

Weed Control and Crop Safety w/EPOST Herbicide Applications (Janesville, WI 2021)

Trial Information

Trial Sponsor(s): BASF, Helm Agro

Objective: Compare the efficacy and crop safety of EPOST applications of Armezon PRO, Empyros, Impact Core, and Katagon

Crop: Corn

Hybrid: Dekalb DKC 54-38 RIB

Weed species (pressure): Giant ragweed (moderate-high)
Velvetleaf (moderate)
Pigweed (low)
Annual grasses (low)

Herbicide Application(s): PRE – 5/24

EPOST – 6/11 (V3 corn)

For the full report see trial #21-ROK-CN08 in the [2021 Wisconsin Weed Science Research Report](#)



Cropping Systems Weed Science
UNIVERSITY OF WISCONSIN-MADISON



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Janesville, WI 2021

Trt # Herbicide (rate acre ⁻¹)	Giant Ragweed (%)			Velvetleaf (%)			Pigweed ^b (%)			Annual Grasses ^c (%)		
	6/18	7/7	7/28	6/18	7/7	7/28	6/18	7/7	7/28	6/18	7/7	7/28
1 Untreated Check	0	0	0	0	0	0	0	0	0	0	0	0
One-Pass – EPOST (6/11)												
2 Empyros (32 oz) + atrazine (1 pt) + Zaar (1 pt)	99	89	79	100	84	70	100	95	84	100	94	89
3 Armezon PRO (16 oz) + atrazine (1 pt) + Zaar (1pt)	98	92	83	100	91	79	100	97	93	45	73	71
4 Empyros (48 ox) + atrazine (1.5 pt) + Zaar (1pt)	99	89	81	100	85	76	100	98	93	100	94	83
5 Armezon PRO (24 oz) + atrazine (1.5 pt) + Zaar (1pt)	98	90	83	100	89	79	100	97	94	70	79	79
6 Empyros (64 ox) + atrazine (2 pt) + Zaar (1pt)	99	88	80	100	91	80	100	99	96	100	97	92
7 Armezon PRO (32 oz) + atrazine (2 pt) + Zaar (1 pt)	99	95	88	100	95	85	100	100	97	88	85	86
8 Armezon PRO (20 oz) + atrazine (1 pt) + Zaar (1 pt)	99	91	90	100	88	79	100	98	90	59	70	71
9 Impact Core (28 oz) + atrazine (1 pt) + Zaar (1 pt)	98	91	83	100	90	76	100	100	99	49	65	69
10 Impact Core (22.5 oz) + atrazine (1 pt) + Zaar (1 pt)	98	89	84	100	92	80	100	99	97	41	66	63
Two-Pass – PRE (5/24) fb POST (6/11)												
11 Fearless (14 oz) fb Katagon (3.2 oz) + Destiny HC 1% v/v	93	90	85	100	90	79	100	99	94	80	90	83
12 Fearless (14 oz) fb Katagon (3.2 oz) + atrazine (2 pt) + Destiny HC 1% v/v	99	87	81	100	93	82	100	99	97	99	96	90
LSD ($\alpha=0.10$)	2	ns	ns	ns	ns	ns	ns	ns	7	28	13	13
p value	<0.001	0.579	0.103	0.465	0.107	0.218	1.00	0.24	0.068	0.001	<0.001	0.006

^aVisual control from 70-100% is illustrated on a color scale with green representing greater weed control values.

^bPigweed species included a mixture of redroot and smooth pigweed (~50%) and common waterhemp (~50%).

^cAnnual grass species included a mixture of giant foxtail, fall panicum, and barnyardgrass. Grass pressure was generally low and inconsistent across the trial area.

