The Ohio State University

Engenia/Engenia Pro vs competitor premixes in soybeans
Trial ID: 18 ENGENIAPRPOST2 Location: Trial Year: 2018
Protocol ID: 18 ENGENIAPRPOST2 Investigator: Dr. Mark M. Loux
Project ID: MKDH2018USD03M01 Study Director: Bryan Reeb
Sponsor Contact: Alice Harris, BASF

General Trial Information

Study Director: Bryan Reeb
Investigator: Dr. Mark M. Loux

Discipline: H herbicide
Initiation Date: May-11-2018

Trial Location

City: South Charleston **Country:** USA United States
State/Prov.: Ohio
Postal Code: 45368 **Climate Zone:** USWARM US Warm Continental

Latitude of LL Corner °: 39.85622 N
Longitude of LL Corner °: 83.67022 W
Altitude of LL Corner, Unit: 1079.00 FT

Conducted Under GLP: No
Conducted Under GEP: No

Contacts

Study Director: Bryan Reeb

Investigator: Dr. Mark M. Loux

Cooperator/Landowner

Cooperator: Alice Harris
Organization: BASF
E-mail: alice.harris@basf.com

Crop Description

Crop 1: GLXMA Glycine max Soybean
Variety: SC 8358X **BBCH Scale:** BSOY
Description: Seed Consultants

Planting Date: May-11-2018
Planting Method: PLANTD planted
Planting Rate, Unit: 164000 S/A
Planting Equipment: FE field equipment
Depth, Unit: 1.25 IN
Emergence Date: May-17-2018
Row Spacing, Unit: 15 IN
Soil Temperature, Unit: 60 F
Soil Moisture: NORMAL normal, adequate
Seed Bed: MEDIUM medium

Pest Description

Pest 1 Type: W **Code:** SETFA Setaria faberi
Common Name: Giant foxtail

Pest 2 Type: W **Code:** ECHCG Echinochloa crus-galli
Common Name: Common barnyard grass

Pest 3 Type: W **Code:** AMBTR Ambrosia trifida
Common Name: Giant ragweed

Pest 4 Type: W **Code:** CHEAL Chenopodium album
Common Name: common lambsquarters

Pest 5 Type: W **Code:** ABUTH Abutilon theophrasti
Common Name: velvetleaf

Pest 6 Type: W **Code:** POLPY Persicaria pensylvanica
Common Name: annual smartweed

Pest 7 Type: W **Code:** IPOHE Ipomoea hederacea
Common Name: ivy-leaf morning glory

Pest 8 Type: W **Code:** SIDSP Sida spinosa
Common Name: Prickly sida

Pest 9 Type: W **Code:** HIBTR Hibiscus trionum
Common Name: Venice mallow

Site and Design

Treated Plot Width: 6.67 FT
Site Type: FIELD field
Treated Plot Length: 30 FT
Experimental Unit: 1 PLOT plot
Treated Plot Area: 200.1 FT2 **Treatments:** 12
Tillage Type: CONTIL conventional-till
Replications: 4
Study Design: RACOBL Randomized Complete Block (RCB)

The Ohio State University

Engenia/Engenia Pro vs competitor premixes in soybeans
Trial ID: 18 ENGENIAPRPOST2 Location: Trial Year: 2018
Protocol ID: 18 ENGENIAPRPOST2 Investigator: Dr. Mark M. Loux
Project ID: MKDH2018USD03M01 Study Director: Bryan Reeb
Sponsor Contact: Alice Harris, BASF

No. Previous Crop Year
1. Corn 2017

Soil Description

Description Name: BIG E
% Sand: 45 **% OM:** 3.1 **Texture:** L loam
% Silt: 45 **pH:** 6.6 **Soil Name:** KOKOMO SILTY CLAY LOAM
% Clay: 11 **CEC:** 15.2 **Fert. Level:** G good
Soil Drainage: G good

Application Description

	A	B	C
Application Date:	May-11-2018	Jun-6-2018	Jun-14-2018
Appl. Start Time:	8:00 AM	8:45 AM	10:15 AM
Appl. Stop Time:	8:15 AM	9:00 AM	10:20 AM
Interval to Prev. Appl., Unit:		26 DAYS	8 DAYS
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	21 DAPL	V5
Application Placement:	BROSOI	BROFOL	BROFOL
Applied By:	Bruce,Boden	Ackley,Lamb	Fisher
Air Temperature, Unit:	56 F	59 F	71 F
% Relative Humidity:	90	73	61
Wind Velocity, Unit:	7 MPH	6 MPH	3 MPH
Wind Direction:	E	NE	NE
Dew Presence (Y/N):	N no	Y yes	Y yes
Soil Temperature, Unit:	60 F	60 F	72 F
Soil Moisture:	NORMAL	NORMAL	WET
% Cloud Cover:	20	0	0
Next Moisture Occurred On:	May-15-2018	Jun-8-2018	Jun-19-2018
Time to Next Moisture, Unit:	4 DAY	2 DAY	5 DAY
Moisture 1 Week after Appl.:	0.43 IN	1.1 IN	1.44 IN

Crop Stage At Each Application

	A	B	C
Crop 1 Code, BBCH Scale:	GLXMA BSOY	GLXMA BSOY	GLXMA BSOY
Stage Scale Used:		BBCH	BBCH
Stage Majority, Percent:		13 100	14 100
Height, Unit:		7 IN	11 IN
Height Minimum, Maximum:		4 7	11 12

The Ohio State University

Engenia/Engenia Pro vs competitor premixes in soybeans
Trial ID: 18 ENGENIAPRPOST2 Location: Trial Year: 2018
Protocol ID: 18 ENGENIAPRPOST2 Investigator: Dr. Mark M. Loux
Project ID: MKDH2018USD03M01 Study Director: Bryan Reeb
Sponsor Contact: Alice Harris, BASF

Pest Stage At Each Application

	A	B	C
Pest 1 Code, Type, Scale:	SETFA W	SETFA W	SETFA W
Stage Majority, Percent:		16 100	21 100
Height, Unit:		4 IN	12 IN
Height Minimum, Maximum:		1 8	12 15
Density, Unit:			184 PLA/m2
Pest 2 Code, Type, Scale:	ECHCG W	ECHCG W	ECHCG W
Stage Majority, Percent:		16 100	21 100
Height, Unit:		4 IN	12 IN
Height Minimum, Maximum:		1 8	12 15
Density, Unit:			10 PLA/m2
Pest 3 Code, Type, Scale:	AMBTR W	AMBTR W	AMBTR W
Stage Majority, Percent:		15 100	19 100
Height, Unit:		6 IN	12 IN
Height Minimum, Maximum:		1 12	8 12
Density, Unit:			11 PLA/m2
Pest 4 Code, Type, Scale:	CHEAL W	CHEAL W	CHEAL W
Stage Majority, Percent:		19 100	19 100
Height, Unit:		3 IN	4 IN
Height Minimum, Maximum:		1 5	2 4
Density, Unit:			85 PLA/m2
Pest 5 Code, Type, Scale:	ABUTH W	ABUTH W	ABUTH W
Stage Majority, Percent:		13 100	18 100
Height, Unit:		3 IN	8 IN
Height Minimum, Maximum:		2 4	
Density, Unit:			1 PLA/m2
Pest 6 Code, Type, Scale:	POLPY W	POLPY W	POLPY W
Stage Majority, Percent:		15 100	
Height, Unit:		2 IN	
Height Minimum, Maximum:		1 4	
Density, Unit:			1 PLA/m2
Pest 7 Code, Type, Scale:	IPOHE W	IPOHE W	IPOHE W
Stage Majority, Percent:		13 100	12 100
Height, Unit:		2 IN	2 IN
Height Minimum, Maximum:		2 6	2 3
Density, Unit:			3 PLA/m2
Pest 8 Code, Type, Scale:	SIDSP W	SIDSP W	SIDSP W
Stage Majority, Percent:		13 100	
Height, Unit:		2 IN	
Height Minimum, Maximum:		1 3	
Density, Unit:			13 PLA/m2
Pest 9 Code, Type, Scale:	HIBTR W	HIBTR W	HIBTR W
Stage Majority, Percent:		13 100	13 100
Height, Unit:		2 IN	3 IN
Height Minimum, Maximum:		1 3	3 4
Density, Unit:			1 PLA/m2

