Poast Resistant Sweet Corn and Other Herbicide Developments

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Processing sweet corn hybrids approved for Accent

ABCO Var. #610	Empire	GG 455*	Lumina
Basin*	Excalibur	GH 0937	Prelude*
Bonus	GG 8	GH 2547	Reward
Challenger	GG 22	GH 2690	Sheba
Chase	GG 43	GH 9589	Sockeye
Climax	GG 57	GH 9597*	Spirit
Cornucopia	GG 63*	GSS 8357	Sprint
Crisp'N Sweet 710	GG 202	GSS 8388	Stetson
Crisp'N Sweet 710A	GG 214	GSS 9299	Suregold
DMC 20-04	GG 246	Harvest Gold	Wht 2801
DMC 20-35	GG 255	HM 701	Zenith
Dynamo	GG 435	Kokanee	781 Ultra
Eliminator	GG 445	Lancaster*	
Excellency	GG 446*	Legacy	

* Hybrids added to the recommended list for 2006.

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Poast (sethoxydim)

For use on Poast Protected (sethoxydim-resistant) hybrids
- insensitive ACCase selected through tissue culture
- resistance not transgenic (not GMO)

<u>Poast (Microflo supplemental label)</u>
Rate: 0.5 - 1.5 pt/a + 1 qt/a COC + 2.5 lb/a AMS
Timing: Emergence – before pollen shed
Weeds: 0.5 pt/a 10” wild proso millet
1 pt/a 6” crabgrass, 8” foxtails
1.5 pt/a 8” quackgrass
Tank mixtures:
atrazine, Basagran, Laddok S-12
Rotational restrictions:
0 days (labeled crops) or 30 days (other crops)

Poast Protected Sweet Corn

Wild proso millet control

Poast – 2 applications maximum allowed

<u>Recommendation</u>

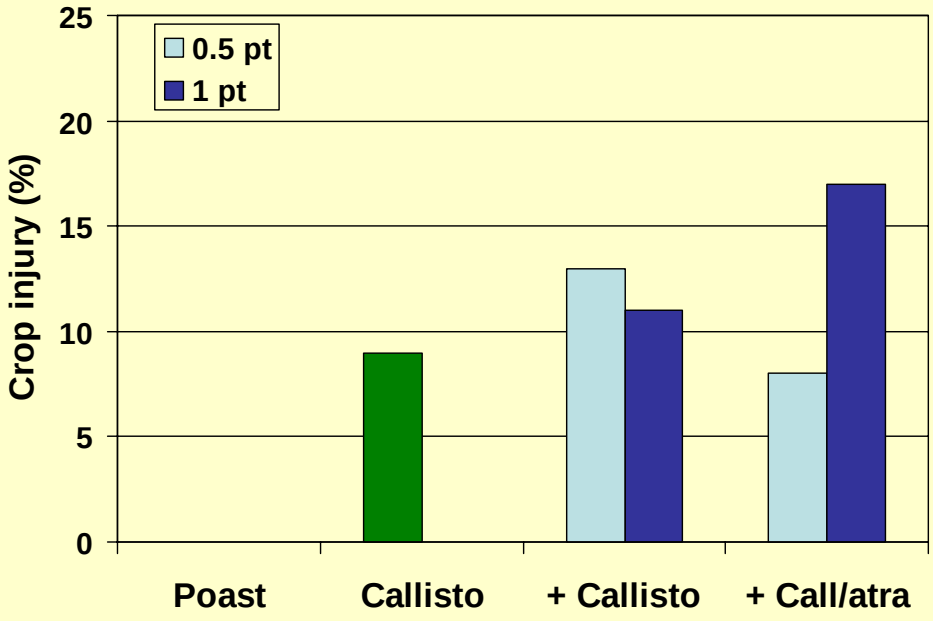
Pre grass herbicide; POST Poast

- limited number of hybrids
- GH 2042, GH 6333 (Cahill), GH 6631 (Rocker)

