

Comparison of the Performance of Callisto Xtra Premix to Callisto, Laudis, Impact, Status and Halex GT Systems for Weed Control in Field Corn at Rochester, MN, 2009

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The objective of this trial was to compare and evaluate the performance of Callisto Xtra premix to Callisto, Laudis, Impact, Status and Halex GT herbicide systems for weed control in corn in southeastern Minnesota. The research site was a Lawler loam series with a pH of 7.0 and soil test P and K levels of 73 ppm and 191 ppm, respectively. Spring fertilizer was broadcast ahead of planting on April 17th at a rate of 126-35-120-24 (N-P-K-S). The area was side dressed with an additional 30 b/A of N on June 15. The field was spring disked and field cultivated once prior to planting. The corn hybrid, Pioneer 35F44, was planted on May 8th, 2009, at a depth of 1.5 inches in 30 inch rows at 35,000 seeds per acre. A randomized complete block design was used with four replications. Preemergence (PRE) and postemergence (POST) treatments were applied with a tractor-mounted sprayer delivering 20 gpa at 32 psi using Turbo Tee 11002 nozzles. Evaluations of the plots were taken on June 2, 9, 16, 24 and July 20, 2009. Application dates, environmental conditions, and weed stages are listed below. The center two rows of each plot were machine harvested on November 13, 2009.

Date	5/11	5/29
Treatment	PRE	POST I
Temperature (F)		
air	59	71
soil		70.9
Relative Humidity (%)	36	33
Wind (mph)	0	9
Soil Moisture	Adequate	Adequate
Corn		
stage		V2-V3
height (inch)		4
Giant Ragweed		
weed density (ft ²)		11
height		2.4
Common Lambsquarters		
weed density (ft ²)		9.8
height		1.9
Common Waterhemp		
weed density (ft ²)		12
height		1.1
Giant foxtail		
weed density (ft ²)		0.3
height		1.4
Rainfall after each application (inch)		
week 1	0.61	0.02
week 2	0.19	1.97
week 3	1.76	1.03

Table 1. Comparison of the performance of Callisto Xtra to other herbicide systems for giant ragweed control in field corn at Rochester, MN, in 2009.

Treatment	Rate	Giant Ragweed					Yield
		6/2	6/9	6/16	6/24	7/20	
	(rate/A)	(% Control)					(bu/A)
Untreated Check		0	0	0	0	0	18 d
PRE/POST I							
Bicep II Magnum/ Callisto Xtra +Touchdown Total+ N-Pak AMS	1.2 qt/20 fl oz+24 fl oz+2.5%v/v	80	91	92	94	91	217 a
POST							
Callisto Xtra + Touchdown Total+ N-Pak AMS	20 fl oz+ 24 fl oz+2.5 %v/v	0	89	91	94	91	207 a
Callisto+ Touchdown Total + N-Pak AMS	3 fl oz+24 fl oz+2.5 %v/v	0	84	85	87	85	215 a
Laudis 3.5 SC+ Touchdown Total + N-Pak AMS	2 fl oz+24 fl oz+2.5 %v/v	0	84	74	76	73	167 b
Impact 2.8 SC+ Touchdown Total + N-Pak AMS	0.5 fl oz+24 fl oz+2.5 %v/v	0	82	70	68	61	140 c
Status 56 WG+ Touchdown Total	2.5 oz wt+24 fl oz	0	87	74	74	64	139 c
Halex GT+ Buctril + NIS+ N-Pak AMS	3.6 pt+6 fl oz+0.25 %v/v 2.5 %v/v	0	90	85	90	89	210 a
	LSD (P=0.10)	2	4	5	6	9	20

Table 2. Comparison of the performance of Callisto Xtra to other herbicide systems for common lambsquarters control in field corn at Rochester, MN, in 2009.

Treatment	Rate	Common Lambsquarters					Yield
		6/2	6/9	6/16	6/24	7/20	
	(rate/A)	(% Control)					(bu/A)
Untreated Check		0	0	0	0	0	18 d
PRE/POST I							
Bicep II Magnum/ Callisto Xtra +Touchdown Total+ N-Pak AMS	1.2 qt/20 fl oz+24 fl oz+2.5%v/v	99	99	99	99	95	217 a
POST							
Callisto Xtra + Touchdown Total+ N-Pak AMS	20 fl oz+ 24 fl oz+2.5 %v/v	0	99	99	99	95	207 a
Callisto+ Touchdown Total + N-Pak AMS	3 fl oz+24 fl oz+2.5 %v/v	0	99	99	98	93	215 a
Laudis 3.5 SC+ Touchdown Total + N-Pak AMS	2 fl oz+24 fl oz+2.5 %v/v	0	98	95	95	90	167 b
Impact 2.8 SC+ Touchdown Total + N-Pak AMS	0.5 fl oz+24 fl oz+2.5 %v/v	0	98	89	91	87	140 c
Status 56 WG+ Touchdown Total	2.5 oz wt+24 fl oz	0	99	90	93	86	139 c
Halex GT+ Buctril + NIS+ N-Pak AMS	3.6 pt+6 fl oz+0.25 %v/v 2.5 %v/v	0	98	99	99	95	210 a
	LSD (P=0.10)	1	1	3	2	2	20

Table 3. Comparison of the performance of Callisto Xtra to other herbicide systems for common waterhemp control in field corn at Rochester, MN, in 2009.

