	67	28	13	67				
ARM Action Codes										
Trt No.	Treatment Name	Other Rate	Other Rate Unit	Growth Stage	3	10	17	4	11	18
15	Cinch ATZ	0.75	qt/a	Preemerg	99 a	99 a	99 a	37 c	96 ab	99 a
	Basis Gold	14	oz/a	MidPost						
	Clarity	4	fl oz/a	MidPost						
	Nonionic Surfactant	0.25	% v/v	MidPost						
	UAN 28%	2.5	% v/v	MidPost						
16	Outlook	6	fl oz/a	Preemerg	99 a	99 a	99 a	0 d	84 bcd	99 a
	Celebrity Plus	4.7	oz/a	MidPost						
	Nonionic Surfactant	0.25	% v/v	MidPost						
	UAN 28%	2.5	% v/v	MidPost						
17	Dual II Magnum	0.83	qt/a	Preemerg	99 a	99 a	99 a	0 d	83 cd	99 a
	Callisto	3	fl oz/a	MidPost						
	AAtrex	0.5	qt/a	MidPost						
	Crop Oil Conc	1	% v/v	MidPost						
	UAN 28%	2.5	% v/v	MidPost						
18	Bicep Lite II Magnum	1.5	qt/a	Preemerg	99 a	99 a	99 a	91 a	98 a	99 a
	Callisto	3	fl oz/a	MidPost						
	AAtrex	0.25	qt/a	MidPost						
	Crop Oil Conc	1	% v/v	MidPost						
	UAN 28%	2.5	% v/v	MidPost						
19	Degree	2.1	qt/a	Preemerg	99 a	99 a	99 a	12 d	87 abc	90 a
	Yukon	4	oz/a	MidPost						
	Crop Oil Conc	1	% v/v	MidPost						
	UAN 28%	2.5	% v/v	MidPost						
20	G-Max Lite	1.5	qt/a	Preemerg	99 a	99 a	99 a	93 a	99 a	99 a
	Distinct	4	oz/a	MidPost						
	Nonionic Surfactant	0.25	% v/v	MidPost						
	UAN 28%	2.5	% v/v	MidPost						
21	Keystone	2.1	qt/a	Preemerg	99 a	99 a	99 a	96 a	99 a	99 a
	Hornet WDG 68.5	3	oz/a	MidPost						
	Nonionic Surfactant	0.25	% v/v	MidPost						
	UAN 28%	2.5	% v/v	MidPost						
22	Cinch ATZ Lite	0.75	qt/a	Preemerg	99 a	99 a	99 a	38 c	91 abc	99 a
	Steadfast	0.75	oz/a	MidPost						
	Clarity	4	fl oz/a	MidPost						
	Crop Oil Conc	1	% v/v	MidPost						
	UAN 28%	2.5	% v/v	MidPost						
23	Bicep Lite II Magnum	1.1	qt/a	Preemerg	99 a	99 a	99 a	92 a	92 abc	99 a
	Steadfast	0.75	oz/a	MidPost						
	Crop Oil Conc	1	% v/v	MidPost						
	UAN 28%	2.5	% v/v	MidPost						
LSD (P=.05)					0.0	0.0	0.0	15.4	7.4	9.9
CV					0.0	0.0	0.0	14.96	5.14	6.6

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

## Syngenta Two-Pass and Competitive Programs for Corn

Trial ID: CN Syngnta 2 Pass 03

Study Director:

