

Premerge Lumax, Camix and Competitive Products for Field Corn

Trial ID: CN LumaxCamix PRE 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: DIGSA Digitaria sanguinalis	
Common Name: Crabgrass, large	
Pest 2 Type: W Code: AMAPA Amaranthus palmeri	
Common Name: Amaranth, Palmer	
Pest 3 Type: W Code: IPOHE Ipomoea hederacea	
Common Name: Morningglory, ivyleaf	
Pest 4 Type: W Code: ABUTH Abutilon theophrasti	
Common Name: Velvetleaf	
Pest 5 Type: W Code: SORBI Sorghum bicolor	
Common Name: Rox orange forage sorghum	
Pest 6 Type: W Code: HELAN Helianthus annuus	
Common Name: Common sunflower	
Description: domestic oil-seed sunflower	

Site and Design

Plot Width, Unit: 6.67 FT
 Plot Length, Unit: 25 FT
 Replications: 3 Study Design: Randomized Complete Block

Trial Initiation Comments:

Field Prep./Maintenance:

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

Application Description	
	A
Application Date:	12/May/2003
Time of Day:	3:00 PM
Application Method:	BRDCST
Application Timing:	PRE
Application Placement:	SOIL
Applied By:	J.MILLER
Air Temperature, Unit:	75 F
% Relative Humidity:	27
Wind Velocity, Unit:	7 SE
Dew Presence (Y/N):	N
Water Hardness:	city H20
Soil Temperature, Unit:	65 F
Soil Moisture:	MOIST
% Cloud Cover:	5

Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	ZEAMX BCOR
Stage Scale Used:	BBCH
Stage Majority, Percent:	pre

Pest Stage At Each Application

	A
Pest 1 Code, Disc., Scale:	DIGSA W
Stage Majority, Percent:	pre
Density, Unit:	15 plt/ft2
Pest 2 Code, Disc., Scale:	AMAPA W
Stage Majority, Percent:	pre
Density, Unit:	2 plt/ft2
Pest 3 Code, Disc., Scale:	IPOHE W
Stage Majority, Percent:	pre
Density, Unit:	20 row
Pest 4 Code, Disc., Scale:	ABUTH W
Stage Majority, Percent:	pre
Density, Unit:	15 row
Pest 5 Code, Disc., Scale:	SORBI W
Stage Majority, Percent:	pre
Density, Unit:	10 row
Pest 6 Code, Disc., Scale:	HELAN W
Stage Majority, Percent:	pre
Density, Unit:	12 row

Application Equipment

	A
Appl. Equipment:	TRACTOR
Operating Pressure:	20
Pressure Unit:	PSI
Nozzle Type:	TURBO TEE
Nozzle Size:	11003
Nozzle Spacing, Unit:	20 IN
Boom Length, Unit:	6.67 FT
Boom Height, Unit:	17 IN
Ground Speed, Unit:	4.1 MPH
Carrier:	Water
Spray Volume:	15
Volume Unit:	GAL/AC
Propellant:	Comp. Air

Premerge Lumax, Camix and Competitive Products for Field Corn

Trial ID: CN LumaxCamix PRE 03 **Study Director:**
Location: Ashland Otto East **Investigator:** David L Regehr

Trial Comments

This experiment evaluated herbicides containing mesotrione, with competitive products, all applied premerge to corn. Rainfall was adequate for excellent activation and performance. There was no meaningful crop injury (PHYGEN = general crop phytotoxicity) in this experiment.

Large crabgrass (DIGSA) and Palmer amaranth (AMAPA) control was excellent in all treatments. There were no escapes, despite a field surface that was rough with grain sorghum stubs littering the soil surface.

Ivyleaf morningglory (IPOHE) control was excellent for treatments containing atrazine or simazine. Even light rates of atrazine, as in Lumax, gave complete control. Other herbicides that probably contributed to morningglory control were acetochlor and Hornet. Treatments with less or even little morningglory control were those based on isoxaflutole (Balance Pro) or mesotrione (Callisto) and metolachlor, but without atrazine or simazine.

