

Evaluation of Layered Residual Herbicide Programs in Enlist Soybean (Brooklyn, WI 2021)

Trial Information

Trial Sponsor(s): 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: P20T64E

Weed species (pressure): glyphosate-R waterhemp (high-very high)
velvetleaf (moderate-high)
wild-proso millet (moderate)

Herbicide Application(s): PRE – 5/14
POST – 6/15 (V3 soybean)

For the full report see trial #21-BRO-SB10 in the [2021 Wisconsin Weed Science Research Report](#)



Cropping Systems Weed Science
UNIVERSITY OF WISCONSIN-MADISON



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Trt #	Herbicide (rate acre ⁻¹)	Waterhemp (%)				Velvetleaf (%)				Wild-Proso Millet			Yield ^b bu acre ⁻¹
		6/4	6/15	6/30	9/21	6/4	6/15	6/30	9/21	6/15	6/30	9/21	
1	Untreated Check	0	0	0	0	0	0	0	0	0	0	0	29 d
Two-Pass – PRE (5/14) fb POST (6/15)													
2	Boundary (29 fl oz) <i>fb</i> Sequence (3 pt) + Enlist One (32 fl oz) + Class Act Ridion 1% v/v	94	92	97	95	97	95	100	100	95	100	100	66 a
3	Prefix (2 pt) + Tricor DF (6 oz) <i>fb</i> Sequence (3 pt) + Enlist One (32 fl oz) + Class Act Ridion 1% v/v	90	77	92	90	96	84	100	99	56	100	99	62 abc
4	Tendovo (4 pt) <i>fb</i> Sequence (3 pt) + Enlist One (32 fl oz) + Class Act Ridion 1% v/v	95	93	98	95	100	100	100	99	93	100	100	60 c
5	Broadaxe XC (30 fl oz) <i>fb</i> Sequence (3 pt) + Enlist One (32 fl oz) + Class Act Ridion 1% v/v	94	85	93	94	96	92	100	100	87	100	100	63 abc
6	Sonic (5 oz) <i>fb</i> Enlist One (32 fl oz) + Durango (24 fl oz) + EverpreX (1 pt) + AMS (3 lb)	88	70	92	95	100	100	100	100	80	100	99	60 c
7	Sonic (5 oz) <i>fb</i> Enlist One (32 fl oz) + Liberty (32 fl oz) + EverpreX (1 pt) + AMS (3 lb)	90	74	98	98	100	100	100	100	82	99	98	64 ab
8	Surveil (3 oz) <i>fb</i> Enlist One (32 fl oz) + Durango (24 fl oz) + EverpreX (1 pt) + AMS (3 lb)	87	68	91	96	98	100	100	100	49	100	100	64 abc
9	Kyber (1 pt) <i>fb</i> Enlist One (32 fl oz) + Durango (24 fl oz) + EverpreX (1 pt) + AMS (3 lb)	89	71	93	94	94	87	100	100	61	100	100	63 abc
10	Afforia (2.5 oz) <i>fb</i> Enlist One (32 fl oz) + Durango (24 fl oz) + EverpreX (1 pt) + AMS (3 lb)	88	70	93	96	95	88	100	99	54	100	100	63 abc
11	Fierce EZ (6 fl oz) <i>fb</i> Enlist One (32 oz)+Roundup PM (32 oz)+Perpetuo (6 fl oz)+AMS (3 lb)	94	80	98	95	95	96	100	100	82	100	100	61 bc
12	Fierce MTZ (1 pt) <i>fb</i> Enlist One (32 oz)+Roundup PM (32 oz)+Perpetuo (6 fl oz)+AMS (3 lb)	81	66	96	95	91	78	100	100	58	100	100	60 c
13	Fierce XLT (4 oz) <i>fb</i> Enlist One (32 oz)+Roundup PM (32 oz)+Perpetuo (6 fl oz)+AMS (3 lb)	97	89	99	96	98	100	100	100	86	100	100	60 bc
14	Zidua PRO (6 fl oz) <i>fb</i> Liberty (32 fl oz) + Zidua SC (2.5 fl oz) + AMS (3 lb)	96	86	95	83	99	99	100	100	92	100	99	60 bc
15	Zidua PRO (6 fl oz) <i>fb</i> Enlist One (32 fl oz)+ Liberty (32 fl oz)+ Zidua SC (2.5 fl oz)+ AMS (3 lb)	90	82	98	97	100	100	100	100	95	99	99	60 bc
16	Authority Supreme (6.5 fl oz) <i>fb</i> Liberty (32 fl oz) + Anthem Maxx (2.5 fl oz) + AMS (3 lb)	92	87	97	90	98	96	100	100	86	100	99	61 bc
LSD ($\alpha=0.10$)		6	7	3	4	4	6	ns	ns	13	ns	ns	5
p value		0.006	<.001	<.001	<.001	0.002	<.001	1.000	0.510	<.001	0.471	0.841	<.001