Application Equipment

	A	B	C
Appl. Equipment:	6' BACKPACK	6' BACKPACK	6' BACKPACK
Equipment Type:	BACCAI	BACCAI	BACCAI
Operation Pressure, Unit:	44 PSI	44 PSI	44 PSI
Nozzle Type:	TTI	TTI	TTI
Nozzle Size:	11015	11015	11015
Nozzle Spacing, Unit:	18 IN	18 IN	18 IN
Nozzles/Row:	4	4	4
Boom Length, Unit:	6.67 FT	6.67 FT	6.67 FT
Boom Height, Unit:	20 IN	20 IN	20 IN
Ground Speed, Unit:	3 MPH	3 MPH	3 MPH
Carrier:	WATER	WATER	WATER
Spray Volume, Unit:	15 gal/ac	15 gal/ac	15 gal/ac
Mix Size, Unit:	1 L	1 L	1 L
Propellant:	COMCO2	COMCO2	COMCO2

The Ohio State University

Engenia/Engenia Pro vs competitor premixes in soybeans
Trial ID: 18 ENGENIAPRPOST2 Location: Trial Year: 2018
Protocol ID: 18 ENGENIAPRPOST2 Investigator: Dr. Mark M. Loux
Project ID: MKDH2018USD03M01 Study Director: Bryan Reeb
Sponsor Contact: Alice Harris, BASF

Trt No.	Treatment Name	Other Rate	Other Rate Unit	Appl Code	1*	2*	3*	4*	5*	6*
	Pest Type				O Other	W Weed	W Weed	W Weed	W Weed	W Weed
	Pest Code					SETFA	AMBTR	CHEAL	AMARE	ABUTH
	Pest Scientific Name					Setaria faberi	Ambrosia trifi>	Chenopodium al>	Amaranthus ret>	Abutilon theop>
	Pest Name					Giant foxtail	Giant ragweed	common lambsqu>	Redroot pigweed	velvetleaf
	Rating Date				Jun-4-2018	Jun-4-2018	Jun-4-2018	Jun-4-2018	Jun-4-2018	Jun-4-2018
	Rating Type				PHYSTU	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
	Rating Unit				%	%	%	%	%	%
	Number of Subsamples				1	1	1	1	1	1
	Days After First/Last Applic.				24 24	24 24	24 24	24 24	24 24	24 24
	Trt-Eval Interval				24 DA-A	24 DA-A	24 DA-A	24 DA-A	24 DA-A	24 DA-A
	Plant-Eval Interval				24 DP-1	24 DP-1	24 DP-1	24 DP-1	24 DP-1	24 DP-1
	Days After Emergence				18 DE-1	18 DE-1	18 DE-1	18 DE-1	18 DE-1	18 DE-1
1	UTC				0.0 b	0.0 d	0.0 b	0.0	0.0 b	0.0 b
2	Engenia Pro	16	oz/a	A	0.5 b	76.3 abc	55.0 a	86.8 -	100.0 a	97.0 a
2	Engenia	12.8	oz/a	B						
2	Roundup Power Max	32	oz/a	B						
2	Induce	4.8	oz/a	B						
3	Engenia Pro	16	oz/a	A	0.0 b	72.5 bc	65.0 a	86.3 -	100.0 a	90.0 a
3	Engenia Pro	16	oz/a	B						
3	Roundup Power Max	32	oz/a	B						
3	Induce	4.8	oz/a	B						
4	Engenia Pro	16	oz/a	A	0.8 b	78.8 abc	62.5 a	96.8 -	100.0 a	85.0 a
4	Engenia Pro	16	oz/a	C						
4	Roundup Power Max	32	oz/a	C						
4	Induce	4.8	oz/a	C						
5	Zidua Pro	6	oz/a	A	0.8 b	71.3 bc	12.5 b	87.0 -	100.0 a	100.0 a
5	Engenia Pro	16	oz/a	B						
5	Roundup Power Max	32	oz/a	B						
5	Induce	4.8	oz/a	B						
6	Verdict	5	oz/a	A	0.5 b	71.3 bc	12.5 b	77.5 -	100.0 a	87.5 a
6	Engenia Pro	16	oz/a	B						
6	Roundup Power Max	32	oz/a	B						
6	Induce	4.8	oz/a	B						
7	Xtendimax	22	oz/a	A	3.8 a	90.0 a	65.0 a	82.5 -	100.0 a	85.0 a
7	Dual II Magnum	16	oz/a	A						
7	Xtendimax	22	oz/a	B						
7	Roundup Power Max	32	oz/a	B						
7	Induce	4.8	oz/a	B						
8	Xtendimax	22	oz/a	A	0.8 b	87.5 a	60.0 a	97.5 -	100.0 a	75.0 a
8	Dual II Magnum	16	oz/a	A						
8	Xtendimax	22	oz/a	B						
8	Dual II Magnum	16	oz/a	B						
8	Roundup Power Max	32	oz/a	B						
8	Induce	4.8	oz/a	B						
9	Xtendimax	22	oz/a	A	1.8 ab	90.8 a	65.0 a	95.0 -	100.0 a	87.5 a
9	Warrant	48	oz/a	A						
9	Xtendimax	22	oz/a	B						
9	Roundup Power Max	32	oz/a	B						
9	Induce	4.8	oz/a	B						

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls)
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
* Adjusted means
Could not calculate LSD (% mean diff) for columns 14,15,16,22,23,24,25,26,28,31,32,33,34,35 because error mean square = 0.

The Ohio State University

Engenia/Engenia Pro vs competitor premixes in soybeans
Trial ID: 18 ENGENIAPRPOST2 Location: Trial Year: 2018
Protocol ID: 18 ENGENIAPRPOST2 Investigator: Dr. Mark M. Loux
Project ID: MKDH2018USD03M01 Study Director: Bryan Reeb
Sponsor Contact: Alice Harris, BASF

Trt No.	Treatment Name	Other Rate	Other Rate Unit	Appl Code	1*	2*	3*	4*	5*	6*
	Pest Type				O Other	W Weed	W Weed	W Weed	W Weed	W Weed
	Pest Code					SETFA	AMBTR	CHEAL	AMARE	ABUTH
	Pest Scientific Name					Setaria faberi	Ambrosia trifi>	Chenopodium al>	Amaranthus ret>	Abutilon theop>
	Pest Name					Giant foxtail	Giant ragweed	common lambsqu>	Redroot pigweed	velvetleaf
	Rating Date				Jun-4-2018	Jun-4-2018	Jun-4-2018	Jun-4-2018	Jun-4-2018	Jun-4-2018
	Rating Type				PHYSTU	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
	Rating Unit				%	%	%	%	%	%
	Number of Subsamples				1	1	1	1	1	1
	Days After First/Last Applic.				24 24	24 24	24 24	24 24	24 24	24 24
	Trt-Eval Interval				24 DA-A	24 DA-A	24 DA-A	24 DA-A	24 DA-A	24 DA-A
	Plant-Eval Interval				24 DP-1	24 DP-1	24 DP-1	24 DP-1	24 DP-1	24 DP-1
	Days After Emergence				18 DE-1	18 DE-1	18 DE-1	18 DE-1	18 DE-1	18 DE-1
10	Xtendimax	22	oz/a	A	2.0 ab	85.8 ab	57.5 a	97.5 -	100.0 a	85.0 a
10	Warrant	48	oz/a	A						
10	Xtendimax	22	oz/a	B						
10	Warrant	48	oz/a	B						
10	Roundup Power Max	32	oz/a	B						
10	Induce	4.8	oz/a	B						
11	Zidua Pro	4.5	oz/a	A	0.5 b	72.5 bc	10.0 b	88.8 -	100.0 a	100.0 a
11	Engenia Pro	16	oz/a	B						
11	Roundup Power Max	32	oz/a	B						
11	Induce	4.8	oz/a	B						
12	Verdict	5	oz/a	A	0.5 b	68.8 c	0.0 b	83.8 -	98.8 a	92.5 a
12	Roundup Power Max	32	oz/a	B						
12	Induce	4.8	oz/a	B						
	LSD P=.05				1.67	9.92	18.33	13.99	1.04	17.34
	Standard Deviation				1.16	6.89	12.74	9.69	0.72	12.05
	CV				118.62	9.56	32.88	10.88	0.79	14.69
	Levene's F				0.484	0.974	1.489	0.973	1.00	1.159
	Levene's Prob(F)				0.901	0.487	0.179	0.484	0.465	0.349
	Skewness				1.2146*	-2.1048*	-0.246	-0.5257	-3.1096*	-2.1771*
	Kurtosis				0.4871	4.3036*	-1.6696*	-1.1713	8.0106*	4.1733*
	Replicate F				1.292	7.318	0.701	1.927	1.000	0.230
	Replicate Prob(F)				0.2934	0.0007	0.5580	0.1465	0.4051	0.8748
	Treatment F				3.317	48.687	19.946	1.958	6386.455	19.799
	Treatment Prob(F)				0.0037	0.0001	0.0001	0.0758	0.0001	0.0001