Velvetleaf (ABUTH) control was excellent and complete for treatments containing Balance Pro or Callisto. Surprisingly, it was also complete for most treatments with atrazine, but without Balance Pro or Callisto or Hornet. This is better velvetleaf control than one would usually expect from Bicep or Guardsman, for example.

Rox orange forage sorghum (SORBI) was usually quite suppressed, but not well controlled. Keystone plus Balance stands out among treatments, with both isoxaflutole and acetochlor contributing to control. Epic and Keystone plus Hornet also showed very good control. It is unlikely that premerge mesotrione will give much shattercane control, unless acid amides such as acetochlor are in the treatment.

Sunflower (HELAN) control was very good to excellent for mesotrione applied premerge, especially at higher rates. Atrazine as a companion also helped, and one would expect Hornet to help. Treatments based on Balance Pro performed poorly on sunflower.

Treatment averages for corn grain yield was very low, ranging from 32 to 56 bu/acre. There were no significant differences among treatments.

Premerge Lumax, Camix and Competitive Products for Field Corn

Trial ID: CN LumaxCamix PRE 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	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR						
BBCH Scale									
Rating Date	9/Jun/2003	3/Jul/2003	26/Aug/2003	9/Jun/2003	3/Jul/2003	26/Aug/2003			
Rating Data Type	PHYGEN	PHYGEN	PHYGEN	CONTRO	CONTRO	CONTRO			
Rating Unit									
Crop Stage	V-4								
Days After Last Applic.									
Trt-Eval Interval	28 DA-A	52 DA-A	106 DA-A	28 DA-A	52 DA-A	106 DA-A			
ARM Action Codes									
Number of Decimals									
Trt No.	Treatment Name	Other Rate	Other Rate Unit	1	8	15	2	9	16
1	Untreated check			0 a	1 a	0 a	0 b	0 b	0 b
2	Lumax	2.5	qt/a	0 a	2 a	0 a	99 a	99 a	99 a
3	Lumax AAtrex	2.5 1	qt/a qt/a	0 a	0 a	0 a	99 a	99 a	99 a
4	Lumax Princep	2.5 1	qt/a qt/a	0 a	0 a	0 a	99 a	99 a	99 a
5	Bicep II Magnum	2.1	qt/a	0 a	0 a	0 a	99 a	99 a	99 a
6	Harness Xtra 5.6L	2.25	qt/a	0 a	1 a	0 a	99 a	99 a	99 a
7	Epic	12	oz/a	0 a	0 a	0 a	99 a	99 a	99 a
8	Keystone	2.6	qt/a	0 a	1 a	0 a	99 a	99 a	99 a
9	Keystone Hornet WDG 68.5	2.6 3	qt/a oz/a	0 a	1 a	0 a	99 a	99 a	99 a
10	Keystone Balance Pro	1.3 2.25	qt/a fl oz/a	0 a	2 a	0 a	99 a	99 a	99 a
11	Guardsman Max	2	qt/a	0 a	1 a	0 a	99 a	99 a	99 a
12	Camix	2	qt/a	0 a	1 a	0 a	99 a	98 a	99 a
13	Camix Princep	2 0.53	qt/a qt/a	0 a	0 a	0 a	99 a	99 a	99 a
14	Untreated check			0 a	1 a	0 a	0 b	0 b	0 b
15	Camix	2.4	qt/a	0 a	1 a	0 a	99 a	99 a	99 a
16	Lumax	3	qt/a	0 a	1 a	1 a	99 a	99 a	99 a
17	Camix AAtrex	2 1	qt/a qt/a	0 a	1 a	0 a	99 a	99 a	99 a
18	Camix AAtrex	2 2	qt/a qt/a	0 a	1 a	0 a	99 a	99 a	99 a
19	Lumax AAtrex	2.5 0.5	qt/a qt/a	0 a	0 a	0 a	99 a	99 a	99 a
20	Lumax AAtrex	2.5 1.25	qt/a qt/a	0 a	0 a	1 a	99 a	99 a	99 a
21	Lumax Princep	2.5 0.5	qt/a qt/a	0 a	0 a	0 a	99 a	99 a	99 a
22	Bicep II Magnum Callisto	2.1 5.4	qt/a fl oz/a	0 a	1 a	0 a	99 a	99 a	99 a
23	Bicep II Magnum Princep	2.1 1	qt/a qt/a	0 a	1 a	0 a	99 a	99 a	99 a
24	Keystone Hornet WDG 68.5	2.1 3	qt/a oz/a	0 a	1 a	0 a	99 a	99 a	99 a
25	Harness Xtra 5.6L	2.5	qt/a	0 a	0 a	0 a	99 a	99 a	99 a
LSD (P=.05)				0.2	1.7	0.6	0.0	0.8	0.0
CV				866.03	143.29	477.81	0.0	0.51	0.0