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

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Plot pictures taken on 6/15
32 days after the PRE application
The day of the POST application

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

32 days after PRE (6/15)
Untreated Check

0%



32 days after PRE (6/15)
PRE: 29 fl oz Boundary

Waterhemp = 92%
Velvetleaf = 95%



32 days after PRE (6/15)
PRE: 2 pt Prefix + 6 oz Tricor DF

Waterhemp = 77%
Velvetleaf = 84%



32 days after PRE (6/15)
PRE: 4 pt Tendovo

Waterhemp = 93%
Velvetleaf = 100%



32 days after PRE (6/15)
PRE: 30 fl oz Broadaxe XC

Waterhemp = 85%
Velvetleaf = 92%



32 days after PRE (6/15)
PRE: 5 oz Sonic

Waterhemp = 72%
Velvetleaf = 100%



32 days after PRE (6/15)
PRE: 3 oz Surveil

Waterhemp = 68%
Velvetleaf = 100%



32 days after PRE (6/15)
PRE: 1 pt Kyber

Waterhemp = 71%
Velvetleaf = 87%



32 days after PRE (6/15)
PRE: 2.5 oz Afforia

Waterhemp = 70%
Velvetleaf = 88%



32 days after PRE (6/15)
PRE: 6 fl oz Fierce EZ

Waterhemp = 80%
Velvetleaf = 96%



32 days after PRE (6/15)
PRE: 1 pt Fierce MTZ

Waterhemp = 66%
Velvetleaf = 78%



32 days after PRE (6/15)
PRE: 4 oz Fierce XLT

Waterhemp = 89%
Velvetleaf = 100%



32 days after PRE (6/15)
PRE: 6 fl oz Zidua PRO

Waterhemp = 84%
Velvetleaf = 100%



32 days after PRE (6/15)
PRE: 6.5 fl oz Authority Supreme

Waterhemp = 87%
Velvetleaf = 96%



Evaluation of Layered Residual Herbicide Programs in Enlist Soybean (Brooklyn, WI 2021)

Plot pictures taken on 6/30
47 days after the PRE application
15 days after the POST application

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

47 days after PRE (6/30)
Untreated Check

0%



15 days after POST (6/30)

PRE: 29 fl oz Boundary *fb*

97%

POST: 3 pt Sequence + 32 fl oz Enlist One + 1% v/v Class Act Ridion



15 days after POST (6/30)

PRE: 2 pt Prefix + 6 oz Tricor DF *fb*

92%

POST: 3 pt Sequence + 32 fl oz Enlist One + 1% v/v Class Act Ridion



15 days after POST (6/30)

PRE: 4 pt Tendovo *fb*

POST: 3 pt Sequence + 32 fl oz Enlist One + 1% v/v Class Act Ridion

98%



15 days after POST (6/30)

PRE: 30 fl oz Broadaxe XC fb

93%

POST: 3 pt Sequence + 32 fl oz Enlist One + 1% v/v Class Act Ridion



15 days after POST (6/30)

PRE: 5 oz Sonic *fb*

92%

POST: 32 fl oz Enlist One + 24 fl oz Durango DMA + 1 pt EverpreX + 3 lb AMS



15 days after POST (6/30)

PRE: 5 oz Sonic *fb*

98%

POST: 32 fl oz Enlist One + 32 fl oz Liberty + 1 pt EverpreX + 3 lb AMS



15 days after POST (6/30)

PRE: 3 oz Surveil *fb*

91%

POST: 32 fl oz Enlist One + 24 fl oz Durango DMA + 1 pt EverpreX + 3 lb AMS



15 days after POST (6/30)

PRE: 1 pt Kyber *fb*

93%

POST: 32 fl oz Enlist One + 24 fl oz Durango DMA + 1 pt EverpreX + 3 lb AMS



15 days after POST (6/30)

PRE: 2.5 oz Afforia fb

93%

POST: 32 fl oz Enlist One + 24 fl oz Durango DMA + 1 pt EverpreX + 3 lb AMS



15 days after POST (6/30)

PRE: 6 fl oz Fierce EZ fb

98%

POST: 32 fl oz Enlist One + 32 fl oz Roundup + 6 fl oz Perpetuo + 3 lb AMS



15 days after POST (6/30)