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls)
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
* Adjusted means
Could not calculate LSD (% mean diff) for columns 14,15,16,22,23,24,25,26,28,31,32,33,34,35 because error mean square = 0.

The Ohio State University

Engenia/Engenia Pro vs competitor premixes in soybeans
Trial ID: 18 ENGENIAPRPOST2 Location: Trial Year: 2018
Protocol ID: 18 ENGENIAPRPOST2 Investigator: Dr. Mark M. Loux
Project ID: MKDH2018USD03M01 Study Director: Bryan Reeb
Sponsor Contact: Alice Harris, BASF

Trt No.	Treatment Name	Other Rate	Other Rate Unit	Appl Code	7*	8*	9*	10*	11*	12*
	Pest Type				W Weed	W Weed	W Weed	O Other	W Weed	W Weed
	Pest Code				HIBTR	SIDSP	ECHCG		SETFA	AMBTR
	Pest Scientific Name				Hibiscus trion>	Sida spinosa	Echinochloa cr>		Setaria faberi	Ambrosia trifi>
	Pest Name				Venice mallow	Prickly sida	Common barnyar>		Giant foxtail	Giant ragweed
	Rating Date				Jun-4-2018	Jun-4-2018	Jun-4-2018	Jun-21-2018	Jun-21-2018	Jun-21-2018
	Rating Type				CONTRO	CONTRO	CONTRO	PHYGEN	CONTRO	CONTRO
	Rating Unit				%	%	%	%	%	%
	Number of Subsamples				1	1	1	1	1	1
	Days After First/Last Applic.				24 24	24 24	24 24	41 7	41 7	41 7
	Trt-Eval Interval				24 DA-A	24 DA-A	24 DA-A			
	Plant-Eval Interval				24 DP-1	24 DP-1	24 DP-1	41 DP-1	41 DP-1	41 DP-1
	Days After Emergence				18 DE-1	18 DE-1	18 DE-1	35 DE-1	35 DE-1	35 DE-1
1	UTC				0.0 b	0.0 b	0.0 c	0.0 -	0.0 b	0.0 b
2	Engenia Pro	16	oz/a	A	100.0 a	85.0 a	70.0 ab	0.0 -	99.9 a	99.5 a
2	Engenia	12.8	oz/a	B						
2	Roundup Power Max	32	oz/a	B						
2	Induce	4.8	oz/a	B						
3	Engenia Pro	16	oz/a	A	95.0 a	95.0 a	66.3 ab	0.0 -	99.9 a	99.9 a
3	Engenia Pro	16	oz/a	B						
3	Roundup Power Max	32	oz/a	B						
3	Induce	4.8	oz/a	B						
4	Engenia Pro	16	oz/a	A	100.0 a	87.5 a	76.3 a	0.8 -	100.0 a	100.0 a
4	Engenia Pro	16	oz/a	C						
4	Roundup Power Max	32	oz/a	C						
4	Induce	4.8	oz/a	C						
5	Zidua Pro	6	oz/a	A	99.3 a	92.5 a	75.0 ab	3.3 -	98.1 a	99.4 a
5	Engenia Pro	16	oz/a	B						
5	Roundup Power Max	32	oz/a	B						
5	Induce	4.8	oz/a	B						
6	Verdict	5	oz/a	A	97.5 a	95.0 a	53.8 b	3.8 -	95.4 a	98.5 a
6	Engenia Pro	16	oz/a	B						
6	Roundup Power Max	32	oz/a	B						
6	Induce	4.8	oz/a	B						
7	Xtendimax	22	oz/a	A	100.0 a	82.5 a	82.5 a	0.0 -	99.8 a	99.7 a
7	Dual II Magnum	16	oz/a	A						
7	Xtendimax	22	oz/a	B						
7	Roundup Power Max	32	oz/a	B						
7	Induce	4.8	oz/a	B						
8	Xtendimax	22	oz/a	A	100.0 a	81.3 a	81.3 a	1.3 -	100.0 a	99.8 a
8	Dual II Magnum	16	oz/a	A						
8	Xtendimax	22	oz/a	B						
8	Dual II Magnum	16	oz/a	B						
8	Roundup Power Max	32	oz/a	B						
8	Induce	4.8	oz/a	B						
9	Xtendimax	22	oz/a	A	100.0 a	90.0 a	82.5 a	0.5 -	99.9 a	100.0 a
9	Warrant	48	oz/a	A						
9	Xtendimax	22	oz/a	B						
9	Roundup Power Max	32	oz/a	B						
9	Induce	4.8	oz/a	B						

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls)
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
* Adjusted means
Could not calculate LSD (% mean diff) for columns 14,15,16,22,23,24,25,26,28,31,32,33,34,35 because error mean square = 0.

The Ohio State University

Engenia/Engenia Pro vs competitor premixes in soybeans
Trial ID: 18 ENGENIAPRPOST2 Location: Trial Year: 2018
Protocol ID: 18 ENGENIAPRPOST2 Investigator: Dr. Mark M. Loux
Project ID: MKDH2018USD03M01 Study Director: Bryan Reeb
Sponsor Contact: Alice Harris, BASF