Weed Control and Crop Safety w/EPOST

Herbicide Applications (Janesville, WI 2021)

Trt #	Herbicide (rate acre ⁻¹)	Crop Injury (%)		Yield ^c (bu acre ⁻¹)
		6/18 ^a	7/7 ^b	
1	Untreated Check	0.0	0.0	54 e
One-Pass – EPOST (6/11)				
2	Empyros (32 oz) + atrazine (1 pt) + Zaar (1 pt)	11.5	3.5	235 d
3	Armezon PRO (16 oz) + atrazine (1 pt) + Zaar (1pt)	6.5	0.0	250 abc
4	Empyros (48 ox) + atrazine (1.5 pt) + Zaar (1pt)	11.3	4.8	243 a-d
5	Armezon PRO (24 oz) + atrazine (1.5 pt) + Zaar (1pt)	8.0	0.5	256 ab
6	Empyros (64 ox) + atrazine (2 pt) + Zaar (1pt)	12.1	4.5	239 cd
7	Armezon PRO (32 oz) + atrazine (2 pt) + Zaar (1 pt)	8.0	0.8	252 abc
8	Armezon PRO (20 oz) + atrazine (1 pt) + Zaar (1 pt)	7.8	0.5	257 a
9	Impact Core (28 oz) + atrazine (1 pt) + Zaar (1 pt)	8.5	1.5	242 bcd
10	Impact Core (22.5 oz) + atrazine (1 pt) + Zaar (1 pt)	8.3	1.0	243 a-d
Two-Pass – PRE (5/24) <i>fb</i> POST (6/11)				
11	Fearless (14 oz) <i>fb</i> Katagon (3.2 oz) + Destiny HC 1% v/v	2.5	0.5	253 abc
12	Fearless (14 oz) <i>fb</i> Katagon (3.2 oz) + atrazine (2 pt) + Destiny HC 1% v/v	7.0	2.5	242 bcd
LSD ($\alpha=0.10$)		1.2	1.2	14
<i>p</i> value		<0.001	<0.001	<0.001

^a Crop injury symptoms at 6/18 rating included leaf necrosis and leaf bleaching. Empyros treatments had both bleaching and necrosis; Armezon PRO and Impact Core had necrosis; Katagon had bleaching and minor necrosis.

^bCrop injury was rated for corn stunting at the 7/7 rating.

^cYield values with the same letter are not significantly different.

Weed Control and Crop Safety w/EPOST Herbicide Applications (Janesville, WI 2021)

Plot pictures taken on 6/15
22 days after the PRE application
4 days after the EPOST application

The number in the upper right-hand corner is the average % corn injury (leaf necrosis, bleaching) of 4 replications

22 days after PRE (6/15)

Untreated Check

0%



4 days after EPOST (6/15)

EPOST: 32 fl oz Empyros + 1 pt atrazine + 1 pt Zaar (MSO)

12%



4 days after EPOST (6/15)

EPOST: 32 fl oz Empyros + 1 pt atrazine + 1 pt Zaar (MSO)

12%



4 days after EPOST (6/15)

EPOST: 16 fl oz Armezon PRO + 1 pt atrazine + 1 pt Zaar (MSO)

6%



4 days after EPOST (6/15)

EPOST: 16 fl oz Armezon PRO + 1 pt atrazine + 1 pt Zaar (MSO)

6%



4 days after EPOST (6/15)

12%

EPOST: 48 fl oz Empyros + 1.5 pt atrazine + 1 pt Zaar (MSO)



4 days after EPOST (6/15)

EPOST: 48 fl oz Empyros + 1.5 pt atrazine + 1 pt Zaar (MSO)

12%



4 days after EPOST (6/15)

EPOST: 24 fl oz Armezon PRO + 1.5 pt atrazine + 1 pt Zaar (MSO)

9%



4 days after EPOST (6/15)

EPOST: 24 fl oz Armezon PRO + 1.5 pt atrazine + 1 pt Zaar (MSO)

9%



4 days after EPOST (6/15)

EPOST: 64 fl oz Empyros + 2 pt atrazine + 1 pt Zaar (MSO)

12%



4 days after EPOST (6/15)

EPOST: 64 fl oz Empyros + 2 pt atrazine + 1 pt Zaar (MSO)

12%



4 days after EPOST (6/15)

EPOST: 32 fl oz Armezon PRO + 2 pt atrazine + 1 pt Zaar (MSO)