PRE: 1 pt Fierce MTZ fb

96%

POST: 32 fl oz Enlist One + 32 fl oz Roundup + 6 fl oz Perpetuo + 3 lb AMS



15 days after POST (6/30)

PRE: 4 oz Fierce XLT *fb*

99%

POST: 32 fl oz Enlist One + 32 fl oz Roundup + 6 fl oz Perpetuo + 3 lb AMS



15 days after POST (6/30)

PRE: 6 fl oz Zidua PRO *fb*

POST: 32 fl oz Liberty + 2.5 fl oz Zidua SC + 3 lb AMS

95%



15 days after POST (6/30)

PRE: 6 fl oz Zidua PRO *fb*

98%

POST: 32 fl oz Enlist One + 32 fl oz Liberty + 2.5 fl oz Zidua SC + 3 lb AMS



15 days after POST (6/30)

PRE: 6.5 fl oz Authority Supreme *fb*

97%

POST: 32 fl oz Liberty + 2.5 fl oz Anthem Maxx + 3 lb AMS



Evaluation of Layered Residual Herbicide Programs in Enlist Soybean (Brooklyn, WI 2021)

Plot pictures taken on 9/21
7 days before soybean harvest

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

7 days before harvest (9/21)
Untreated Check

0%



7 days before harvest (9/21)

PRE: 29 fl oz Boundary *fb*

95%

POST: 3 pt Sequence + 32 fl oz Enlist One + 1% v/v Class Act Ridion



7 days before harvest (9/21)

PRE: 2 pt Prefix + 6 oz Tricor DF *fb*

90%

POST: 3 pt Sequence + 32 fl oz Enlist One + 1% v/v Class Act Ridion



7 days before harvest (9/21)

PRE: 4 pt Tendovo *fb*

95%

POST: 3 pt Sequence + 32 fl oz Enlist One + 1% v/v Class Act Ridion



7 days before harvest (9/21)

PRE: 30 fl oz Broadaxe XC *fb*

94%

POST: 3 pt Sequence + 32 fl oz Enlist One + 1% v/v Class Act Ridion



7 days before harvest (9/21)

PRE: 5 oz Sonic *fb*

95%

POST: 32 fl oz Enlist One + 24 fl oz Durango DMA + 1 pt EverpreX + 3 lb AMS



7 days before harvest (9/21)

PRE: 5 oz Sonic *fb*

98%

POST: 32 fl oz Enlist One + 32 fl oz Liberty + 1 pt EverpreX + 3 lb AMS



7 days before harvest (9/21)

PRE: 3 oz Surveil *fb*

96%

POST: 32 fl oz Enlist One + 24 fl oz Durango DMA + 1 pt EverpreX + 3 lb AMS



7 days before harvest (9/21)

PRE: 1 pt Kyber *fb*

94%

POST: 32 fl oz Enlist One + 24 fl oz Durango DMA + 1 pt EverpreX + 3 lb AMS



7 days before harvest (9/21)

PRE: 2.5 oz Afforia *fb*

96%

POST: 32 fl oz Enlist One + 24 fl oz Durango DMA + 1 pt EverpreX + 3 lb AMS



7 days before harvest (9/21)

PRE: 6 fl oz Fierce EZ *fb*

95%

POST: 32 fl oz Enlist One + 32 fl oz Roundup + 6 fl oz Perpetuo + 3 lb AMS



7 days before harvest (9/21)

PRE: 1 pt Fierce MTZ *fb*

95%

POST: 32 fl oz Enlist One + 32 fl oz Roundup + 6 fl oz Perpetuo + 3 lb AMS



7 days before harvest (9/21)

PRE: 4 oz Fierce XLT *fb*

96%

POST: 32 fl oz Enlist One + 32 fl oz Roundup + 6 fl oz Perpetuo + 3 lb AMS



7 days before harvest (9/21)

PRE: 6 fl oz Zidua PRO fb

83%

POST: 32 fl oz Liberty + 2.5 fl oz Zidua SC + 3 lb AMS



7 days before harvest (9/21)

PRE: 6 fl oz Zidua PRO *fb*

97%

POST: 32 fl oz Enlist One + 32 fl oz Liberty + 2.5 fl oz Zidua SC + 3 lb AMS



7 days before harvest (9/21)

PRE: 6.5 fl oz Authority Supreme *fb*

90%

POST: 32 fl oz Liberty + 2.5 fl oz Anthem Maxx + 3 lb AMS