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.

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Trial ID: CN LumaxCamix PRE 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	3/Jul/2003	26/Aug/2003	9/Jun/2003	3/Jul/2003	26/Aug/2003	
Rating Data Type		CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	
Rating Unit								
Crop Stage								
Days After Last Applic.								
Trt-Eval Interval		28 DA-A	52 DA-A	106 DA-A	28 DA-A	52 DA-A	106 DA-A	
ARM Action Codes								
Number of Decimals								
Trt Treatment	Other	Other						
No. Name	Rate	Rate Unit	3	10	17	4	11	18
1 Untreated check			0 b	0 b	0 b	0 e	0 c	0 c
2 Lumax	2.5 qt/a		99 a	99 a	99 a	96 a	99 a	99 a
3 Lumax AAtrex	2.5 qt/a 1 qt/a		99 a	99 a	99 a	99 a	99 a	99 a
4 Lumax Princep	2.5 qt/a 1 qt/a		99 a	99 a	99 a	99 a	99 a	99 a
5 Bicep II Magnum	2.1 qt/a		99 a	99 a	99 a	97 a	99 a	99 a
6 Harness Xtra 5.6L	2.25 qt/a		99 a	99 a	99 a	99 a	99 a	99 a
7 Epic	12 oz/a		99 a	99 a	99 a	83 b	74 a	50 b
8 Keystone	2.6 qt/a		99 a	99 a	99 a	99 a	99 a	99 a
9 Keystone Hornet WDG 68.5	2.6 qt/a 3 oz/a		99 a	99 a	99 a	98 a	99 a	99 a
10 Keystone Balance Pro	1.3 qt/a 2.25 fl oz/a		99 a	99 a	99 a	99 a	99 a	99 a
11 Guardsman Max	2 qt/a		99 a	99 a	99 a	96 a	96 a	99 a
12 Camix	2 qt/a		99 a	99 a	99 a	15 d	30 b	3 c
13 Camix Princep	2 qt/a 0.53 qt/a		99 a	99 a	99 a	95 a	83 a	79 a
14 Untreated check			0 b	0 b	0 b	0 e	0 c	0 c
15 Camix	2.4 qt/a		99 a	99 a	99 a	65 c	45 b	17 c
16 Lumax	3 qt/a		99 a	99 a	99 a	96 a	89 a	83 a
17 Camix AAtrex	2 qt/a 1 qt/a		99 a	99 a	99 a	98 a	92 a	99 a
18 Camix AAtrex	2 qt/a 2 qt/a		99 a	99 a	99 a	99 a	99 a	99 a
19 Lumax AAtrex	2.5 qt/a 0.5 qt/a		99 a	99 a	99 a	99 a	99 a	99 a
20 Lumax AAtrex	2.5 qt/a 1.25 qt/a		99 a	99 a	99 a	99 a	99 a	83 a
21 Lumax Princep	2.5 qt/a 0.5 qt/a		99 a	99 a	99 a	98 a	98 a	99 a
22 Bicep II Magnum Callisto	2.1 qt/a 5.4 fl oz/a		99 a	99 a	99 a	99 a	99 a	99 a
23 Bicep II Magnum Princep	2.1 qt/a 1 qt/a		99 a	99 a	99 a	98 a	99 a	99 a
24 Keystone Hornet WDG 68.5	2.1 qt/a 3 oz/a		99 a	99 a	99 a	99 a	96 a	96 a
25 Harness Xtra 5.6L	2.5 qt/a		99 a	99 a	99 a	97 a	86 a	99 a
LSD (P=.05)			0.0	0.0	0.0	7.2	18.7	22.0
CV			0.0	0.0	0.0	5.12	13.66	16.69