9%



4 days after EPOST (6/15)

EPOST: 32 fl oz Armezon PRO + 2 pt atrazine + 1 pt Zaar (MSO)

9%



4 days after EPOST (6/15)

EPOST: 20 fl oz Armezon PRO + 1 pt atrazine + 1 pt Zaar (MSO)

8%



4 days after EPOST (6/15)

EPOST: 20 fl oz Armezon PRO + 1 pt atrazine + 1 pt Zaar (MSO)

8%



4 days after EPOST (6/15)

EPOST: 28 fl oz Impact Core + 1 pt atrazine + 1 pt Zaar (MSO)

9%



4 days after EPOST (6/15)

EPOST: 28 fl oz Impact Core + 1 pt atrazine + 1 pt Zaar (MSO)

9%



4 days after EPOST (6/15)

EPOST: 22.5 fl oz Impact Core + 1 pt atrazine + 1 pt Zaar (MSO)

9%



4 days after EPOST (6/15)

EPOST: 22.5 fl oz Impact Core + 1 pt atrazine + 1 pt Zaar (MSO)

9%



4 days after EPOST (6/15)

PRE: 14 fl oz Fearless *fb*

EPOST: 3.2 fl oz Katagon + 1% v/v Destiny HC

1%



4 days after EPOST (6/15)

PRE: 14 fl oz Fearless *fb*

EPOST: 3.2 fl oz Katagon + 1% v/v Destiny HC

1%



4 days after EPOST (6/15)

PRE: 14 fl oz Fearless *fb*

EPOST: 3.2 fl oz Katagon + 2 pt atrazine + 1% v/v Destiny HC

8%



4 days after EPOST (6/15)

PRE: 14 fl oz Fearless *fb*

EPOST: 3.2 fl oz Katagon + 2 pt atrazine + 1% v/v Destiny HC

8%



Weed Control and Crop Safety w/EPOST Herbicide Applications (Janesville, WI 2021)

Plot pictures taken on 6/18

25 days after the PRE application
7 days after the EPOST application

The number in the upper right-hand corner is the average % giant ragweed control of 4 replications

25 days after PRE (6/18)
Untreated Check

0%



7 days after EPOST (6/18)

EPOST: 32 fl oz Empyros + 1 pt atrazine + 1 pt Zaar (MSO)

99%



7 days after EPOST (6/18)

EPOST: 16 fl oz Armezon PRO + 1 pt atrazine + 1 pt Zaar (MSO)

98%



7 days after EPOST (6/18)

EPOST: 48 fl oz Empyros + 1.5 pt atrazine + 1 pt Zaar (MSO)

99%



7 days after EPOST (6/18)

EPOST: 24 fl oz Armezon PRO + 1.5 pt atrazine + 1 pt Zaar (MSO)

98%



7 days after EPOST (6/18)

EPOST: 64 fl oz Empyros + 2 pt atrazine + 1 pt Zaar (MSO)

99%



7 days after EPOST (6/18)

EPOST: 32 fl oz Armezon PRO + 2 pt atrazine + 1 pt Zaar (MSO)

99%



7 days after EPOST (6/18)

EPOST: 20 fl oz Armezon PRO + 1 pt atrazine + 1 pt Zaar (MSO)

99%



7 days after EPOST (6/18)

EPOST: 28 fl oz Impact Core + 1 pt atrazine + 1 pt Zaar (MSO)

98%



7 days after EPOST (6/18)

EPOST: 22.5 fl oz Impact Core + 1 pt atrazine + 1 pt Zaar (MSO)

98%



7 days after EPOST (6/18)

PRE: 14 fl oz Fearless *fb*

EPOST: 3.2 fl oz Katagon + 1% v/v Destiny HC

93%



7 days after EPOST (6/18)

PRE: 14 fl oz Fearless *fb*

EPOST: 3.2 fl oz Katagon + 2 pt atrazine + 1% v/v Destiny HC

99%



Weed Control and Crop Safety w/EPOST Herbicide Applications (Janesville, WI 2021)

