2023 Weed Control

Field Test Data

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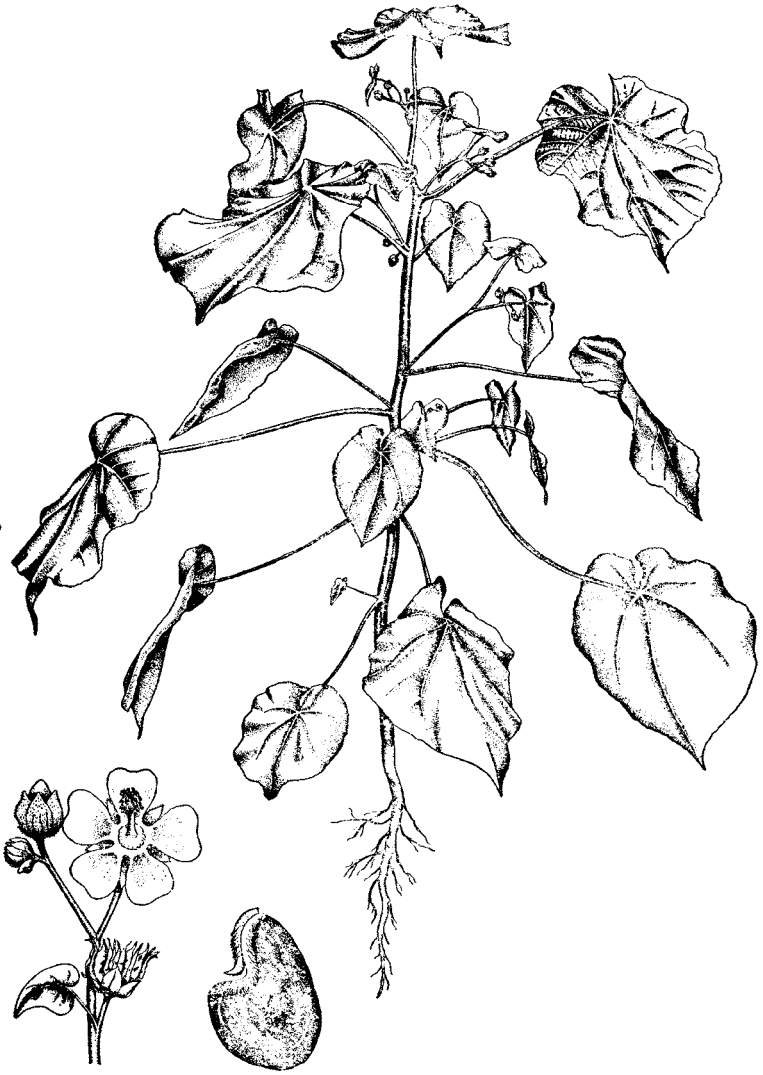

South Dakota State University Extension

Department of **Agronomy, Horticulture & Plant Science**

Acknowledgements

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- Southeast Experiment Station-Beresford
- Northeast Experiment Station-South Shore
- Volga Experiment Station-Volga

Program input and partial support for field programs is also acknowledged.

- South Dakota Soybean Research and Promotion Council
- South Dakota Wheat Commission
- Crop Protection Industries

Herbicide use information is available in the following SDSU Extension publications:

- Pest Management Guide: Corn
- Pest Management Guide: Soybean
- Pest Management Guide: Wheat (Small grains)
- Sorghum Weed Control
- Weed Control: Noxious Weeds
- Pest Management Guide: Alfalfa and Oilseeds
- Weed Control: Pulse Crops
- Weed Control: Pasture & Range

NOTE: Data reported in this publication are results from field tests that include labeled product uses, experimental products or experimental rates, combinations or other unlabeled uses for herbicide products. Users are responsible for applying herbicides according to label directions. Refer to the appropriate weed control fact sheet, available from extension regional centers, for herbicide recommendations.

