

Evaluation of Layered Residual Herbicide Programs in Enlist Soybean (Brooklyn, WI 2022)

Trial Information

Trial Sponsor(s): Adjuvants Unlimited, BASF, Corteva, Syngenta, Valent

Objective: Evaluate multiple two-pass herbicide programs with layered residuals for season-long waterhemp control in Enlist soybean

Crop: Enlist Soybean

Variety: H2123E

Weed species (pressure): glyphosate-R waterhemp (high-very high)
velvetleaf (moderate)
fall panicum (moderate)

Herbicide Application(s): PRE – 5/24
POST – 6/29 (V4 soybean)
LPOST – 7/14 (V7/R1 soybean)

For the full report see trial #22-BRO-SB12 in the [2022 Wisconsin Weed Science Research Report](#)



Cropping Systems Weed Science

UNIVERSITY OF WISCONSIN-MADISON

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Trt # Herbicide (rate acre ⁻¹)	Injury (%)	Waterhemp (%)					Velvetleaf (%)			Fall Panicum (%)			Yield ^b bu acre ⁻¹	
		7/13	6/14	6/29	7/13	7/26	9/29	6/29	7/26	9/29	6/29	7/26		9/29
1 Untreated Check	0	0	0	0	0	0	0	0	0	0	0	0	29 d	
Two-Pass – PRE (5/24) fb POST (6/29)		POST					POST			POST				
2 Kyber (1 pt) <i>fb</i> Enlist One (32 oz) + Liberty (32 oz) + EverpreX (1 pt) + AMS*	4.5	100	88	99	97	97	99	100	100	96	100	100	69 abc	
3 Kyber (1 pt) <i>fb</i> Enlist One (32 oz) + Durango DMA (32 oz) + EverpreX (1 pt) + AMS*	3.5	100	90	96	96	99	96	100	100	99	100	100	67 bc	
7 Kyber (1 pt) <i>fb</i> Liberty (32 oz) + Durango DMA (32 oz) + EverpreX (1 pt) + AMS*	5	100	86	100	98	99	99	100	100	91	100	100	66 c	
8 Fierce EZ (6 oz) <i>fb</i> Liberty (32 oz)+Perpetuo (6 oz)+Select Max (9 oz)+Induce 0.25% v/v +AMS*	3.3	100	89	98	94	95	94	100	100	92	100	99	71 a	
9 Fierce EZ (6 oz) <i>fb</i> Enlist One (32 oz)+Perpetuo (6 oz)+Select Max (9 oz)+Induce 0.25% v/v +AMS*	5	100	82	95	83	93	95	100	100	94	100	96	69 abc	
10 Fierce MTZ (1 pt) <i>fb</i> Liberty (32 oz)+Perpetuo (6 oz)+Select Max (9 oz)+Induce 0.25% v/v +AMS*	2.8	100	87	99	96	99	97	100	100	95	100	100	69 abc	
11 Fierce MTZ (1 pt) <i>fb</i> Enlist One (32 oz)+Perpetuo (6 oz)+Select Max (9 oz)+Induce 0.25% v/v +AMS*	4.3	99	83	92	81	90	97	100	100	93	100	100	67 bc	
12 Tendovo (2.1 qt) <i>fb</i> Sequence (3 pt) + Enlist One (32 oz) + AMS*	4	97	61	89	85	96	98	100	100	99	99	100	69 abc	
13 Zidua PRO (6 oz) <i>fb</i> Enlist One (32 oz) + Roundup PM3 (20 oz) + Zidua SC (2 oz) + AMS*	1.8	99	75	92	90	99	100	100	100	94	100	100	70 ab	
14 Verdict (5 oz) + Zidua SC (2 oz) <i>fb</i> Enlist One (32 oz) + Roundup PM3 (20 oz) + Zidua SC (2 oz) + AMS*	2	99	73	94	90	99	99	100	100	96	100	100	66 c	
Three-Pass – PRE (5/24) fb POST (6/29) fb LPOST (7/14)		LPOST												
4 Kyber (1 pt) <i>fb</i> Enlist One (32 oz) + Liberty (32 oz) + EverpreX (1 pt) + AMS* <i>fb</i> Enlist One (32 oz) + Liberty (32 oz) + AMS*	4	100	90	99	100	100	99	100	100	98	100	100	67 abc	
5 Kyber (1 pt) <i>fb</i> Enlist One (32 oz) + Durango DMA (32 oz) + EverpreX (1 pt) + AMS* <i>fb</i> Enlist One (32 oz) + Liberty (32 oz) + AMS*	3.3	100	90	98	100	100	99	100	100	95	100	100	67 bc	
6 Kyber (1 pt) <i>fb</i> Enlist One (32 oz) + Liberty (32 oz) + EverpreX (1 pt) + AMS* <i>fb</i> Enlist One (32 oz) + Durango DMA (32 oz) + AMS*	4.8	100	85	99	99	100	96	100	100	93	100	100	68 abc	
LSD (α=0.10)		1	11	3	5	3	ns	ns	ns	ns	ns	ns	3	
p value		<0.001	<.001	.003	<.001	<.001	<.001	.504	1.00	1.00	.709	.568	.261	<0.001