Treatment	Rate	Common Waterhemp					Yield
		6/2	6/9	6/16	6/24	7/20	
	(rate/A)	(% Control)					(bu/A)
Untreated Check		0	0	0	0	0	18 d
PRE/POST I							
Bicep II Magnum/ Callisto Xtra +Touchdown Total+ N-Pak AMS	1.2 qt/20 fl oz+24 fl oz+2.5%v/v	99	99	99	99	96	217 a
POST							
Callisto Xtra + Touchdown Total+ N-Pak AMS	20 fl oz+ 24 fl oz+2.5 %v/v	0	99	99	98	93	207 a
Callisto+ Touchdown Total + N-Pak AMS	3 fl oz+24 fl oz+2.5 %v/v	0	98	99	98	93	215 a
Laudis 3.5 SC+ Touchdown Total + N-Pak AMS	2 fl oz+24 fl oz+2.5 %v/v	0	97	92	96	89	167 b
Impact 2.8 SC+ Touchdown Total + N-Pak AMS	0.5 fl oz+24 fl oz+2.5 %v/v	0	96	86	88	97	140 c
Status 56 WG+ Touchdown Total	2.5 oz wt+24 fl oz	0	95	88	88	97	139 c
Halex GT+ Buctril + NIS+ N-Pak AMS	3.6 pt+6 fl oz+0.25 %v/v 2.5 %v/v	0	98	99	97	95	210 a
	LSD (P=0.10)	1	2	4	4	3	20

Table 4. Comparison of the performance of Callisto Xtra to other herbicide systems for giant foxtail control in field corn at Rochester, MN, in 2009.

Treatment	Rate	Giant Foxtail					Yield
		6/2	6/9	6/16	6/24	7/20	
	(rate/A)	(% Control)					(bu/A)
Untreated Check		0	0	0	0	0	18 d
PRE/POST I							
Bicep II Magnum/ Callisto Xtra +Touchdown Total+ N-Pak AMS	1.2 qt/20 fl oz+24 fl oz+2.5%v/v	97	98	98	98	96	217 a
POST							
Callisto Xtra + Touchdown Total+ N-Pak AMS	20 fl oz+ 24 fl oz+2.5 %v/v	0	89	84	88	89	207 a
Callisto+ Touchdown Total + N-Pak AMS	3 fl oz+24 fl oz+2.5 %v/v	0	97	80	83	85	215 a
Laudis 3.5 SC+ Touchdown Total + N-Pak AMS	2 fl oz+24 fl oz+2.5 %v/v	0	97	84	83	86	167 b
Impact 2.8 SC+ Touchdown Total + N-Pak AMS	0.5 fl oz+24 fl oz+2.5 %v/v	0	98	79	82	76	140 c
Status 56 WG+ Touchdown Total	2.5 oz wt+24 fl oz	0	97	80	82	80	139 c
Halex GT+ Buctril + NIS+ N-Pak AMS	3.6 pt+6 fl oz+0.25 %v/v 2.5 %v/v	0	97	89	93	92	210 a
	LSD (P=0.10)	1	2	5	4	5	20

Table 5. Injury ratings for herbicide systems in field corn at Rochester, MN, in 2009.

Treatment	Rate	Injury		
		6/4	6/9	6/16
	(rate/A)	(%)		
Untreated Check				
PRE/POST I				
Bicep II Magnum/ Callisto Xtra +Touchdown Total+ N-Pak AMS	1.2 qt/20 fl oz+24 fl oz+2.5%v/v	10	17	8
POST				
Callisto Xtra + Touchdown Total+ N-Pak AMS	20 fl oz+ 24 fl oz+2.5 %v/v	8	17	6
Callisto+ Touchdown Total + N-Pak AMS	3 fl oz+24 fl oz+2.5 %v/v	6	15	5
Laudis 3.5 SC+ Touchdown Total + N-Pak AMS	2 fl oz+24 fl oz+2.5 %v/v	5	15	6
Impact 2.8 SC+ Touchdown Total + N-Pak AMS	.5 fl oz+24 fl oz+2.5 %v/v	5	14	6
Status 56 WG+ Touchdown Total	2.5 oz wt+24 fl oz	3	16	9
Halex GT+ Buctril + NIS+ N-Pak AMS	3.6 pt+6 fl oz+0.25 %v/v 2.5 %v/v	49	28	18
	LSD (P=0.10)	4	2	3