

Liberty and Engenia Efficacy in XtendFlex Soybean Janesville, WI 2020

Trial Information

Trial Sponsor: BASF

Objective: Evaluate BASF soybean herbicide programs to support recommendations for the 2021 launch of XtendFlex soybeans

Crop: XtendFlex soybean

Variety: AG23XF0

Weed species (pressure): Giant ragweed (high-very high); velvetleaf (moderate); lambsquarters (moderate-high)

Herbicide Application(s): PRE – 5/12
EPOST – 6/5 (VC/V1 soybean)
POST – 6/8 (V1 soybean)
LPOST – 7/2 (V6 soybean)

For the full report see trial #20-ROK-SB07 in the [2020 Wisconsin Weed Science Research Report](#)



Cropping Systems Weed Science
UNIVERSITY OF WISCONSIN-MADISON

BASF
We create chemistry

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Herbicide Treatment*	APP Timing	Giant Ragweed Control %				
		6/8	6/22	7/9	7/22	10/10
16 fl oz Engenia Prime*** <i>fb</i> 32 fl oz Roundup PowerMAX	EPOST LPOST	58	94	99	100	100
16 fl oz Engenia PRO** <i>fb</i> 32 fl oz Liberty + 16 fl oz Outlook	EPOST LPOST	61	96	100	100	100
4.5 fl oz Zidua PRO <i>fb</i> 16 fl oz Engenia PRO** + 32 fl oz Roundup PMAX	PRE POST	65	97	89	85	77
4.5 fl oz Zidua PRO <i>fb</i> 32 fl oz Liberty + 16 fl oz Outlook	PRE POST	58	88	68	49	36
16 fl oz Engenia Prime*** <i>fb</i> 32 fl oz Liberty + 16 fl oz Outlook	PRE POST	57	87	62	45	28
16 fl oz Engenia PRO** <i>fb</i> 32 fl oz Liberty + 16 fl oz Outlook	PRE POST	59	87	61	45	37
44 fl oz XtendiMax + 48 fl oz Warrant <i>fb</i> 55 fl oz Warrant Ultra + 32 fl oz Roundup PMAX	PRE POST	62	76	58	41	19
5 oz Sonic <i>fb</i> 22 fl oz FeXapan + 32 fl oz Roundup PMAX + 1 pt EverpreX	PRE POST	56	97	89	82	74
4.25 oz Fierce XLT <i>fb</i> 22 fl oz XtendiMax + 32 fl oz Roundup PMAX + 48 fl oz Warrant	PRE POST	80	97	91	84	83
Untreated Check	-	0	0	0	0	0
	LSD (0.10)	ns	5	6	15	21
	p-value	ns	<0.01	<0.01	<0.01	<0.01

*All POST treatments included the appropriated adjuvants

**Engenia PRO is a premix formulation of dicamba and pyroxasulfone (registration pending)

***Engenia Prime is is a premix formulation of dicamba, imazethapyr, and pyroxasulfone (registration pending)

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Herbicide Treatment*	APP Timing	Soybean Injury %		Yield bu/acre
		7 DAT	14 DAT	
16 fl oz Engenia Prime*** <i>fb</i> 32 fl oz Roundup PowerMAX	EPOST LPOST	0	1	71
16 fl oz Engenia PRO** <i>fb</i> 32 fl oz Liberty + 16 fl oz Outlook	EPOST LPOST	0	0	69
4.5 fl oz Zidua PRO <i>fb</i> 16 fl oz Engenia PRO** + 32 fl oz Roundup PMAX	PRE POST	4	3	58
4.5 fl oz Zidua PRO <i>fb</i> 32 fl oz Liberty + 16 fl oz Outlook	PRE POST	18	9	41
16 fl oz Engenia Prime*** <i>fb</i> 32 fl oz Liberty + 16 fl oz Outlook	PRE POST	18	8	32
16 fl oz Engenia PRO** <i>fb</i> 32 fl oz Liberty + 16 fl oz Outlook	PRE POST	17	7	41
44 fl oz XtendiMax + 48 fl oz Warrant <i>fb</i> 55 fl oz Warrant Ultra + 32 fl oz Roundup PMAX	PRE POST	0	7	42
5 oz Sonic <i>fb</i> 22 fl oz FeXapan + 32 fl oz Roundup PMAX + 1 pt EverpreX	PRE POST	17	9	64
4.25 oz Fierce XLT <i>fb</i> 22 fl oz XtendiMax + 32 fl oz Roundup PMAX + 48 fl oz Warrant	PRE POST	5	6	62
Untreated Check	-	0	0	9
	LSD (0.10)	1	1.5	13
	p-value	<0.01	<0.01	<0.01