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

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

*Spray grade AMS applied at 3 lb/a.

Evaluation of Layered Residual Herbicide Programs in Enlist Soybean (Brooklyn, WI 2022)

Plot pictures taken on 6/14
21 days after the PRE application

The numbers in the upper right-hand corner are the average % waterhemp and velvetleaf control of 4 replications

21 days after PRE (6/14)
Untreated Check

0%



21 days after PRE (6/14)
PRE: 1 pt Kyber

100%



21 days after PRE (6/14)
PRE: 6 fl oz Fierce EZ

100%



21 days after PRE (6/14)
PRE: 1 pt Fierce MTZ

100%



21 days after PRE (6/14)
PRE: 2.1 qt Tendovo

97%



21 days after PRE (6/14)
PRE: 6 fl oz Zidua PRO

99%



21 days after PRE (6/14)
PRE: 5 fl oz Verdict + 2 fl oz Zidua SC

99%



Evaluation of Layered Residual Herbicide Programs in Enlist Soybean (Brooklyn, WI 2022)

Plot pictures taken on 6/28
35 days after the PRE application
1 day before the POST application

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

35 days after PRE (6/28)
Untreated Check

0%



35 days after PRE (6/28)
PRE: 1 pt Kyber

88%



35 days after PRE (6/28)
PRE: 6 fl oz Fierce EZ

86%



35 days after PRE (6/28)
PRE: 1 pt Fierce MTZ

85%



35 days after PRE (6/28)
PRE: 2.1 qt Tendovo

61%



35 days after PRE (6/28)
PRE: 6 fl oz Zidua PRO

75%



35 days after PRE (6/28)
PRE: 5 fl oz Verdict + 2 fl oz Zidua SC

73%



Evaluation of Layered Residual Herbicide Programs in Enlist Soybean (Brooklyn, WI 2022)

Plot pictures taken on 7/13

50 days after the PRE application
14 days after the POST application

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

50 days after PRE (7/13)
Untreated Check

0%



14 days after POST (7/13)

PRE: 1 pt Kyber *fb*

99%

POST: 32 fl oz Enlist One + 32 fl oz Liberty + 1 pt EverpreX + AMS



14 days after POST (7/13)

PRE: 1 pt Kyber *fb*

97%

POST: 32 fl oz Enlist One + 32 fl oz Durango DMA + 1 pt EverpreX + AMS



14 days after POST (7/13)

PRE: 1 pt Kyber *fb*

100%

POST: 32 fl oz Liberty + 32 fl oz Durango DMA + 1 pt EverpreX + AMS



14 days after POST (7/13)