Trt No.	Treatment Name	Other Rate	Other Rate Unit	Appl Code	7*	8*	9*	10*	11*	12*
	Pest Type				W Weed	W Weed	W Weed	O Other	W Weed	W Weed
	Pest Code				HIBTR	SIDSP	ECHCG		SETFA	AMBTR
	Pest Scientific Name				Hibiscus trion>	Sida spinosa	Echinochloa cr>		Setaria faberi	Ambrosia trifi>
	Pest Name				Venice mallow	Prickly sida	Common barnyar>		Giant foxtail	Giant ragweed
	Rating Date				Jun-4-2018	Jun-4-2018	Jun-4-2018	Jun-21-2018	Jun-21-2018	Jun-21-2018
	Rating Type				CONTRO	CONTRO	CONTRO	PHYGEN	CONTRO	CONTRO
	Rating Unit				%	%	%	%	%	%
	Number of Subsamples				1	1	1	1	1	1
	Days After First/Last Applic.				24 24	24 24	24 24	41 7	41 7	41 7
	Trt-Eval Interval				24 DA-A	24 DA-A	24 DA-A			
	Plant-Eval Interval				24 DP-1	24 DP-1	24 DP-1	41 DP-1	41 DP-1	41 DP-1
	Days After Emergence				18 DE-1	18 DE-1	18 DE-1	35 DE-1	35 DE-1	35 DE-1
10	Xtendimax	22	oz/a	A	97.5 a	100.0 a	78.8 a	0.5 -	99.5 a	99.7 a
10	Warrant	48	oz/a	A						
10	Xtendimax	22	oz/a	B						
10	Warrant	48	oz/a	B						
10	Roundup Power Max	32	oz/a	B						
10	Induce	4.8	oz/a	B						
11	Zidua Pro	4.5	oz/a	A	100.0 a	95.0 a	67.5 ab	3.3 -	98.7 a	98.9 a
11	Engenia Pro	16	oz/a	B						
11	Roundup Power Max	32	oz/a	B						
11	Induce	4.8	oz/a	B						
12	Verdict	5	oz/a	A	100.0 a	100.0 a	60.0 ab	2.5 -	99.9 a	99.8 a
12	Roundup Power Max	32	oz/a	B						
12	Induce	4.8	oz/a	B						
	LSD P=.05				3.84	17.37	14.44	2.50	2.14 - 4.15	1.53 - 2.17
	Standard Deviation				2.67	12.08	10.04	1.74	5.85t	5.89t
	CV				2.94	14.44	15.18	132.64	7.39t	7.41t
	Levene's F				2.375	2.463	0.654	1.603	1.119	0.869
	Levene's Prob(F)				0.025*	0.021*	0.771	0.14	0.376	0.577
	Skewness				-3.0598*	-2.149*	-1.773*	1.0985*	-2.7854*	-2.8597*
	Kurtosis				7.8028*	3.9427*	2.8122*	-0.629	6.6291*	6.9645*
	Replicate F				1.043	3.498	3.120	0.960	1.977	0.851
	Replicate Prob(F)				0.3866	0.0262	0.0391	0.4231	0.1365	0.4763
	Treatment F				461.329	20.098	20.517	2.806	74.090	72.824
	Treatment Prob(F)				0.0001	0.0001	0.0001	0.0107	0.0001	0.0001

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls)
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
* Adjusted means
Could not calculate LSD (% mean diff) for columns 14,15,16,22,23,24,25,26,28,31,32,33,34,35 because error mean square = 0.

The Ohio State University

Engenia/Engenia Pro vs competitor premixes in soybeans
Trial ID: 18 ENGENIAPRPOST2 Location: Trial Year: 2018
Protocol ID: 18 ENGENIAPRPOST2 Investigator: Dr. Mark M. Loux
Project ID: MKDH2018USD03M01 Study Director: Bryan Reeb
Sponsor Contact: Alice Harris, BASF

Trt No.	Treatment Name	Other Rate	Other Rate Unit	Appl Code	13*	14*	15*	16*	17*
	Pest Type				W Weed	W Weed	W Weed	W Weed	W Weed
	Pest Code				CHEAL	AMARE	ABUTH	HIBTR	SIDSP
	Pest Scientific Name				Chenopodium al>	Amaranthus ret>	Abutilon theop>	Hibiscus trion>	Sida spinosa
	Pest Name				common lambsqu>	Redroot pigweed	velvetleaf	Venice mallow	Prickly sida
	Rating Date				Jun-21-2018	Jun-21-2018	Jun-21-2018	Jun-21-2018	Jun-21-2018
	Rating Type				CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
	Rating Unit				%	%	%	%	%
	Number of Subsamples				1	1	1	1	1
	Days After First/Last Applic.				41 7	41 7	41 7	41 7	41 7
	Trt-Eval Interval								
	Plant-Eval Interval				41 DP-1	41 DP-1	41 DP-1	41 DP-1	41 DP-1
	Days After Emergence				35 DE-1	35 DE-1	35 DE-1	35 DE-1	35 DE-1
1	UTC				0.0 b	0.0 -	0.0 -	0.0 -	0.0 b
2	Engenia Pro	16	oz/a	A	100.0 a	100.0 -	100.0 -	100.0 -	100.0 a
2	Engenia	12.8	oz/a	B					
2	Roundup Power Max	32	oz/a	B					
2	Induce	4.8	oz/a	B					
3	Engenia Pro	16	oz/a	A	100.0 a	100.0 -	100.0 -	100.0 -	100.0 a
3	Engenia Pro	16	oz/a	B					
3	Roundup Power Max	32	oz/a	B					
3	Induce	4.8	oz/a	B					
4	Engenia Pro	16	oz/a	A	100.0 a	100.0 -	100.0 -	100.0 -	100.0 a
4	Engenia Pro	16	oz/a	C					
4	Roundup Power Max	32	oz/a	C					
4	Induce	4.8	oz/a	C					
5	Zidua Pro	6	oz/a	A	100.0 a	100.0 -	100.0 -	100.0 -	100.0 a
5	Engenia Pro	16	oz/a	B					
5	Roundup Power Max	32	oz/a	B					
5	Induce	4.8	oz/a	B					
6	Verdict	5	oz/a	A	100.0 a	100.0 -	100.0 -	100.0 -	99.5 a
6	Engenia Pro	16	oz/a	B					
6	Roundup Power Max	32	oz/a	B					
6	Induce	4.8	oz/a	B					
7	Xtendimax	22	oz/a	A	100.0 a	100.0 -	100.0 -	100.0 -	100.0 a
7	Dual II Magnum	16	oz/a	A					
7	Xtendimax	22	oz/a	B					
7	Roundup Power Max	32	oz/a	B					
7	Induce	4.8	oz/a	B					
8	Xtendimax	22	oz/a	A	100.0 a	100.0 -	100.0 -	100.0 -	100.0 a
8	Dual II Magnum	16	oz/a	A					
8	Xtendimax	22	oz/a	B					
8	Dual II Magnum	16	oz/a	B					
8	Roundup Power Max	32	oz/a	B					
8	Induce	4.8	oz/a	B					
9	Xtendimax	22	oz/a	A	100.0 a	100.0 -	100.0 -	100.0 -	100.0 a
9	Warrant	48	oz/a	A					
9	Xtendimax	22	oz/a	B					
9	Roundup Power Max	32	oz/a	B					
9	Induce	4.8	oz/a	B					

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls)
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
* Adjusted means
Could not calculate LSD (% mean diff) for columns 14,15,16,22,23,24,25,26,28,31,32,33,34,35 because error mean square = 0.

The Ohio State University

Engenia/Engenia Pro vs competitor premixes in soybeans
Trial ID: 18 ENGENIAPRPOST2 Location: Trial Year: 2018
Protocol ID: 18 ENGENIAPRPOST2 Investigator: Dr. Mark M. Loux
Project ID: MKDH2018USD03M01 Study Director: Bryan Reeb
Sponsor Contact: Alice Harris, BASF

Pest Type				W Weed	W Weed	W Weed	W Weed	W Weed		
Pest Code				CHEAL	AMARE	ABUTH	HIBTR	SIDSP		
Pest Scientific Name				Chenopodium al>	Amaranthus ret>	Abutilon theop>	Hibiscus trion>	Sida spinosa		
Pest Name				common lambsqu>	Redroot pigweed	velvetleaf	Venice mallow	Prickly sida		
Rating Date				Jun-21-2018	Jun-21-2018	Jun-21-2018	Jun-21-2018	Jun-21-2018		
Rating Type				CONTRO	CONTRO	CONTRO	CONTRO	CONTRO		
Rating Unit				%	%	%	%	%		
Number of Subsamples				1	1	1	1	1		
Days After First/Last Applic.				41 7	41 7	41 7	41 7	41 7		
Trt-Eval Interval										
Plant-Eval Interval				41 DP-1	41 DP-1	41 DP-1	41 DP-1	41 DP-1		
Days After Emergence				35 DE-1	35 DE-1	35 DE-1	35 DE-1	35 DE-1		
Trt No.	Treatment Name	Other Rate	Other Rate Unit	Appl Code	13*	14*	15*	16*	17*	
10	Xtendimax	22	oz/a	A	99.5 a	100.0 -	100.0 -	100.0 -	100.0 a	
10	Warrant	48	oz/a	A						
10	Xtendimax	22	oz/a	B						
10	Warrant	48	oz/a	B						
10	Roundup Power Max	32	oz/a	B						
10	Induce	4.8	oz/a	B						
11	Zidua Pro	4.5	oz/a	A	100.0 a	100.0 -	100.0 -	100.0 -	99.0 a	
11	Engenia Pro	16	oz/a	B						
11	Roundup Power Max	32	oz/a	B						
11	Induce	4.8	oz/a	B						
12	Verdict	5	oz/a	A	100.0 a	100.0 -	100.0 -	100.0 -	100.0 a	
12	Roundup Power Max	32	oz/a	B						
12	Induce	4.8	oz/a	B						
LSD P=.05					0.42	.	.	.	0.62	
Standard Deviation					0.29	0.00	0.00	0.00	0.43	
CV					0.32	0.0	0.0	0.0	0.47	
Levene's F					1.00	0.00	0.00	0.00	4.636	
Levene's Prob(F)					0.465	.	.	.	0.001*	
Skewness					-3.1127*	-3.1133*	-3.1133*	-3.1133*	-3.1116*	
Kurtosis					8.023*	8.0253*	8.0253*	8.0253*	8.0186*	
Replicate F					1.000	0.000	0.000	0.000	1.658	
Replicate Prob(F)					0.4051	1.0000	1.0000	1.0000	0.1951	
Treatment F					39964.640	0.000	0.000	0.000	18034.974	
Treatment Prob(F)					0.0001	1.0000	1.0000	1.0000	0.0001	