*All POST treatments included the appropriated adjuvants

**Engenia PRO is a premix formulation of dicamba and pyroxasulfone (registration pending)

***Engenia Prime is is a premix formulation of dicamba, imazethapyr, and pyroxasulfone (registration pending)

Day of EPOST application (6/5)



Liberty and Engenia Efficacy in XtendFlex Soybean Janesville, WI 2020

Plot pictures taken on 6/8
27 days after the PRE application
3 days after the EPOST application
The day of the POST application

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

27 days after PRE (6/8)
Untreated Check

0%







27 days after PRE (6/8)
PRE: 4.5 fl oz Zidua PRO

61%



27 days after PRE (6/8)
PRE: 16 fl oz Engenia Prime

57%



27 days after PRE (6/8)
PRE: 16 fl oz Engenia PRO

59%



27 days after PRE (6/8)

PRE: 44 fl oz XtendiMax + 48 fl oz Warrant

62%



27 days after PRE (6/8)

PRE: 5 oz Sonic

56%



27 days after PRE (6/8)
PRE: 4.25 oz Fierce XLT

80%



Soybean Leaf Necrosis 7 days after POST application (6/15)

32 fl oz Liberty + 16 fl oz Outlook



17-18%

Liberty and Engenia Efficacy in XtendFlex Soybean Janesville, WI 2020

Plot pictures taken on 6/22

17 days after the EPOST application

14 days after the POST application

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

41 days after PRE (6/22)
Untreated Check

0%



17 days after EPOST (6/22)
EPOST: 16 fl oz Engenia Prime

94%



17 days after EPOST (6/22)
EPOST: 16 fl oz Engenia PRO

96%



14 days after POST (6/22)

PRE: 4.5 fl oz Zidua PRO *fb*

POST: 16 fl oz Engenia PRO + 32 fl oz Roundup PowerMAX

97%



14 days after POST (6/22)

PRE: 4.5 fl oz Zidua PRO fb

POST: 32 fl oz Liberty + 16 fl oz Outlook

88%



14 days after POST (6/22)

PRE: 16 fl oz Engenia Prime *fb*

POST: 32 fl oz Liberty + 16 fl oz Outlook

87%



14 days after POST (6/22)

PRE: 16 fl oz Engenia PRO *fb*

POST: 32 fl oz Liberty + 16 fl oz Outlook

87%



14 days after POST (6/22)

PRE: 44 fl oz XtendiMax + 48 fl oz Warrant *fb*

76%

POST: 55 fl oz Warrant Ultra + 32 fl oz Roundup PowerMAX



14 days after POST (6/22)

PRE: 5 oz Sonic *fb*

97%

POST: 22 fl oz FeXapan + 32 fl oz Roundup PowerMAX + 1 pt EverpreX



14 days after POST (6/22)

PRE: 4.25 oz Fierce XLT *fb*

97%

POST: 22 fl oz XtendiMAX + 32 fl oz Roundup PowerMAX + 48 fl oz Warrant



Liberty and Engenia Efficacy in XtendFlex Soybean Janesville, WI 2020

Plot pictures taken on 7/9

31 days after the POST application

7 days after the LPOST application

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

58 days after PRE (7/9)
Untreated Check

0%



7 days after LPOST (7/9)

EPOST: 16 fl oz Engenia Prime *fb*

LPOST: 32 fl oz Roundup PowerMAX

99%



7 days after LPOST (7/9)

EPOST: 16 fl oz Engenia PRO *fb*

LPOST: 32 fl oz Liberty + 16 fl oz Outlook

100%



31 days after POST (7/9)

PRE: 4.5 fl oz Zidua PRO *fb*

POST: 16 fl oz Engenia PRO + 32 fl oz Roundup PowerMAX

89%



31 days after POST (7/9)

PRE: 4.5 fl oz Zidua PRO fb

POST: 32 fl oz Liberty + 16 fl oz Outlook

68%



31 days after POST (7/9)

PRE: 16 fl oz Engenia Prime *fb*

POST: 32 fl oz Liberty + 16 fl oz Outlook

62%



31 days after POST (7/9)