Location: Ashland Otto East

Investigator: David L Regehr

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed	W Weed				
Pest Code	ABUTH	ABUTH	ABUTH	SORBI	SORBI	SORBI				
Crop Code										
BBCH Scale										
Rating Date	9/Jun/2003	2/Jul/2003	25/Aug/2003	9/Jun/2003	2/Jul/2003	25/Aug/2003				
Rating Data Type										
Rating Unit										
Days After Last Applic.	28	13	67	28	13	67				
ARM Action Codes										
Trt No.	Treatment Name	Other Rate	Other Rate Unit	Growth Stage	5	12	19	6	13	20
1	Untreated check				0 c	0 d	0 c	0 e	0 e	0 e
2	Lumax	2.5	qt/a	Preemerg	99 a	99 a	99 a	80 ab	53 bc	17 de
3	Lumax Atrazine	2.5 1	qt/a qt/a	Preemerg Preemerg	99 a	99 a	99 a	88 ab	67 b	28 bcd
4	Bicep II Magnum Callisto AAtrex Crop Oil Conc UAN 28%	2.1 3 0.5 1 2.5	qt/a fl oz/a qt/a % v/v % v/v	Preemerg MidPost MidPost MidPost MidPost	97 a	99 a	99 a	38 cde	53 bc	43 bc
5	Degree Xtra Yukon Crop Oil Conc UAN 28%	3.2 4 1 2.5	qt/a oz/a % v/v % v/v	Preemerg MidPost MidPost MidPost	99 a	99 a	99 a	73 abc	43 cd	23 cd
6	Outlook Marksman Nonionic Surfactant	18 1.5 0.125	fl oz/a qt/a % v/v	Preemerg MidPost MidPost	0 c	91 bc	91 a	32 de	33 d	15 de
7	Guardsman Max Distinct Nonionic Surfactant UAN 28%	2 4 0.25 2.5	qt/a oz/a % v/v % v/v	Preemerg MidPost MidPost MidPost	99 a	99 a	99 a	73 abc	65 b	47 b
8	Keystone Hornet WDG 68.5 Nonionic Surfactant UAN 28%	2.6 3 0.25 2.5	qt/a oz/a % v/v % v/v	Preemerg MidPost MidPost MidPost	98 a	99 a	99 a	89 ab	85 a	80 a
9	Cinch ATZ Steadfast Atrazine Crop Oil Conc UAN 28%	0.75 0.75 1 1 2.5	qt/a oz/a qt/a % v/v % v/v	Preemerg MidPost MidPost MidPost MidPost	87 a	98 a	99 a	12 de	98 a	99 a
10	Harness Xtra 5.6L RU WeatherMax Ammonium Sulfate	1 0.67 12	qt/a qt/a lb/100 gal	Preemerg MidPost MidPost	92 a	99 a	99 a	66 abc	98 a	99 a
11	RU WeatherMax Ammonium Sulfate RU WeatherMax Ammonium Sulfate	0.67 12 0.5 12	qt/a lb/100 gal qt/a lb/100 gal	MidPost MidPost LatePost LatePost		98 a	99 a		99 a	99 a
12	Basis Gold Clarity Nonionic Surfactant UAN 28%	14 4 0.25 2.5	oz/a fl oz/a % v/v % v/v	MidPost MidPost MidPost MidPost		90 bc	85 b		98 a	99 a
13	Celebrity Plus Nonionic Surfactant UAN 28%	4.7 0.25 2.5	oz/a % v/v % v/v	MidPost MidPost MidPost		94 ab	96 a		96 a	99 a
14	Steadfast Atrazine Callisto Crop Oil Conc UAN 28%	0.75 0.5 3 1 2.5	oz/a qt/a fl oz/a % v/v % v/v	MidPost MidPost MidPost MidPost MidPost		99 a	99 a		93 a	99 a
15	Cinch ATZ Basis Gold Clarity Nonionic Surfactant UAN 28%	0.75 14 4 0.25 2.5	qt/a oz/a fl oz/a % v/v % v/v	Preemerg MidPost MidPost MidPost MidPost	80 a	97 a	99 a	8 e	97 a	99 a