PRE: 6 fl oz Fierce EZ fb

98%

POST: 32 fl oz Liberty + 6 fl oz Perpetuo + 9 fl oz Select Max + NIS + AMS



14 days after POST (7/13)

PRE: 6 fl oz Fierce EZ fb

95%

POST: 32 fl oz Enlist One + 6 fl oz Perpetuo + 9 fl oz Select Max + NIS + AMS



14 days after POST (7/13)

PRE: 1 pt Fierce MTZ *fb*

99%

POST: 32 fl oz Liberty + 6 fl oz Perpetuo + 9 fl oz Select Max + NIS + AMS



14 days after POST (7/13)

PRE: 1 pt Fierce MTZ fb

92%

POST: 32 fl oz Enlist One + 6 fl oz Perpetuo + 9 fl oz Select Max + NIS + AMS



14 days after POST (7/13)

PRE: 2.1 qt Tendovo *fb*

89%

POST: 3 pt Sequence + 32 fl oz Enlist One + AMS



14 days after POST (7/13)

PRE: 6 fl oz Zidua PRO *fb*

92%

POST: 32 fl oz Enlist One + 20 fl oz Roundup PM3 + 2 fl oz Zidua SC + AMS



14 days after POST (7/13)

PRE: 5 fl oz Verdict + 2 fl oz Zidua SC *fb*

94%

POST: 32 fl oz Enlist One + 20 fl oz Roundup PM3 + 2 fl oz Zidua SC + AMS



Evaluation of Layered Residual Herbicide Programs in Enlist Soybean (Brooklyn, WI 2022)

Plot pictures taken on 7/26

63 days after the PRE application

27 days after the POST application

12 days after the LPOST application

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

63 days after PRE (7/26)
Untreated Check

0%



27 days after POST (7/26)

PRE: 1 pt Kyber *fb*

97%

POST: 32 fl oz Enlist One + 32 fl oz Liberty + 1 pt EverpreX + AMS



12 days after LPOST (7/26)

PRE: 1 pt Kyber *fb*

POST: 32 fl oz Enlist One + 32 fl oz Liberty + 1 pt EverpreX + AMS *fb*

LPOST: 32 fl oz Enlist One + 32 fl oz Liberty + AMS

100%



12 days after LPOST (7/26)

PRE: 1 pt Kyber *fb*

POST: 32 fl oz Enlist One + 32 fl oz Liberty + 1 pt EverpreX + AMS *fb*

LPOST: 32 fl oz Enlist One + 32 fl oz Durango DMA + AMS

99%



27 days after POST (7/26)

PRE: 1 pt Kyber *fb*

96%

POST: 32 fl oz Enlist One + 32 fl oz Durango DMA + 1 pt EverpreX + AMS



12 days after LPOST (7/26)

PRE: 1 pt Kyber *fb*

POST: 32 fl oz Enlist One + 32 fl oz Durango DMA + 1 pt EverpreX + AMS *fb*

100%

LPOST: 32 fl oz Enlist One + 32 fl oz Liberty + AMS



27 days after POST (7/26)

PRE: 1 pt Kyber *fb*

98%

POST: 32 fl oz Liberty + 32 fl oz Durango DMA + 1 pt EverpreX + AMS



27 days after POST (7/26)

PRE: 6 fl oz Fierce EZ fb

94%

POST: 32 fl oz Liberty + 6 fl oz Perpetuo + 9 fl oz Select Max + NIS + AMS



27 days after POST (7/26)

PRE: 6 fl oz Fierce EZ *fb*

83%

POST: 32 fl oz Enlist One + 6 fl oz Perpetuo + 9 fl oz Select Max + NIS + AMS



27 days after POST (7/26)

PRE: 1 pt Fierce MTZ fb

96%

POST: 32 fl oz Liberty + 6 fl oz Perpetuo + 9 fl oz Select Max + NIS + AMS



27 days after POST (7/26)