Plot pictures taken on 6/29

36 days after the PRE application
18 days after the EPOST application

The number in the upper right-hand corner is the average % giant ragweed control of 4 replications

36 days after PRE (6/29)

Untreated Check

0%



18 days after EPOST (6/29)

EPOST: 32 fl oz Empyros + 1 pt atrazine + 1 pt Zaar (MSO)

88%



18 days after EPOST (6/29)

EPOST: 16 fl oz Armezon PRO + 1 pt atrazine + 1 pt Zaar (MSO)

89%



18 days after EPOST (6/29)

EPOST: 48 fl oz Empyros + 1.5 pt atrazine + 1 pt Zaar (MSO)

90%



18 days after EPOST (6/29)

EPOST: 24 fl oz Armezon PRO + 1.5 pt atrazine + 1 pt Zaar (MSO)

93%



18 days after EPOST (6/29)

EPOST: 64 fl oz Empyros + 2 pt atrazine + 1 pt Zaar (MSO)

90%



18 days after EPOST (6/29)

EPOST: 32 fl oz Armezon PRO + 2 pt atrazine + 1 pt Zaar (MSO)

94%



18 days after EPOST (6/29)

EPOST: 20 fl oz Armezon PRO + 1 pt atrazine + 1 pt Zaar (MSO)

94%



18 days after EPOST (6/29)

EPOST: 28 fl oz Impact Core + 1 pt atrazine + 1 pt Zaar (MSO)

91%



18 days after EPOST (6/29)

EPOST: 22.5 fl oz Impact Core + 1 pt atrazine + 1 pt Zaar (MSO)

91%



18 days after EPOST (6/29)

PRE: 14 fl oz Fearless fb

EPOST: 3.2 fl oz Katagon + 1% v/v Destiny HC

86%



18 days after EPOST (6/29)

PRE: 14 fl oz Fearless fb

EPOST: 3.2 fl oz Katagon + 2 pt atrazine + 1% v/v Destiny HC

88%



Weed Control and Crop Safety w/EPOST Herbicide Applications (Janesville, WI 2021)

Plot pictures taken on 7/7

44 days after the PRE application
26 days after the EPOST application

The number in the upper right-hand corner is the average % giant ragweed control of 4 replications

44 days after PRE (7/7)

Untreated Check

0%



26 days after EPOST (7/7)

89%

EPOST: 32 fl oz Empyros + 1 pt atrazine + 1 pt Zaar (MSO)



26 days after EPOST (7/7)

EPOST: 16 fl oz Armezon PRO + 1 pt atrazine + 1 pt Zaar (MSO)

92%



26 days after EPOST (7/7)

EPOST: 48 fl oz Empyros + 1.5 pt atrazine + 1 pt Zaar (MSO)

89%



26 days after EPOST (7/7)

90%

EPOST: 24 fl oz Armezon PRO + 1.5 pt atrazine + 1 pt Zaar (MSO)



26 days after EPOST (7/7)

88%

EPOST: 64 fl oz Empyros + 2 pt atrazine + 1 pt Zaar (MSO)



26 days after EPOST (7/7)

EPOST: 32 fl oz Armezon PRO + 2 pt atrazine + 1 pt Zaar (MSO)

95%



26 days after EPOST (7/7)

EPOST: 20 fl oz Armezon PRO + 1 pt atrazine + 1 pt Zaar (MSO)

91%



26 days after EPOST (7/7)

91%

EPOST: 28 fl oz Impact Core + 1 pt atrazine + 1 pt Zaar (MSO)



26 days after EPOST (7/7)

EPOST: 22.5 fl oz Impact Core + 1 pt atrazine + 1 pt Zaar (MSO)

89%



26 days after EPOST (7/7)

PRE: 14 fl oz Fearless fb

EPOST: 3.2 fl oz Katagon + 1% v/v Destiny HC

90%



26 days after EPOST (7/7)

PRE: 14 fl oz Fearless fb

EPOST: 3.2 fl oz Katagon + 2 pt atrazine + 1% v/v Destiny HC

87%