Alternative is Accent

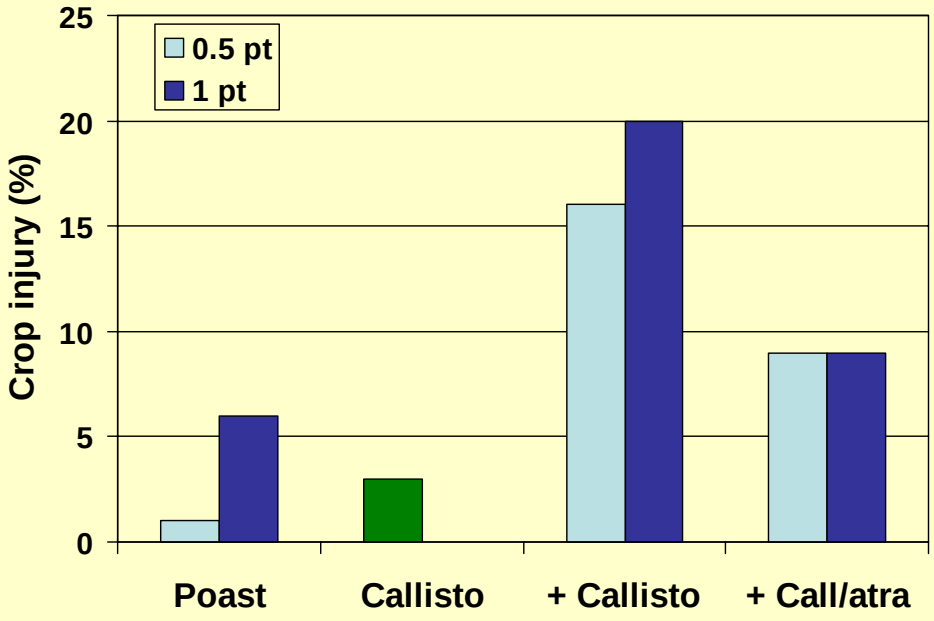
- narrower application window
- limited to approved hybrids