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls)
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
* Adjusted means
Could not calculate LSD (% mean diff) for columns 14,15,16,22,23,24,25,26,28,31,32,33,34,35 because error mean square = 0.

The Ohio State University

Engenia/Engenia Pro vs competitor premixes in soybeans
Trial ID: 18 ENGENIAPRPOST2 Location: Trial Year: 2018
Protocol ID: 18 ENGENIAPRPOST2 Investigator: Dr. Mark M. Loux
Project ID: MKDH2018USD03M01 Study Director: Bryan Reeb
Sponsor Contact: Alice Harris, BASF

Pest Type				W Weed	O Other	W Weed	W Weed	W Weed	W Weed
Pest Code				ECHCG		SETFA	AMBTR	CHEAL	AMARE
Pest Scientific Name				Echinochloa cr>		Setaria faberi	Ambrosia trifi>	Chenopodium al>	Amaranthus ret>
Pest Name				Common barnyar>		Giant foxtail	Giant ragweed	common lambsqu>	Redroot pigweed
Rating Date				Jun-21-2018	Jul-2-2018	Jul-2-2018	Jul-2-2018	Jul-2-2018	Jul-2-2018
Rating Type				CONTRO	PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit				%	%	%	%	%	%
Number of Subsamples				1	1	1	1	1	1
Days After First/Last Applic.				41 7	52 18	52 18	52 18	52 18	52 18
Trt-Eval Interval									
Plant-Eval Interval				41 DP-1	52 DP-1	52 DP-1	52 DP-1	52 DP-1	52 DP-1
Days After Emergence				35 DE-1	46 DE-1	46 DE-1	46 DE-1	46 DE-1	46 DE-1
Trt No.	Treatment Name	Other Rate	Other Rate Unit	Appl Code	18*	19*	20*	21*	22*	23*
1	UTC				0.0 b	0.0 -	0.0 b	0.0 b	0.0 -	0.0 -
2	Engenia Pro	16	oz/a	A	99.5 a	0.0 -	100.0 a	100.0 a	100.0 -	100.0 -
2	Engenia	12.8	oz/a	B						
2	Roundup Power Max	32	oz/a	B						
2	Induce	4.8	oz/a	B						
3	Engenia Pro	16	oz/a	A	100.0 a	0.0 -	100.0 a	100.0 a	100.0 -	100.0 -
3	Engenia Pro	16	oz/a	B						
3	Roundup Power Max	32	oz/a	B						
3	Induce	4.8	oz/a	B						
4	Engenia Pro	16	oz/a	A	100.0 a	0.0 -	100.0 a	100.0 a	100.0 -	100.0 -
4	Engenia Pro	16	oz/a	C						
4	Roundup Power Max	32	oz/a	C						
4	Induce	4.8	oz/a	C						
5	Zidua Pro	6	oz/a	A	97.1 a	1.3 -	100.0 a	97.5 a	100.0 -	100.0 -
5	Engenia Pro	16	oz/a	B						
5	Roundup Power Max	32	oz/a	B						
5	Induce	4.8	oz/a	B						
6	Verdict	5	oz/a	A	97.4 a	1.8 -	98.5 a	95.0 a	100.0 -	100.0 -
6	Engenia Pro	16	oz/a	B						
6	Roundup Power Max	32	oz/a	B						
6	Induce	4.8	oz/a	B						
7	Xtendimax	22	oz/a	A	100.0 a	0.0 -	100.0 a	100.0 a	100.0 -	100.0 -
7	Dual II Magnum	16	oz/a	A						
7	Xtendimax	22	oz/a	B						
7	Roundup Power Max	32	oz/a	B						
7	Induce	4.8	oz/a	B						
8	Xtendimax	22	oz/a	A	100.0 a	0.0 -	100.0 a	100.0 a	100.0 -	100.0 -
8	Dual II Magnum	16	oz/a	A						
8	Xtendimax	22	oz/a	B						
8	Dual II Magnum	16	oz/a	B						
8	Roundup Power Max	32	oz/a	B						
8	Induce	4.8	oz/a	B						
9	Xtendimax	22	oz/a	A	100.0 a	0.0 -	100.0 a	100.0 a	100.0 -	100.0 -
9	Warrant	48	oz/a	A						
9	Xtendimax	22	oz/a	B						
9	Roundup Power Max	32	oz/a	B						
9	Induce	4.8	oz/a	B						

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls)
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
* Adjusted means
Could not calculate LSD (% mean diff) for columns 14,15,16,22,23,24,25,26,28,31,32,33,34,35 because error mean square = 0.

The Ohio State University

Engenia/Engenia Pro vs competitor premixes in soybeans
Trial ID: 18 ENGENIAPRPOST2 Location: Trial Year: 2018
Protocol ID: 18 ENGENIAPRPOST2 Investigator: Dr. Mark M. Loux
Project ID: MKDH2018USD03M01 Study Director: Bryan Reeb
Sponsor Contact: Alice Harris, BASF

Trt No.	Treatment Name	Other Rate	Other Rate Unit	Appl Code	18*	19*	20*	21*	22*	23*
	Pest Type				W Weed	O Other	W Weed	W Weed	W Weed	W Weed
	Pest Code				ECHCG		SETFA	AMBTR	CHEAL	AMARE
	Pest Scientific Name				Echinochloa cr>		Setaria faberi	Ambrosia trifi>	Chenopodium al>	Amaranthus ret>
	Pest Name				Common barnyar>		Giant foxtail	Giant ragweed	common lambsqu>	Redroot pigweed
	Rating Date				Jun-21-2018	Jul-2-2018	Jul-2-2018	Jul-2-2018	Jul-2-2018	Jul-2-2018
	Rating Type				CONTRO	PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO
	Rating Unit				%	%	%	%	%	%
	Number of Subsamples				1	1	1	1	1	1
	Days After First/Last Applic.				41 7	52 18	52 18	52 18	52 18	52 18
	Trt-Eval Interval									
	Plant-Eval Interval				41 DP-1	52 DP-1	52 DP-1	52 DP-1	52 DP-1	52 DP-1
	Days After Emergence				35 DE-1	46 DE-1	46 DE-1	46 DE-1	46 DE-1	46 DE-1
10	Xtendimax	22	oz/a	A	100.0 a	0.0 -	100.0 a	100.0 a	100.0 -	100.0 -
10	Warrant	48	oz/a	A						
10	Xtendimax	22	oz/a	B						
10	Warrant	48	oz/a	B						
10	Roundup Power Max	32	oz/a	B						
10	Induce	4.8	oz/a	B						
11	Zidua Pro	4.5	oz/a	A	97.5 a	0.0 -	97.5 a	97.5 a	100.0 -	100.0 -
11	Engenia Pro	16	oz/a	B						
11	Roundup Power Max	32	oz/a	B						
11	Induce	4.8	oz/a	B						
12	Verdict	5	oz/a	A	100.0 a	0.0 -	100.0 a	100.0 a	100.0 -	100.0 -
12	Roundup Power Max	32	oz/a	B						
12	Induce	4.8	oz/a	B						
	LSD P=.05				1.77 - 2.79	1.42	2.33	5.21	.	.
	Standard Deviation				5.32t	0.99	1.62	3.62	0.00	0.00
	CV				6.66t	395.94	1.78	3.99	0.0	0.0
	Levene's F				7.774	1.989	1.078	0.848	0.00	0.00
	Levene's Prob(F)				0.001*	0.059	0.405	0.595	.	.
	Skewness				-2.8121*	4.3015*	-3.0959*	-3.0359*	-3.1133*	-3.1133*
	Kurtosis				6.7147*	17.8987*	7.9526*	7.6858*	8.0253*	8.0253*
	Replicate F				1.498	1.077	0.655	0.423	0.000	0.000
	Replicate Prob(F)				0.2332	0.3721	0.5859	0.7377	1.0000	1.0000
	Treatment F				91.747	1.438	1258.572	250.038	0.000	0.000
	Treatment Prob(F)				0.0001	0.2027	0.0001	0.0001	1.0000	1.0000

