

# 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)

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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

# Liberty and Engenia Efficacy in XtendFlex Soybean

## Janesville, WI 2020

Herbicide Treatment*	APP Timing	Giant Ragweed Control %					
		6/8	6/22	7/9	7/22	10/10	
16 fl oz Engenia Prime*** <b>fb</b> 32 fl oz Roundup PowerMAX	EPOST LPOST	58	94	99	100	100	
16 fl oz Engenia PRO** <b>fb</b> 32 fl oz Liberty + 16 fl oz Outlook	EPOST LPOST	61	96	100	100	100	
4.5 fl oz Zidua PRO <b>fb</b> 16 fl oz Engenia PRO** + 32 fl oz Roundup PMAX	PRE POST	65	97	89	85	77	
4.5 fl oz Zidua PRO <b>fb</b> 32 fl oz Liberty + 16 fl oz Outlook	PRE POST	58	88	68	49	36	
16 fl oz Engenia Prime*** <b>fb</b> 32 fl oz Liberty + 16 fl oz Outlook	PRE POST	57	87	62	45	28	
16 fl oz Engenia PRO** <b>fb</b> 32 fl oz Liberty + 16 fl oz Outlook	PRE POST	59	87	61	45	37	
44 fl oz XtendiMax + 48 fl oz Warrant <b>fb</b> 55 fl oz Warrant Ultra + 32 fl oz Roundup PMAX	PRE POST	62	76	58	41	19	
5 oz Sonic <b>fb</b> 22 fl oz FeXapan + 32 fl oz Roundup PMAX + 1 pt EverpreX	PRE POST	56	97	89	82	74	
4.25 oz Fierce XLT <b>fb</b> 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 a premix formulation of dicamba, imazethapyr, and pyroxasulfone (registration pending)

# Liberty and Engenia Efficacy in XtendFlex Soybean

## Janesville, WI 2020

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



**3 days after EPOST (6/8)**  
**EPOST: 16 fl oz Engenia Prime**

**58%**



3 days after EPOST (6/8)  
EPOST: 16 fl oz Engenia PRO

61%



**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)**

**0%**

**Untreated Check**



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%**

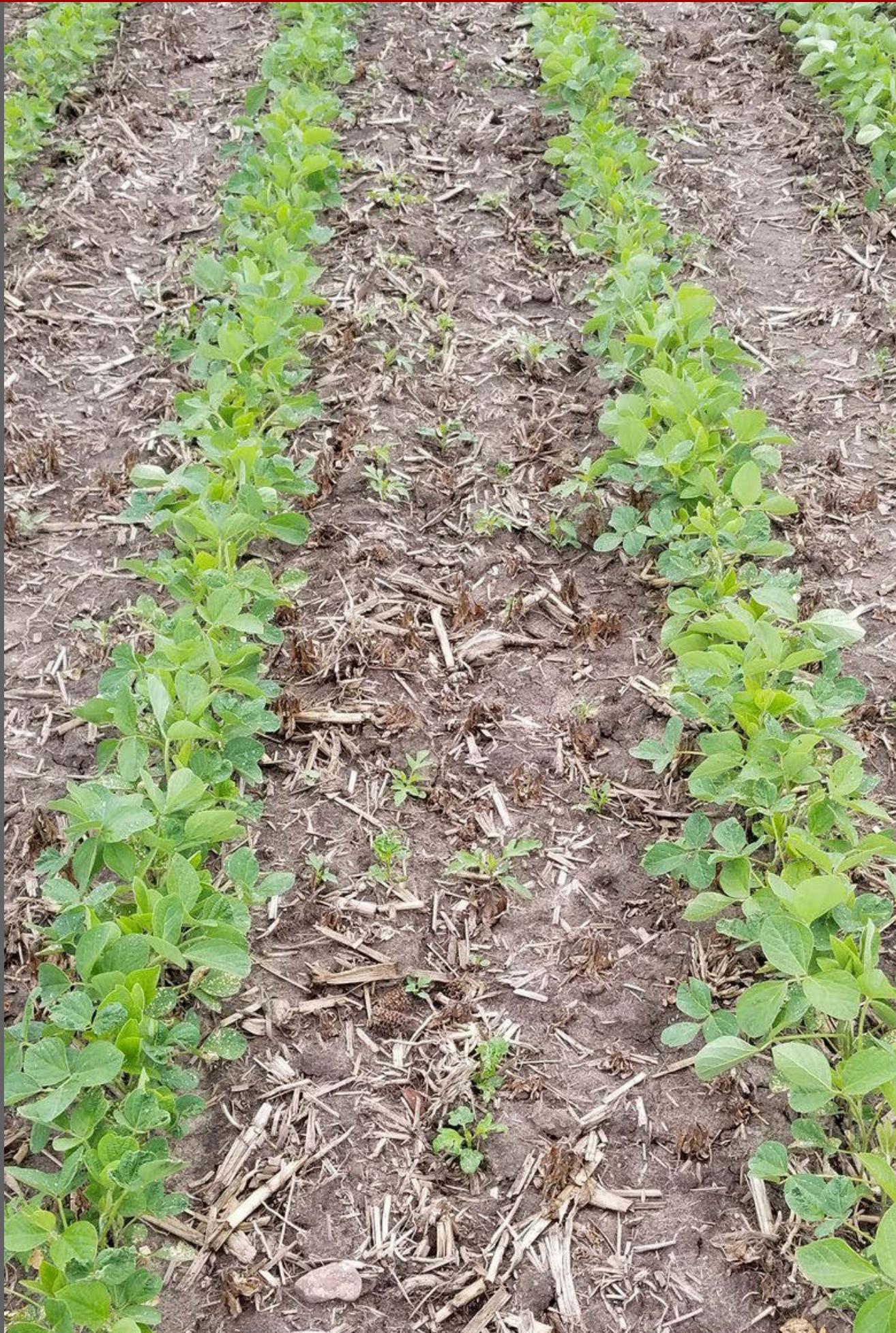


**14 days after POST (6/22)**

**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**

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

**76%**



**14 days after POST (6/22)**

**PRE: 5 oz Sonic *fb***

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

**97%**



**14 days after POST (6/22)**

**PRE: 4.25 oz Fierce XLT *fb***

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

**97%**



# 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**

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

**58%**



**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***

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

**91%**



# 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)

0%

## Untreated Check



**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*

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

41%



**Soybean Harvest (10/10)**

**PRE: 5 oz Sonic *fb***

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

**82%**



**Soybean Harvest (10/10)**

**PRE: 4.25 oz Fierce XLT fb**

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

**84%**