Poast tank mixtures: Crop injury



Wisconsin

Adjuvant - 1% COC



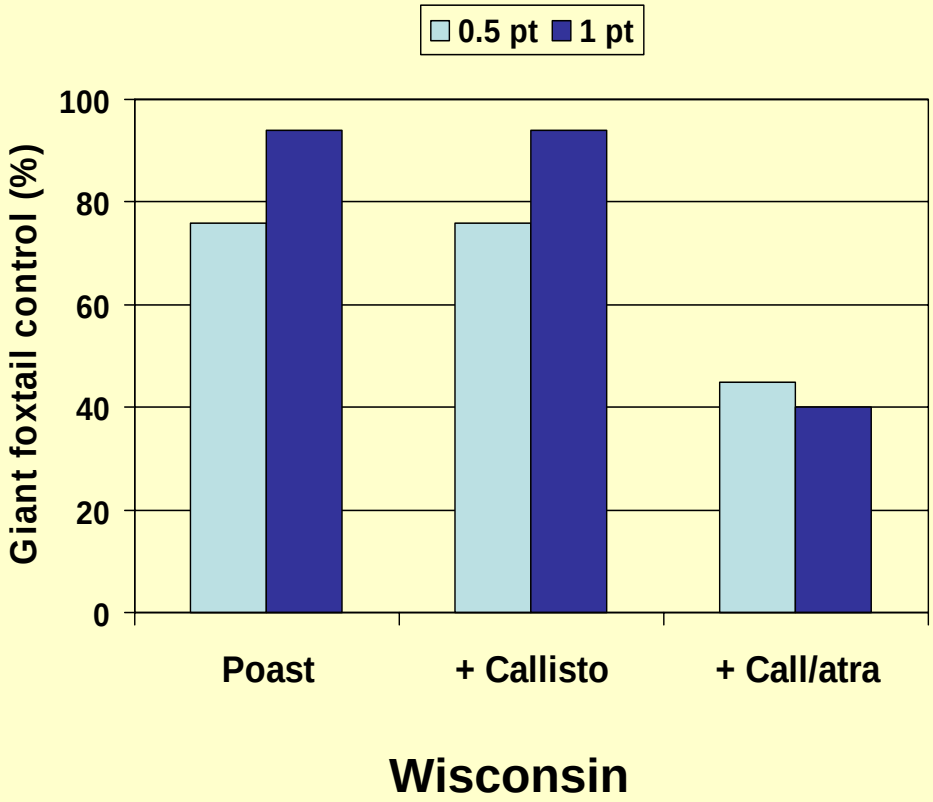
Minnesota

R. Becker, Univ. of Minnesota

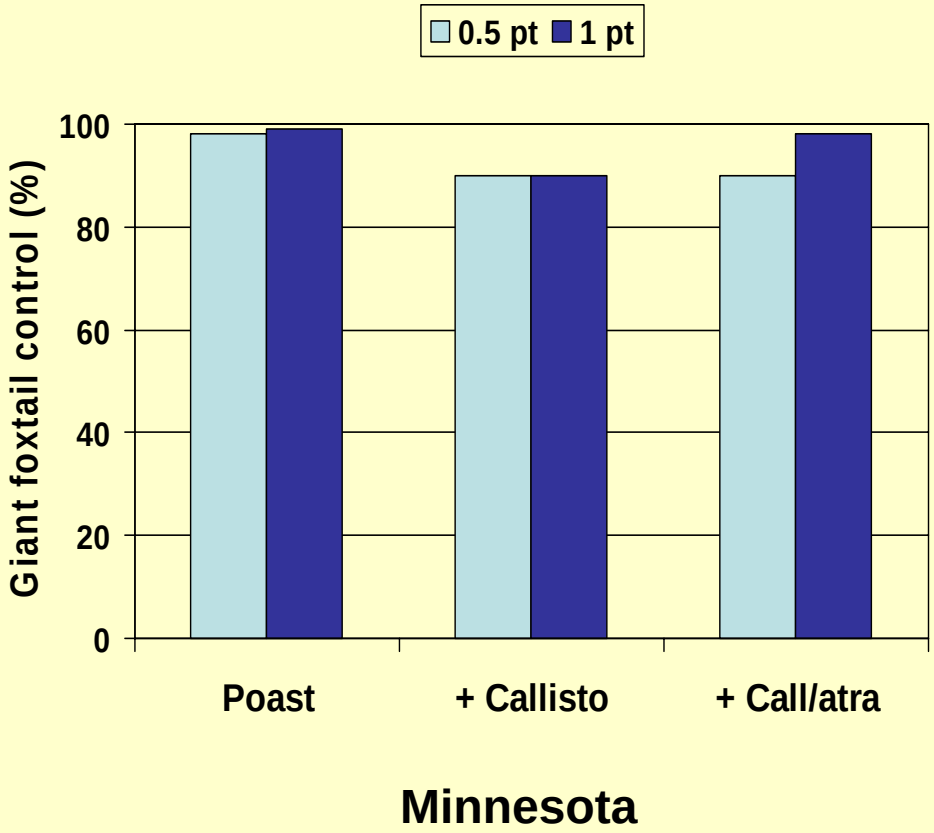
Poast Crop Injury

R. Becker, Univ. of Minnesota

Poast tank mixtures: Giant foxtail control

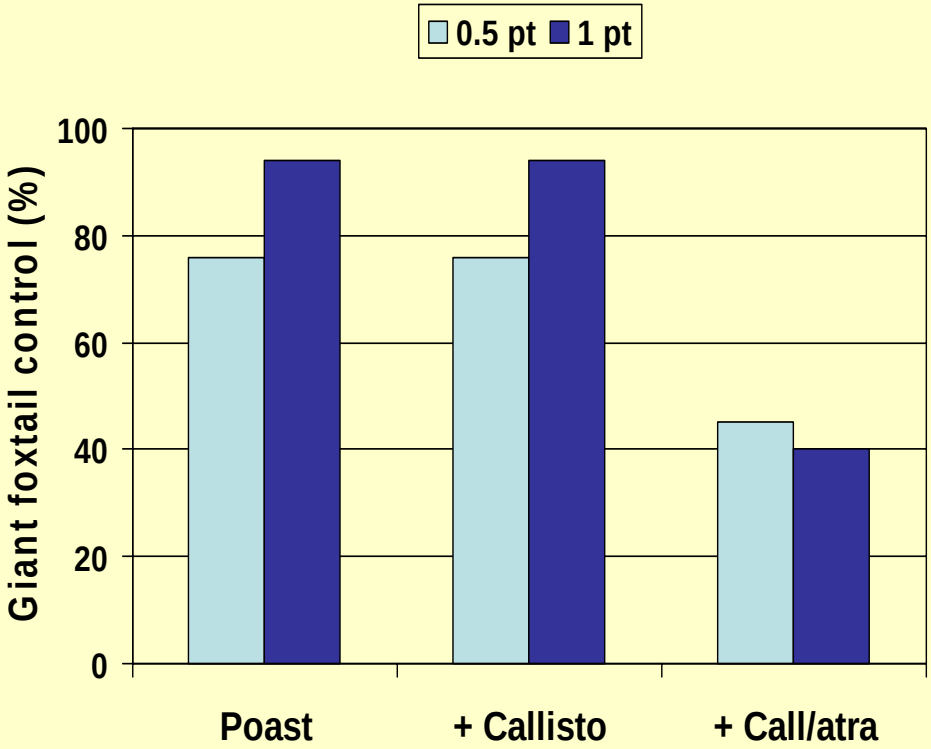


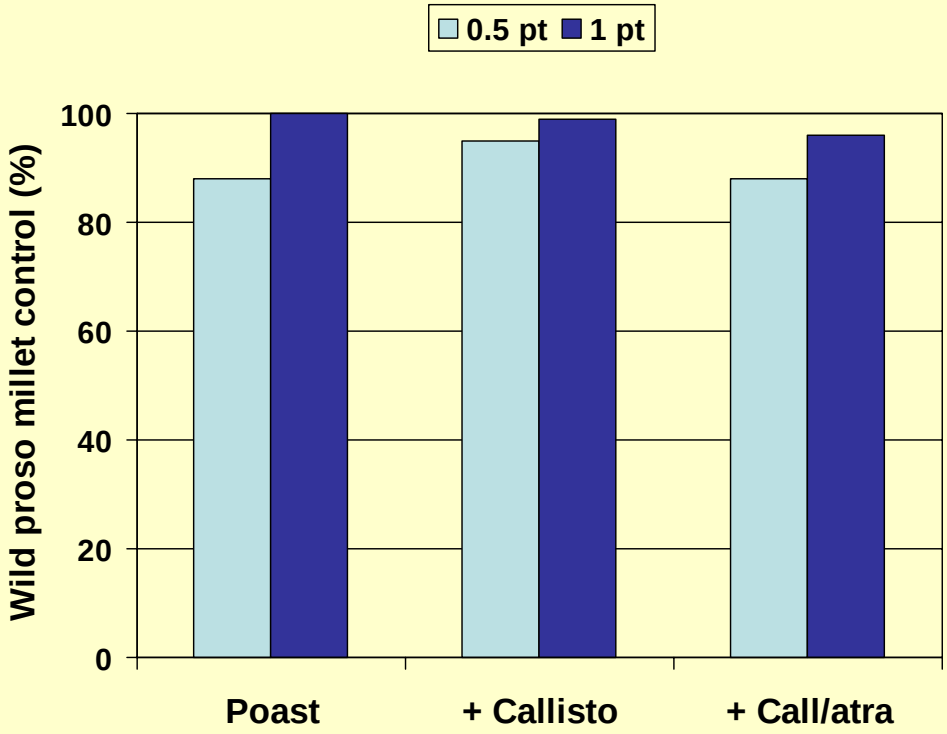
Wisconsin



Minnesota

Poast tank mixtures: Giant foxtail vs Wild proso millet





Check
Poast
Poast + Callisto
Poast + Call/atra

Impact – AMVAC

Topramazone – HPPD inhibitor (group 27); 2.8 lb/gal

POST broadleaf (and grass) control in field corn (grain, silage, and seed) and sweet corn

<u>0.75 oz/a rate</u>

6” - lambsquarters, nightshade, pigweed, common ragweed, giant ragweed (8”), smartweed (3”), velvetleaf (8”)

crabgrass (3”), giant foxtail (4”)

<u>0.5 oz/a rate</u> (reduced rate for 9 mo. soybean rotation)

4” - lambsquarters, nightshade, pigweed, common ragweed, giant ragweed (5”), smartweed (2”), velvetleaf (5”)

suppression - crabgrass (3”), giant foxtail (4”)

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Impact – AMVAC

Adjuvant: 1-1.5% MSO or COC

plus 1.25-2.5% UAN or 8.5 lb/100 gal AMS

Tank mixtures: 0.25 - 1 lb/a atrazine or others

Wind maximum – 10 mph

Rainfast time – 1 hour

Rotations: corn – anytime
small grains – 3 mo.
alfalfa and potato – 9 mo.
other crops – 18 mo.

0.5 oz/a rate: soybean – 9 mo.