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls)
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
* Adjusted means
Could not calculate LSD (% mean diff) for columns 14,15,16,22,23,24,25,26,28,31,32,33,34,35 because error mean square = 0.

The Ohio State University

Engenia/Engenia Pro vs competitor premixes in soybeans
Trial ID: 18 ENGENIAPRPOST2 Location: Trial Year: 2018
Protocol ID: 18 ENGENIAPRPOST2 Investigator: Dr. Mark M. Loux
Project ID: MKDH2018USD03M01 Study Director: Bryan Reeb
Sponsor Contact: Alice Harris, BASF

Pest Type				W Weed		W Weed		W Weed		W Weed	O Other	W Weed
Pest Code				ABUTH		HIBTR		SIDSP		ECHCG		SETFA
Pest Scientific Name				Abutilon theop>		Hibiscus trion>		Sida spinosa		Echinochloa cr>		Setaria faberi
Pest Name				velvetleaf		Venice mallow		Prickly sida		Common barnyar>		Giant foxtail
Rating Date				Jul-2-2018		Jul-2-2018		Jul-2-2018		Jul-2-2018	Jul-18-2018	Jul-18-2018
Rating Type				CONTRO		CONTRO		CONTRO		CONTRO	PHYGEN	CONTRO
Rating Unit				%		%		%		%	%	%
Number of Subsamples				1		1		1		1	1	1
Days After First/Last Applic.				52	18	52	18	52	18	52	18	68	34	68	34
Trt-Eval Interval												
Plant-Eval Interval				52 DP-1		52 DP-1		52 DP-1		52 DP-1	68 DP-1	68 DP-1
Days After Emergence				46 DE-1		46 DE-1		46 DE-1		46 DE-1	62 DE-1	62 DE-1
Trt No.	Treatment Name	Other Rate	Other Rate Unit	Appl Code	24*		25*		26*		27*	28*	29*
1	UTC				0.0	-	0.0	-	0.0	-	0.0 b	0.0 -	0.0 b
2	Engenia Pro	16	oz/a	A	100.0	-	100.0	-	100.0	-	100.0 a	0.0 -	99.9 a
2	Engenia	12.8	oz/a	B									
2	Roundup Power Max	32	oz/a	B									
2	Induce	4.8	oz/a	B									
3	Engenia Pro	16	oz/a	A	100.0	-	100.0	-	100.0	-	100.0 a	0.0 -	100.0 a
3	Engenia Pro	16	oz/a	B									
3	Roundup Power Max	32	oz/a	B									
3	Induce	4.8	oz/a	B									
4	Engenia Pro	16	oz/a	A	100.0	-	100.0	-	100.0	-	100.0 a	0.0 -	100.0 a
4	Engenia Pro	16	oz/a	C									
4	Roundup Power Max	32	oz/a	C									
4	Induce	4.8	oz/a	C									
5	Zidua Pro	6	oz/a	A	100.0	-	100.0	-	100.0	-	100.0 a	0.0 -	100.0 a
5	Engenia Pro	16	oz/a	B									
5	Roundup Power Max	32	oz/a	B									
5	Induce	4.8	oz/a	B									
6	Verdict	5	oz/a	A	100.0	-	100.0	-	100.0	-	97.3 a	0.0 -	96.2 a
6	Engenia Pro	16	oz/a	B									
6	Roundup Power Max	32	oz/a	B									
6	Induce	4.8	oz/a	B									
7	Xtendimax	22	oz/a	A	100.0	-	100.0	-	100.0	-	100.0 a	0.0 -	100.0 a
7	Dual II Magnum	16	oz/a	A									
7	Xtendimax	22	oz/a	B									
7	Roundup Power Max	32	oz/a	B									
7	Induce	4.8	oz/a	B									
8	Xtendimax	22	oz/a	A	100.0	-	100.0	-	100.0	-	100.0 a	0.0 -	100.0 a
8	Dual II Magnum	16	oz/a	A									
8	Xtendimax	22	oz/a	B									
8	Dual II Magnum	16	oz/a	B									
8	Roundup Power Max	32	oz/a	B									
8	Induce	4.8	oz/a	B									
9	Xtendimax	22	oz/a	A	100.0	-	100.0	-	100.0	-	100.0 a	0.0 -	100.0 a
9	Warrant	48	oz/a	A									
9	Xtendimax	22	oz/a	B									
9	Roundup Power Max	32	oz/a	B									
9	Induce	4.8	oz/a	B									

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls)
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
* Adjusted means
Could not calculate LSD (% mean diff) for columns 14,15,16,22,23,24,25,26,28,31,32,33,34,35 because error mean square = 0.

The Ohio State University

Engenia/Engenia Pro vs competitor premixes in soybeans
Trial ID: 18 ENGENIAPRPOST2 Location: Trial Year: 2018
Protocol ID: 18 ENGENIAPRPOST2 Investigator: Dr. Mark M. Loux
Project ID: MKDH2018USD03M01 Study Director: Bryan Reeb
Sponsor Contact: Alice Harris, BASF

Pest Type				W Weed		W Weed		W Weed		W Weed	O Other	W Weed
Pest Code				ABUTH		HIBTR		SIDSP		ECHCG		SETFA
Pest Scientific Name				Abutilon theop>		Hibiscus trion>		Sida spinosa		Echinochloa cr>		Setaria faberi
Pest Name				velvetleaf		Venice mallow		Prickly sida		Common barnyar>		Giant foxtail
Rating Date				Jul-2-2018		Jul-2-2018		Jul-2-2018		Jul-2-2018	Jul-18-2018	Jul-18-2018
Rating Type				CONTRO		CONTRO		CONTRO		CONTRO	PHYGEN	CONTRO
Rating Unit				%		%		%		%	%	%
Number of Subsamples				1		1		1		1	1	1
Days After First/Last Applic.				52	18	52	18	52	18	52	18	68	34	68	34
Trt-Eval Interval												
Plant-Eval Interval				52 DP-1		52 DP-1		52 DP-1		52 DP-1	68 DP-1	68 DP-1
Days After Emergence				46 DE-1		46 DE-1		46 DE-1		46 DE-1	62 DE-1	62 DE-1
Trt No.	Treatment Name	Other Rate	Other Rate Unit	Appl Code	24*		25*		26*		27*	28*	29*
10	Xtendimax	22	oz/a	A	100.0	-	100.0	-	100.0	-	100.0 a	0.0 -	99.8 a
10	Warrant	48	oz/a	A									
10	Xtendimax	22	oz/a	B									
10	Warrant	48	oz/a	B									
10	Roundup Power Max	32	oz/a	B									
10	Induce	4.8	oz/a	B									
11	Zidua Pro	4.5	oz/a	A	100.0	-	100.0	-	100.0	-	97.5 a	0.0 -	99.4 a
11	Engenia Pro	16	oz/a	B									
11	Roundup Power Max	32	oz/a	B									
11	Induce	4.8	oz/a	B									
12	Verdict	5	oz/a	A	100.0	-	100.0	-	100.0	-	100.0 a	0.0 -	99.9 a
12	Roundup Power Max	32	oz/a	B									
12	Induce	4.8	oz/a	B									
LSD P=.05					.		.		.		2.94	.	1.68 - 3.36
Standard Deviation					0.00		0.00		0.00		2.05	0.00	5.17t
CV					0.0		0.0		0.0		2.24	0.0	6.41t
Levene's F					0.00		0.00		0.00		1.11	0.00	3.296
Levene's Prob(F)					.		.		.		0.382	.	0.003*
Skewness					-3.1133*		-3.1133*		-3.1133*		-3.0858*	.	-2.881*
Kurtosis					8.0253*		8.0253*		8.0253*		7.9097*	.	6.9868*
Replicate F					0.000		0.000		0.000		0.602	0.000	1.071
Replicate Prob(F)					1.0000		1.0000		1.0000		0.6183	1.0000	0.3747
Treatment F					0.000		0.000		0.000		789.422	0.000	98.078
Treatment Prob(F)					1.0000		1.0000		1.0000		0.0001	1.0000	0.0001