PRE: 1 pt Fierce MTZ fb

81%

POST: 32 fl oz Enlist One + 6 fl oz Perpetuo + 9 fl oz Select Max + NIS + AMS



27 days after POST (7/26)

PRE: 2.1 qt Tendovo *fb*

POST: 3 pt Sequence + 32 fl oz Enlist One + AMS

85%



27 days after POST (7/26)

PRE: 6 fl oz Zidua PRO *fb*

90%

POST: 32 fl oz Enlist One + 20 fl oz Roundup PM3 + 2 fl oz Zidua SC + AMS



27 days after POST (7/26)

PRE: 5 fl oz Verdict + 2 fl oz Zidua SC *fb*

90%

POST: 32 fl oz Enlist One + 20 fl oz Roundup PM3 + 2 fl oz Zidua SC + AMS



Evaluation of Layered Residual Herbicide Programs in Enlist Soybean (Brooklyn, WI 2022)

Plot pictures taken on 9/29
End of Season

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



End of Season (9/29)

PRE: 1 pt Kyber *fb*

97%

POST: 32 fl oz Enlist One + 32 fl oz Liberty + 1 pt EverpreX + AMS



End of Season (9/29)

PRE: 1 pt Kyber *fb*

POST: 32 fl oz Enlist One + 32 fl oz Liberty + 1 pt EverpreX + AMS *fb*

LPOST: 32 fl oz Enlist One + 32 fl oz Liberty + AMS

100%



End of Season (9/29)

PRE: 1 pt Kyber *fb*

POST: 32 fl oz Enlist One + 32 fl oz Liberty + 1 pt EverpreX + AMS *fb*

LPOST: 32 fl oz Enlist One + 32 fl oz Durango DMA + AMS

100%



End of Season (9/29)

PRE: 1 pt Kyber *fb*

99%

POST: 32 fl oz Enlist One + 32 fl oz Durango DMA + 1 pt EverpreX + AMS



End of Season (9/29)

PRE: 1 pt Kyber *fb*

POST: 32 fl oz Enlist One + 32 fl oz Durango DMA + 1 pt EverpreX + AMS *fb*

100%

LPOST: 32 fl oz Enlist One + 32 fl oz Liberty + AMS



End of Season (9/29)

PRE: 1 pt Kyber *fb*

99%

POST: 32 fl oz Liberty + 32 fl oz Durango DMA + 1 pt EverpreX + AMS



End of Season (9/29)

PRE: 6 fl oz Fierce EZ *fb*

95%

POST: 32 fl oz Liberty + 6 fl oz Perpetuo + 9 fl oz Select Max + NIS + AMS



End of Season (9/29)

PRE: 6 fl oz Fierce EZ *fb*

93%

POST: 32 fl oz Enlist One + 6 fl oz Perpetuo + 9 fl oz Select Max + NIS + AMS



End of Season (9/29)

PRE: 1 pt Fierce MTZ *fb*

99%

POST: 32 fl oz Liberty + 6 fl oz Perpetuo + 9 fl oz Select Max + NIS + AMS



End of Season (9/29)

PRE: 1 pt Fierce MTZ *fb*

90%

POST: 32 fl oz Enlist One + 6 fl oz Perpetuo + 9 fl oz Select Max + NIS + AMS



End of Season (9/29)

PRE: 2.1 qt Tendovo *fb*

96%

POST: 3 pt Sequence + 32 fl oz Enlist One + AMS



End of Season (9/29)

PRE: 6 fl oz Zidua PRO *fb*

99%

POST: 32 fl oz Enlist One + 20 fl oz Roundup PM3 + 2 fl oz Zidua SC + AMS



End of Season (9/29)

PRE: 5 fl oz Verdict + 2 fl oz Zidua SC *fb*

99%

POST: 32 fl oz Enlist One + 20 fl oz Roundup PM3 + 2 fl oz Zidua SC + AMS