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Dual fb Impact+atrazine+MSO+UAN

HPPD Hybrid Tolerance

Callisto at 3 and 6 oz/a

+ 0.5 lb/a atrazine + 0.25% NIS

Impact at 0.75 and 1.5 oz/a

+ 0.5 lb/a atrazine + 1% MSO + 2.5% UAN

HPPD Hybrid Tolerance

	Chlorosis ratings (7 days after treatment)			
	Callisto		Impact	
	1X	2X	1X	2X
	---------- (%) ----------			
Early Gold	0	2	0	0
Bonus	0	1	0	0
GH 2042	0	4	1	6
SS Jubilee	0	3	0	0
Basin	0	1	0	0
Dynamo	5	20	1	2

Multi-state Sweet Corn Herbicide Tolerance Evaluation – in proceedings

Sweet Corn Hybrid Tolerance Evaluation 2005
(7 day after treatment summary)

			Accent (1.33 oz/a) Stunting %				Option (3 oz/a) Stunting %				Callisto (6 oz/a) Chlorosis %			
Company	**Entry Name**	**Genotype**	**Ave**	**Std**	**Min**	**Max**	**Ave**	**Std Dev**	**Min**	**Max**	**Ave**	**Std**	**Min**	**Max**
Crookham	Alexis	Synergistic	1.4	2.4	0	5	7.1	14.7	0	40	7.0	12.8	0	5
Crookham	Ambrosia	Se	2.1	5.7	0	15	8.6	9.9	0	25	2.4	4.6	0	15
Crookham	Argent	Se	13.6	14.4	0	40	8.6	12.5	0	35	22.1	24.3	0	40
Crookham	Bodacious	Se	8.6	10.7	0	30	8.6	14.1	0	40	2.1	5.7	0	30
Crookham	Bojangles	Synergistic	4.3	7.9	0	20	7.1	10.4	0	30	2.4	5.6	0	20
Crookham	Cameo	Synergistic	7.1	14.7	0	40	14.3	14.0	0	40	4.9	9.2	0	40
Crookham	Captivate	Synergistic	6.4	11.1	0	25	7.1	10.7	0	30	6.0	11.2	0	25
Crookham	Celestial	Synergistic	7.1	15.0	0	40	12.1	12.2	0	35	14.6	19.1	0	40
Crookham	Charmed	Synergistic	6.4	9.4	0	20	9.3	13.4	0	35	4.9	11.1	0	20
Crookham	Cinderella	Synergistic	4.3	5.3	0	15	9.3	12.7	0	35	7.1	10.7	0	15
Crookham	CNS710 rust	Sh2	5.7	11.3	0	30	9.3	11.3	0	30	2.9	5.7	0	30
Crookham	CSEYP1-3	Se	5.0	9.1	0	25	5.7	8.9	0	25	2.9	7.6	0	25
Crookham	CSHYP2-57	Sh2	7.1	10.7	0	30	7.1	12.5	0	35	2.1	5.7	0	30
Crookham	CSUWP1-7	Su	13.6	13.5	0	35	17.1	10.4	5	35	9.0	14.4	0	35
Crookham	CSUYP2-28	Su	7.9	12.2	0	30	8.9	12.1	0	35	3.6	7.5	0	30
Crookham	Delectable	Se	6.4	11.1	0	30	13.6	16.0	0	45	4.6	9.2	0	30
Crookham	Eliminator	Su	12.1	15.5	0	40	11.4	13.8	0	35	4.1	9.2	0	40
Crookham	Fleet	Se	7.9	9.9	0	30	12.9	12.2	0	30	1.7	4.5	0	30
Crookham	Holiday	Sh2	5.7	9.3	0	25	11.4	10.7	5	35	3.6	7.5	0	25
Crookham	How Sweet It Is	Sh2	11.4	10.3	0	25	9.3	14.0	0	40	8.3	11.8	0	25
Crookham	Incredible	Se	7.9	14.4	0	40	5.7	11.0	0	30	6.1	12.9	0	40
Crookham	Kristine	Synergistic	5.7	8.4	0	20	7.1	14.7	0	40	6.0	8.7	0	20

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Sweet Corn Summary

New herbicide options in sweet corn

Poast – post grass weeds, good/excellent tolerance

Callisto – post broadleaf weeds, good tolerance

Impact – post broadleaf weeds, good/excellent tolerance

Camix – pre grass and broadleaf, excellent tolerance

Lumax – pre grass and broadleaf, excellent tolerance