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls)
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
* Adjusted means
Could not calculate LSD (% mean diff) for columns 14,15,16,22,23,24,25,26,28,31,32,33,34,35 because error mean square = 0.

The Ohio State University

Engenia/Engenia Pro vs competitor premixes in soybeans
Trial ID: 18 ENGENIAPRPOST2 Location: Trial Year: 2018
Protocol ID: 18 ENGENIAPRPOST2 Investigator: Dr. Mark M. Loux
Project ID: MKDH2018USD03M01 Study Director: Bryan Reeb
Sponsor Contact: Alice Harris, BASF

Trt No.	Treatment Name	Other Rate	Other Rate Unit	Appl Code	30*	31*	32*	33*	34*	35*
	Pest Type				W Weed	W Weed	W Weed	W Weed	W Weed	W Weed
	Pest Code				AMBTR	CHEAL	AMARE	ABUTH	HIBTR	SIDSP
	Pest Scientific Name				Ambrosia trifi>	Chenopodium al>	Amaranthus ret>	Abutilon theop>	Hibiscus trion>	Sida spinosa
	Pest Name				Giant ragweed	common lambsqu>	Redroot pigweed	velvetleaf	Venice mallow	Prickly sida
	Rating Date				Jul-18-2018	Jul-18-2018	Jul-18-2018	Jul-18-2018	Jul-18-2018	Jul-18-2018
	Rating Type				CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
	Rating Unit				%	%	%	%	%	%
	Number of Subsamples				1	1	1	1	1	1
	Days After First/Last Applic.				68 34	68 34	68 34	68 34	68 34	68 34
	Trt-Eval Interval									
	Plant-Eval Interval				68 DP-1	68 DP-1	68 DP-1	68 DP-1	68 DP-1	68 DP-1
	Days After Emergence				62 DE-1	62 DE-1	62 DE-1	62 DE-1	62 DE-1	62 DE-1
1	UTC				0.0 b	0.0 -	0.0 -	0.0 -	0.0 -	0.0 -
2	Engenia Pro	16	oz/a	A	100.0 a	100.0 -	100.0 -	100.0 -	100.0 -	100.0 -
2	Engenia	12.8	oz/a	B						
2	Roundup Power Max	32	oz/a	B						
2	Induce	4.8	oz/a	B						
3	Engenia Pro	16	oz/a	A	100.0 a	100.0 -	100.0 -	100.0 -	100.0 -	100.0 -
3	Engenia Pro	16	oz/a	B						
3	Roundup Power Max	32	oz/a	B						
3	Induce	4.8	oz/a	B						
4	Engenia Pro	16	oz/a	A	100.0 a	100.0 -	100.0 -	100.0 -	100.0 -	100.0 -
4	Engenia Pro	16	oz/a	C						
4	Roundup Power Max	32	oz/a	C						
4	Induce	4.8	oz/a	C						
5	Zidua Pro	6	oz/a	A	100.0 a	100.0 -	100.0 -	100.0 -	100.0 -	100.0 -
5	Engenia Pro	16	oz/a	B						
5	Roundup Power Max	32	oz/a	B						
5	Induce	4.8	oz/a	B						
6	Verdict	5	oz/a	A	100.0 a	100.0 -	100.0 -	100.0 -	100.0 -	100.0 -
6	Engenia Pro	16	oz/a	B						
6	Roundup Power Max	32	oz/a	B						
6	Induce	4.8	oz/a	B						
7	Xtendimax	22	oz/a	A	100.0 a	100.0 -	100.0 -	100.0 -	100.0 -	100.0 -
7	Dual II Magnum	16	oz/a	A						
7	Xtendimax	22	oz/a	B						
7	Roundup Power Max	32	oz/a	B						
7	Induce	4.8	oz/a	B						
8	Xtendimax	22	oz/a	A	95.0 a	100.0 -	100.0 -	100.0 -	100.0 -	100.0 -
8	Dual II Magnum	16	oz/a	A						
8	Xtendimax	22	oz/a	B						
8	Dual II Magnum	16	oz/a	B						
8	Roundup Power Max	32	oz/a	B						
8	Induce	4.8	oz/a	B						
9	Xtendimax	22	oz/a	A	100.0 a	100.0 -	100.0 -	100.0 -	100.0 -	100.0 -
9	Warrant	48	oz/a	A						
9	Xtendimax	22	oz/a	B						
9	Roundup Power Max	32	oz/a	B						
9	Induce	4.8	oz/a	B						

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls)
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
* Adjusted means
Could not calculate LSD (% mean diff) for columns 14,15,16,22,23,24,25,26,28,31,32,33,34,35 because error mean square = 0.

The Ohio State University

Engenia/Engenia Pro vs competitor premixes in soybeans
Trial ID: 18 ENGENIAPRPOST2 Location: Trial Year: 2018
Protocol ID: 18 ENGENIAPRPOST2 Investigator: Dr. Mark M. Loux
Project ID: MKDH2018USD03M01 Study Director: Bryan Reeb
Sponsor Contact: Alice Harris, BASF

Pest Type				W Weed	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code				AMBTR	CHEAL	AMARE	ABUTH	HIBTR	SIDSP
Pest Scientific Name				Ambrosia trifi>	Chenopodium al>	Amaranthus ret>	Abutilon theop>	Hibiscus trion>	Sida spinosa
Pest Name				Giant ragweed	common lambsqu>	Redroot pigweed	velvetleaf	Venice mallow	Prickly sida
Rating Date				Jul-18-2018	Jul-18-2018	Jul-18-2018	Jul-18-2018	Jul-18-2018	Jul-18-2018
Rating Type				CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit				%	%	%	%	%	%
Number of Subsamples				1	1	1	1	1	1
Days After First/Last Applic.				68 34	68 34	68 34	68 34	68 34	68 34
Trt-Eval Interval									
Plant-Eval Interval				68 DP-1	68 DP-1	68 DP-1	68 DP-1	68 DP-1	68 DP-1
Days After Emergence				62 DE-1	62 DE-1	62 DE-1	62 DE-1	62 DE-1	62 DE-1
Trt No.	Treatment Name	Other Rate	Other Rate Unit	Appl Code	30*	31*	32*	33*	34*	35*
10	Xtendimax	22	oz/a	A	92.5 a	100.0 -	100.0 -	100.0 -	100.0 -	100.0 -
10	Warrant	48	oz/a	A						
10	Xtendimax	22	oz/a	B						
10	Warrant	48	oz/a	B						
10	Roundup Power Max	32	oz/a	B						
10	Induce	4.8	oz/a	B						
11	Zidua Pro	4.5	oz/a	A	100.0 a	100.0 -	100.0 -	100.0 -	100.0 -	100.0 -
11	Engenia Pro	16	oz/a	B						
11	Roundup Power Max	32	oz/a	B						
11	Induce	4.8	oz/a	B						
12	Verdict	5	oz/a	A	100.0 a	100.0 -	100.0 -	100.0 -	100.0 -	100.0 -
12	Roundup Power Max	32	oz/a	B						
12	Induce	4.8	oz/a	B						
LSD P=.05					5.35	.	.	.	.	.
Standard Deviation					3.72	0.00	0.00	0.00	0.00	0.00
CV					4.1	0.0	0.0	0.0	0.0	0.0
Levene's F					2.977	0.00	0.00	0.00	0.00	0.00
Levene's Prob(F)					0.007*	.	.	.	.	.
Skewness					-3.0049*	-3.1133*	-3.1133*	-3.1133*	-3.1133*	-3.1133*
Kurtosis					7.5495*	8.0253*	8.0253*	8.0253*	8.0253*	8.0253*
Replicate F					1.658	0.000	0.000	0.000	0.000	0.000
Replicate Prob(F)					0.1951	1.0000	1.0000	1.0000	1.0000	1.0000
Treatment F					237.411	0.000	0.000	0.000	0.000	0.000
Treatment Prob(F)					0.0001	1.0000	1.0000	1.0000	1.0000	1.0000