PRE: 16 fl oz Engenia PRO *fb*

POST: 32 fl oz Liberty + 16 fl oz Outlook

61%



31 days after POST (7/9)

PRE: 44 fl oz XtendiMax + 48 fl oz Warrant *fb*

58%

POST: 55 fl oz Warrant Ultra + 32 fl oz Roundup PowerMAX



31 days after POST (7/9)

PRE: 5 oz Sonic *fb*

POST: 22 fl oz FeXapan + 32 fl oz Roundup PowerMAX + 1 pt EverpreX

89%



31 days after POST (7/9)

PRE: 4.25 oz Fierce XLT *fb*

91%

POST: 22 fl oz XtendiMAX + 32 fl oz Roundup PowerMAX + 48 fl oz Warrant



Liberty and Engenia Efficacy in XtendFlex Soybean Janesville, WI 2020

Plot pictures taken on 7/22

44 days after the POST application
20 days after the LPOST application

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

71 days after PRE (7/22)

0%

Untreated Check



20 days after LPOST (7/22)

EPOST: 16 fl oz Engenia Prime *fb*

LPOST: 32 fl oz Roundup PowerMAX

100%



20 days after LPOST (7/22)

EPOST: 16 fl oz Engenia PRO *fb*

LPOST: 32 fl oz Liberty + 16 fl oz Outlook

100%



44 days after POST (7/22)

PRE: 4.5 fl oz Zidua PRO *fb*

POST: 16 fl oz Engenia PRO + 32 fl oz Roundup PowerMAX

85%



44 days after POST (7/22)

PRE: 4.5 fl oz Zidua PRO fb

POST: 32 fl oz Liberty + 16 fl oz Outlook

49%



44 days after POST (7/22)

PRE: 16 fl oz Engenia Prime *fb*

POST: 32 fl oz Liberty + 16 fl oz Outlook

45%



44 days after POST (7/22)

PRE: 16 fl oz Engenia PRO fb

POST: 32 fl oz Liberty + 16 fl oz Outlook

45%



44 days after POST (7/22)

PRE: 44 fl oz XtendiMax + 48 fl oz Warrant *fb*

41%

POST: 55 fl oz Warrant Ultra + 32 fl oz Roundup PowerMAX



44 days after POST (7/22)

PRE: 5 oz Sonic *fb*

POST: 22 fl oz FeXapan + 32 fl oz Roundup PowerMAX + 1 pt EverpreX

82%



44 days after POST (7/22)

PRE: 4.25 oz Fierce XLT fb

POST: 22 fl oz XtendiMAX + 32 fl oz Roundup PowerMAX + 48 fl oz Warrant

84%



Liberty and Engenia Efficacy in XtendFlex Soybean Janesville, WI 2020

Plot pictures taken on 10/10
The day of soybean harvest

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



Soybean Harvest (10/10)

EPOST: 16 fl oz Engenia Prime *fb*

LPOST: 32 fl oz Roundup PowerMAX

100%



Soybean Harvest (10/10)

EPOST: 16 fl oz Engenia PRO *fb*

LPOST: 32 fl oz Liberty + 16 fl oz Outlook

100%



Soybean Harvest (10/10)

PRE: 4.5 fl oz Zidua PRO *fb*

POST: 16 fl oz Engenia PRO + 32 fl oz Roundup PowerMAX

85%



Soybean Harvest (10/10)

PRE: 4.5 fl oz Zidua PRO fb

POST: 32 fl oz Liberty + 16 fl oz Outlook

49%



Soybean Harvest (10/10)

PRE: 16 fl oz Engenia Prime *fb*

POST: 32 fl oz Liberty + 16 fl oz Outlook

45%



Soybean Harvest (10/10)

PRE: 16 fl oz Engenia PRO *fb*

POST: 32 fl oz Liberty + 16 fl oz Outlook

45%



Soybean Harvest (10/10)

PRE: 44 fl oz XtendiMax + 48 fl oz Warrant *fb*

41%

POST: 55 fl oz Warrant Ultra + 32 fl oz Roundup PowerMAX



Soybean Harvest (10/10)

PRE: 5 oz Sonic *fb*

82%

POST: 22 fl oz FeXapan + 32 fl oz Roundup PowerMAX + 1 pt EverpreX



Soybean Harvest (10/10)

PRE: 4.25 oz Fierce XLT *fb*

84%

POST: 22 fl oz XtendiMAX + 32 fl oz Roundup PowerMAX + 48 fl oz Warrant