## Kansas State University

Pest Type Pest Code Crop Code BBCH Scale Rating Date Rating Data Type Rating Unit Days After Last Applic. ARM Action Codes				W Weed ABUTH	W Weed ABUTH	W Weed ABUTH	W Weed SORBI	W Weed SORBI	W Weed SORBI	
				9/Jun/2003	2/Jul/2003	25/Aug/2003	9/Jun/2003	2/Jul/2003	25/Aug/2003	
				28	13	67	28	13	67	
Trt No.	Treatment Name	Other Rate	Other Rate Unit	Growth Stage	5	12	19	6	13	20
16	Outlook Celebrity Plus Nonionic Surfactant UAN 28%	6 4.7 0.25 2.5	fl oz/a oz/a % v/v % v/v	Preemerg MidPost MidPost MidPost	0 c	89 c	93 a	2 e	95 a	99 a
17	Dual II Magnum Callisto AAtrex Crop Oil Conc UAN 28%	0.83 3 0.5 1 2.5	qt/a fl oz/a qt/a % v/v % v/v	Preemerg MidPost MidPost MidPost MidPost	0 c	99 a	99 a	17 de	43 cd	32 bcd
18	Bicep Lite II Magnum Callisto AAtrex Crop Oil Conc UAN 28%	1.5 3 0.25 1 2.5	qt/a fl oz/a qt/a % v/v % v/v	Preemerg MidPost MidPost MidPost MidPost	97 a	99 a	99 a	30 de	43 cd	32 bcd
19	Degree Yukon Crop Oil Conc UAN 28%	2.1 4 1 2.5	qt/a oz/a % v/v % v/v	Preemerg MidPost MidPost MidPost	17 c	95 a	98 a	73 abc	28 d	15 de
20	G-Max Lite Distinct Nonionic Surfactant UAN 28%	1.5 4 0.25 2.5	qt/a oz/a % v/v % v/v	Preemerg MidPost MidPost MidPost	99 a	99 a	99 a	50 bcd	72 b	42 bc
21	Keystone Hornet WDG 68.5 Nonionic Surfactant UAN 28%	2.1 3 0.25 2.5	qt/a oz/a % v/v % v/v	Preemerg MidPost MidPost MidPost	96 a	99 a	99 a	93 a	92 a	88 a
22	Cinch ATZ Lite Steadfast Clarity Crop Oil Conc UAN 28%	0.75 0.75 4 1 2.5	qt/a oz/a fl oz/a % v/v % v/v	Preemerg MidPost MidPost MidPost MidPost	58 b	94 ab	96 a	18 de	97 a	99 a
23	Bicep Lite II Magnum Steadfast Crop Oil Conc UAN 28%	1.1 0.75 1 2.5	qt/a oz/a % v/v % v/v	Preemerg MidPost MidPost MidPost	93 a	96 a	99 a	22 de	98 a	99 a
LSD (P=.05)					14.4	3.1	4.2	24.6	13.3	14.6
CV					12.63	2.04	2.73	32.77	11.25	14.01

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

## Syngenta Two-Pass and Competitive Programs for Corn

Trial ID: CN Syngnta 2 Pass 03

Study Director:

Location: Ashland Otto East

Investigator: David L Regehr

Pest Type				W Weed HELAN	W Weed HELAN	W Weed HELAN	
Pest Code							
Crop Code							
BBCH Scale							
Rating Date				9/Jun/2003	2/Jul/2003	25/Aug/2003	
Rating Data Type							
Rating Unit							
Days After Last Applic.				28	13	67	
ARM Action Codes							
Trt No.	Treatment Name	Other Rate	Other Rate Unit	Growth Stage			
					7	14	
					21		
1	Untreated check				0 f	0 c	0 c
2	Lumax	2.5	qt/a	Preemerg	98 a	99 a	99 a
3	Lumax Atrazine	2.5 1	qt/a qt/a	Preemerg Preemerg	94 a	99 a	99 a
4	Bicep II Magnum Callisto AAtrex Crop Oil Conc UAN 28%	2.1 3 0.5 1 2.5	qt/a fl oz/a qt/a % v/v % v/v	Preemerg MidPost MidPost MidPost MidPost	70 abc	99 a	99 a
5	Degree Xtra Yukon Crop Oil Conc UAN 28%	3.2 4 1 2.5	qt/a oz/a % v/v % v/v	Preemerg MidPost MidPost MidPost	53 b-e	98 a	99 a
6	Outlook Marksman Nonionic Surfactant	18 1.5 0.125	fl oz/a qt/a % v/v	Preemerg MidPost MidPost	3 f	90 a	99 a
7	Guardsman Max Distinct Nonionic Surfactant UAN 28%	2 4 0.25 2.5	qt/a oz/a % v/v % v/v	Preemerg MidPost MidPost MidPost	45 c-f	98 a	99 a
8	Keystone Hornet WDG 68.5 Nonionic Surfactant UAN 28%	2.6 3 0.25 2.5	qt/a oz/a % v/v % v/v	Preemerg MidPost MidPost MidPost	63 a-d	96 a	99 a
9	Cinch ATZ Steadfast Atrazine Crop Oil Conc UAN 28%	0.75 0.75 1 1 2.5	qt/a oz/a qt/a % v/v % v/v	Preemerg MidPost MidPost MidPost MidPost	17 ef	63 b	53 b
10	Harness Xtra 5.6L RU WeatherMax Ammonium Sulfate	1 0.67 12	qt/a qt/a lb/100 gal	Preemerg MidPost MidPost	27 def	98 a	99 a
11	RU WeatherMax Ammonium Sulfate RU WeatherMax Ammonium Sulfate	0.67 12 0.5 12	qt/a lb/100 gal qt/a lb/100 gal	MidPost MidPost LatePost LatePost		99 a	99 a
12	Basis Gold Clarity Nonionic Surfactant UAN 28%	14 4 0.25 2.5	oz/a fl oz/a % v/v % v/v	MidPost MidPost MidPost MidPost		93 a	99 a
13	Celebrity Plus Nonionic Surfactant UAN 28%	4.7 0.25 2.5	oz/a % v/v % v/v	MidPost MidPost MidPost		97 a	99 a
14	Steadfast Atrazine Callisto Crop Oil Conc UAN 28%	0.75 0.5 3 1 2.5	oz/a qt/a fl oz/a % v/v % v/v	MidPost MidPost MidPost MidPost MidPost		96 a	99 a
15	Cinch ATZ Basis Gold Clarity Nonionic Surfactant UAN 28%	0.75 14 4 0.25 2.5	qt/a oz/a fl oz/a % v/v % v/v	Preemerg MidPost MidPost MidPost MidPost	37 c-f	97 a	99 a