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls)
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
* Adjusted means
Could not calculate LSD (% mean diff) for columns 14,15,16,22,23,24,25,26,28,31,32,33,34,35 because error mean square = 0.

The Ohio State University

Engenia/Engenia Pro vs competitor premixes in soybeans
Trial ID: 18 ENGENIAPRPOST2 Location: Trial Year: 2018
Protocol ID: 18 ENGENIAPRPOST2 Investigator: Dr. Mark M. Loux
Project ID: MKDH2018USD03M01 Study Director: Bryan Reeb
Sponsor Contact: Alice Harris, BASF

Pest Type	W Weed
Pest Code	ECHCG
Pest Scientific Name	Echinochloa cr>
Pest Name	Common barnyar>
Rating Date	Jul-18-2018
Rating Type	CONTRO
Rating Unit	%
Number of Subsamples	1
Days After First/Last Applic.	68 34
Trt-Eval Interval	
Plant-Eval Interval	68 DP-1
Days After Emergence	62 DE-1

Trt No.	Treatment Name	Other Rate	Other Rate Unit	Appl Code	36*
1	UTC				0.0 c
2	Engenia Pro	16	oz/a	A	99.9 a
2	Engenia	12.8	oz/a	B	
2	Roundup Power Max	32	oz/a	B	
2	Induce	4.8	oz/a	B	
3	Engenia Pro	16	oz/a	A	100.0 a
3	Engenia Pro	16	oz/a	B	
3	Roundup Power Max	32	oz/a	B	
3	Induce	4.8	oz/a	B	
4	Engenia Pro	16	oz/a	A	100.0 a
4	Engenia Pro	16	oz/a	C	
4	Roundup Power Max	32	oz/a	C	
4	Induce	4.8	oz/a	C	
5	Zidua Pro	6	oz/a	A	100.0 a
5	Engenia Pro	16	oz/a	B	
5	Roundup Power Max	32	oz/a	B	
5	Induce	4.8	oz/a	B	
6	Verdict	5	oz/a	A	90.1 b
6	Engenia Pro	16	oz/a	B	
6	Roundup Power Max	32	oz/a	B	
6	Induce	4.8	oz/a	B	
7	Xtendimax	22	oz/a	A	100.0 a
7	Dual II Magnum	16	oz/a	A	
7	Xtendimax	22	oz/a	B	
7	Roundup Power Max	32	oz/a	B	
7	Induce	4.8	oz/a	B	
8	Xtendimax	22	oz/a	A	100.0 a
8	Dual II Magnum	16	oz/a	A	
8	Xtendimax	22	oz/a	B	
8	Dual II Magnum	16	oz/a	B	
8	Roundup Power Max	32	oz/a	B	
8	Induce	4.8	oz/a	B	
9	Xtendimax	22	oz/a	A	100.0 a
9	Warrant	48	oz/a	A	
9	Xtendimax	22	oz/a	B	
9	Roundup Power Max	32	oz/a	B	
9	Induce	4.8	oz/a	B	

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls)
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
* Adjusted means
Could not calculate LSD (% mean diff) for columns 14,15,16,22,23,24,25,26,28,31,32,33,34,35 because error mean square = 0.

The Ohio State University

Engenia/Engenia Pro vs competitor premixes in soybeans
Trial ID: 18 ENGENIAPRPOST2 Location: Trial Year: 2018
Protocol ID: 18 ENGENIAPRPOST2 Investigator: Dr. Mark M. Loux
Project ID: MKDH2018USD03M01 Study Director: Bryan Reeb
Sponsor Contact: Alice Harris, BASF

Pest Type					W Weed
Pest Code					ECHCG
Pest Scientific Name					Echinochloa cr>
Pest Name					Common barnyar>
Rating Date					Jul-18-2018
Rating Type					CONTRO
Rating Unit					%
Number of Subsamples					1
Days After First/Last Applic.					68 34
Trt-Eval Interval					
Plant-Eval Interval					68 DP-1
Days After Emergence					62 DE-1
Trt No.	Treatment Name	Other Rate	Other Rate Unit	Appl Code	36*
10	Xtendimax	22	oz/a	A	98.5 a
10	Warrant	48	oz/a	A	
10	Xtendimax	22	oz/a	B	
10	Warrant	48	oz/a	B	
10	Roundup Power Max	32	oz/a	B	
10	Induce	4.8	oz/a	B	
11	Zidua Pro	4.5	oz/a	A	99.4 a
11	Engenia Pro	16	oz/a	B	
11	Roundup Power Max	32	oz/a	B	
11	Induce	4.8	oz/a	B	
12	Verdict	5	oz/a	A	99.9 a
12	Roundup Power Max	32	oz/a	B	
12	Induce	4.8	oz/a	B	
LSD P=.05					1.31 - 5.74
Standard Deviation					4.56t
CV					5.73t
Levene's F					1.76
Levene's Prob(F)					0.099
Skewness					-2.7859*
Kurtosis					6.6038*
Replicate F					0.678
Replicate Prob(F)					0.5716
Treatment F					126.356
Treatment Prob(F)					0.0001

Means followed by same letter or symbol do not significantly differ (P=.05, Student-Newman-Keuls)
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
* Adjusted means
Could not calculate LSD (% mean diff) for columns 14,15,16,22,23,24,25,26,28,31,32,33,34,35 because error mean square = 0.

The Ohio State University

Engenia/Engenia Pro vs competitor premixes in soybeans
Trial ID: 18 ENGENIAPRPOST2 Location: Trial Year: 2018
Protocol ID: 18 ENGENIAPRPOST2 Investigator: Dr. Mark M. Loux
Project ID: MKDH2018USD03M01 Study Director: Bryan Reeb
Sponsor Contact: Alice Harris, BASF

Pest Type
O, Other, G-BYRO7, G-OthStg = Other animal or nematode
W, Weed, G-BYRW7, G-WedStg = Weed or volunteer crop
Pest Code
SETFA, Setaria faberi, Giant foxtail = US
AMBTR, Ambrosia trifida, Giant ragweed = US
CHEAL, Chenopodium album, common lambsquarters = US
AMARE, Amaranthus retroflexus, Redroot pigweed = US
ABUTH, Abutilon theophrasti, velvetleaf = US
HIBTR, Hibiscus trionum, Venice mallow = US
SIDSP, Sida spinosa, Prickly sida = US
ECHCG, Echinochloa crus-galli, Common barnyard grass = US
Rating Type
PHYSTU = phytotoxicity - stunting
CONTRO = control / burndown or knockdown
PHYGEN = phytotoxicity - general / injury
Rating Unit
% = percent
Plant-Eval Interval
24 DP-1 = 1 GLXMA May-11-2018
41 DP-1 = 1 GLXMA May-11-2018
52 DP-1 = 1 GLXMA May-11-2018
68 DP-1 = 1 GLXMA May-11-2018