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

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Trial ID: CN LumaxCamix PRE 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	3/Jul/2003	26/Aug/2003	9/Jun/2003	3/Jul/2003	26/Aug/2003			
Rating Data Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO			
Rating Unit									
Crop Stage									
Days After Last Applic.									
Trt-Eval Interval	28 DA-A	52 DA-A	106 DA-A	28 DA-A	52 DA-A	106 DA-A			
ARM Action Codes									
Number of Decimals									
Trt No.	Treatment Name	Other Rate	Other Rate Unit	5	12	19	6	13	20
1	Untreated check			0 b	0 c	0 b	0 c	0 f	0 f
2	Lumax	2.5	qt/a	99 a	99 a	99 a	80 a	68 a-e	50 cde
3	Lumax AAtrex	2.5 1	qt/a qt/a	99 a	99 a	99 a	83 a	57 a-e	48 cde
4	Lumax Princep	2.5 1	qt/a qt/a	99 a	99 a	99 a	85 a	63 a-e	43 de
5	Bicep II Magnum	2.1	qt/a	99 a	99 a	99 a	38 b	25 def	32 de
6	Harness Xtra 5.6L	2.25	qt/a	98 a	99 a	99 a	82 a	58 a-e	62 b-e
7	Epic	12	oz/a	99 a	99 a	99 a	96 a	89 abc	93 ab
8	Keystone	2.6	qt/a	99 a	99 a	99 a	95 a	75 a-d	82 abc
9	Keystone Hornet WDG 68.5	2.6 3	qt/a oz/a	98 a	99 a	99 a	95 a	93 ab	93 ab
10	Keystone Balance Pro	1.3 2.25	qt/a fl oz/a	99 a	99 a	99 a	99 a	99 a	99 a
11	Guardzman Max	2	qt/a	98 a	98 a	99 a	43 b	32 def	28 def
12	Camix	2	qt/a	99 a	99 a	99 a	30 b	17 ef	23 ef
13	Camix Princep	2 0.53	qt/a qt/a	99 a	99 a	99 a	82 a	43 b-f	60 b-e
14	Untreated check			0 b	0 c	0 b	0 c	0 f	0 f
15	Camix	2.4	qt/a	99 a	99 a	99 a	47 b	33 def	40 de
16	Lumax	3	qt/a	99 a	99 a	99 a	76 a	50 a-e	57 cde
17	Camix AAtrex	2 1	qt/a qt/a	99 a	99 a	99 a	87 a	75 a-d	57 cde
18	Camix AAtrex	2 2	qt/a qt/a	99 a	99 a	99 a	93 a	78 a-d	82 abc
19	Lumax AAtrex	2.5 0.5	qt/a qt/a	99 a	99 a	99 a	88 a	65 a-e	52 cde
20	Lumax AAtrex	2.5 1.25	qt/a qt/a	99 a	99 a	99 a	83 a	47 b-f	52 cde
21	Lumax Princep	2.5 0.5	qt/a qt/a	99 a	99 a	99 a	87 a	63 a-e	65 bcd
22	Bicep II Magnum Callisto	2.1 5.4	qt/a fl oz/a	99 a	99 a	99 a	78 a	40 c-f	47 cde
23	Bicep II Magnum Princep	2.1 1	qt/a qt/a	97 a	99 a	99 a	53 b	25 def	40 de
24	Keystone Hornet WDG 68.5	2.1 3	qt/a oz/a	98 a	99 a	99 a	89 a	72 a-d	63 bcd
25	Harness Xtra 5.6L	2.5	qt/a	97 a	80 b	99 a	88 a	48 a-f	53 cde
LSD (P=.05)				1.6	8.7	0.0	18.8	29.1	21.6
CV				1.05	5.82	0.0	16.02	33.46	24.8