## Kansas State University

				W Weed HELAN	W Weed HELAN	W Weed HELAN	
Pest Type							
Pest Code							
Crop Code							
BBCH Scale							
Rating Date				9/Jun/2003	2/Jul/2003	25/Aug/2003	
Rating Data Type							
Rating Unit							
Days After Last Applic.				28	13	67	
ARM Action Codes							
Trt No.	Treatment Name	Other Rate	Other Rate Unit	Growth Stage	7	14	21
16	Outlook	6	fl oz/a	Preemerg	0 f	94 a	99 a
	Celebrity Plus	4.7	oz/a	MidPost			
	Nonionic Surfactant	0.25	% v/v	MidPost			
	UAN 28%	2.5	% v/v	MidPost			
17	Dual II Magnum	0.83	qt/a	Preemerg	5 f	98 a	99 a
	Callisto	3	fl oz/a	MidPost			
	AAtrex	0.5	qt/a	MidPost			
	Crop Oil Conc	1	% v/v	MidPost			
	UAN 28%	2.5	% v/v	MidPost			
18	Bicep Lite II Magnum	1.5	qt/a	Preemerg	30 def	99 a	99 a
	Callisto	3	fl oz/a	MidPost			
	AAtrex	0.25	qt/a	MidPost			
	Crop Oil Conc	1	% v/v	MidPost			
	UAN 28%	2.5	% v/v	MidPost			
19	Degree	2.1	qt/a	Preemerg	12 ef	97 a	99 a
	Yukon	4	oz/a	MidPost			
	Crop Oil Conc	1	% v/v	MidPost			
	UAN 28%	2.5	% v/v	MidPost			
20	G-Max Lite	1.5	qt/a	Preemerg	25 def	95 a	99 a
	Distinct	4	oz/a	MidPost			
	Nonionic Surfactant	0.25	% v/v	MidPost			
	UAN 28%	2.5	% v/v	MidPost			
21	Keystone	2.1	qt/a	Preemerg	85 ab	98 a	99 a
	Hornet WDG 68.5	3	oz/a	MidPost			
	Nonionic Surfactant	0.25	% v/v	MidPost			
	UAN 28%	2.5	% v/v	MidPost			
22	Cinch ATZ Lite	0.75	qt/a	Preemerg	7 f	96 a	99 a
	Steadfast	0.75	oz/a	MidPost			
	Clarity	4	fl oz/a	MidPost			
	Crop Oil Conc	1	% v/v	MidPost			
	UAN 28%	2.5	% v/v	MidPost			
23	Bicep Lite II Magnum	1.1	qt/a	Preemerg	12 ef	93 a	99 a
	Steadfast	0.75	oz/a	MidPost			
	Crop Oil Conc	1	% v/v	MidPost			
	UAN 28%	2.5	% v/v	MidPost			
LSD (P=.05)				26.0	6.2	6.9	
CV				43.93	4.11	4.51	

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.