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.

Premerge Lumax, Camix and Competitive Products for Field Corn

Trial ID: CN LumaxCamix PRE 03

Study Director:

Location: Ashland Otto East

Investigator: David L Regehr

Pest Type	W Weed	W Weed	W Weed			
Pest Code	HELAN	HELAN	HELAN			
Crop Code						
BBCH Scale						
Rating Date	9/Jun/2003	3/Jul/2003	26/Aug/2003			
Rating Data Type	CONTRO	CONTRO	CONTRO			
Rating Unit						
Crop Stage						
Days After Last Applic.						
Trt-Eval Interval	28 DA-A	52 DA-A	106 DA-A			
ARM Action Codes						
Number of Decimals						
Trt No.	Treatment Name	Other Rate	Other Rate Unit	7	14	21
1	Untreated check			0 d	0 d	0 d
2	Lumax	2.5 qt/a		99 a	99 a	95 a
3	Lumax AAtrex	2.5 qt/a 1 qt/a		99 a	99 a	99 a
4	Lumax Princep	2.5 qt/a 1 qt/a		98 a	98 a	99 a
5	Bicep II Magnum	2.1 qt/a		75 ab	38 bcd	37 c
6	Harness Xtra 5.6L	2.25 qt/a		89 a	78 ab	75 ab
7	Epic	12 oz/a		60 bc	27 cd	45 bc
8	Keystone	2.6 qt/a		88 a	48 abc	63 abc
9	Keystone Hornet WDG 68.5	2.6 qt/a 3 oz/a		99 a	99 a	99 a
10	Keystone Balance Pro	1.3 qt/a 2.25 fl oz/a		96 a	88 a	90 a
11	Guardman Max	2 qt/a		48 c	27 cd	40 c
12	Camix	2 qt/a		80 ab	63 abc	88 a
13	Camix Princep	2 qt/a 0.53 qt/a		84 ab	65 abc	86 a
14	Untreated check			0 d	0 d	0 d
15	Camix	2.4 qt/a		96 a	93 a	99 a
16	Lumax	3 qt/a		99 a	99 a	99 a
17	Camix AAtrex	2 qt/a 1 qt/a		99 a	99 a	99 a
18	Camix AAtrex	2 qt/a 2 qt/a		99 a	99 a	99 a
19	Lumax AAtrex	2.5 qt/a 0.5 qt/a		98 a	99 a	99 a
20	Lumax AAtrex	2.5 qt/a 1.25 qt/a		98 a	96 a	99 a
21	Lumax Princep	2.5 qt/a 0.5 qt/a		99 a	99 a	99 a
22	Bicep II Magnum Callisto	2.1 qt/a 5.4 fl oz/a		97 a	99 a	98 a
23	Bicep II Magnum Princep	2.1 qt/a 1 qt/a		76 ab	51 abc	62 abc
24	Keystone Hornet WDG 68.5	2.1 qt/a 3 oz/a		99 a	99 a	98 a
25	Harness Xtra 5.6L	2.5 qt/a		88 a	54 abc	71 ab
LSD (P=.05)				18.0	31.4	22.1
CV				13.18	26.21	17.28

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.