S-0030-2023-Row Crop

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ABBREVIATIONS

Alfa	Alfalfa
Arko	ALS Resistant Kochia
Bare	Bareground
Bdlf	General broadleaf
Bikw	Biennial knapweed
Bisa	Biennial sage
Biww	Biennial wormwood
Blmu	Blue mustard
Blns	Black nightshade
Blvv	Blue vervain
Brgr	Brome grass
Bygr	Barnyardgrass
Cath	Canada thistle
Cocb	Common cocklebur
Colq	Common lambsquarters
Comu	Common mullein
Comw	Common milkweed
Corw	Common ragweed
Cosf	Common sunflower
Cowh	Common waterhemp
Crgr	Crabgrass
Cudo	Curly dock
Dali	Dandelion
Dobr	Downy brome
Fibw	Field bindweed
Fipc	Field pennycress
Fisb	Field sandbur
Ftba	Foxtail barley
Fxtl	General foxtail
Gift	Giant foxtail
Grft	Green foxtail
Guwe	Gumweed
Hocr	Hoary cress
Jabr	Japanese brome
Kocz	Kochia
Lesp	Leafy spurge
Llsa	Lanceleaf sage
Mael	Marshelder
Mata	Marestail
Muth	Musk thistle
Perw	Perennial ragweed
Pesw	Pennsylvania smartweed
Prle	Prickly lettuce
Prpw	Prostrate pigweed
Pumu	Purple mustard
Qugr	Quackgrass
Recl	Red clover
Rrpw	Redroot pigweed
Roft	Robust foxtail
Ruth	Russian thistle
Scru	Scouring rush
Shpu	Shepherdspurse
Stjw	St. Johnswort
Tamu	Tansymustard
Tawh	Tall waterhemp
Tosp	Toothed spurge
VCRR	Visual Crop Response Rating
Vele	Velvetleaf
Vema	Venice mallow
Voal	Volunteer alfalfa
Voca	Volunteer canola
Voco	Volunteer corn
Vomi	Volunteer millet
Vosg	Volunteer sorghum
Vosw	Volunteer Spring wheat
Voww	Volunteer Winter wheat
Wibw	Wild buckwheat
Wimu	Wild mustard
Wioa	Wild oat
Wisf	Wild sunflower
Whcl	White clover
Wocg	Woolly cupgrass
Wwsa	Wormwood sage
Yeft	Yellow foxtail
Yetf	Yellow toadflax

SURFACTANTS

COC	Crop oil concentrate	0.125%	1 pint/100 gallons
MSO	Methylated seed oil	0.25%	1 quart/100 gallons
NIS	Nonionic surfactant	0.5%	2 quart/100 gallons
		1%	1 gallon/100 gallons
AMS	Ammonium sulfate	2%	2 gallon/100 gallons
		4%	4 gallon/100 gallons

VCRR

Crop response ratings (VCRR) of 20% or less usually represents an acceptable level of stunting, discoloration or other effect. Ratings over 30% are considered excessive; 100% represents complete kill. Yields are harvested and reported for studies designed with replications.

PLOT APPLICATIONS

Herbicide treatments are applied with special plot sprayers. Unless otherwise noted, applications are made at 20 gpa and 35 psi using flat fan tips. Each treatment component is measured separately and mixed with water at application. Weed evaluations consist of visual ratings; averaged over replications or multiple ratings per plot. Ratings below 70-75% are considered less than commercially acceptable control; ratings greater than 90% represent a high level of effectiveness and generally reduce significant competition effects.

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2023 Corn Herbicide Demonstration
Northeast Research Farm

Treatment	Rate/A	5/29/23					6/26/23					9/18/23		10/23/23
		Wocg	Yeft	Rrpw	Colq	Corw	Colq	Rrpw	Corw	Wocg	Yeft	Wocg	Yeft	Yield Bu/A
Check	---	0	0	0	0	0	0	0	0	0	0	0	0	3
Pre & Post														
Calibra & Acuron GT + Aatrex + NIS + AMS	1.4 qt & 3.75 pt + 1 pt + 0.25% + 1.7 lb	15	83	98	87	85	99	99	99	87	93	70	90	126
Acuron & Acuron + RU Powermax 3 + NIS + AMS	1.25 qt & 1.25 qt + 30 oz + 0.25% + 1.7 lb	40	81	90	88	80	99	99	99	94	98	77	99	132
Lumax EZ & Acuron GT + Aatrex + NIS + AMS	1.5 qt & 3.75 pt + 0.5 pt + 0.25% + 1.7 lb	35	81	96	90	79	99	99	99	93	99	76	91	127
Lumax EZ & Halex GT + Aatrex + NIS + AMS	1.5 qt & 3.6 pt + 0.5 pt + 0.25% + 1.7 lb	35	80	93	89	75	99	98	99	92	96	74	92	131
Restraint + Atrazine & Shieldex + Atrazine	36 oz + 1 qt & 1.35 oz + 1 qt	45	88	99	86	74	99	99	99	20	50	23	99	12
Restraint + Atrazine & Shieldex + Atrazine + RU Powermax 3	36 oz + 1 qt & 1.35 oz + 1 qt + 20 oz	60	82	93	82	75	99	99	98	84	93	78	98	122
TriVolt + Atrazine & Laudis + Atrazine + RU Pmax 3 + Amsol + Superb HC	12.5 oz + 1 pt & 3 oz + 1 pt + 30 oz + 2.5% + 0.5%	63	88	96	92	89	99	99	99	88	97	89	98	124
Balance Flexx + Harness Xtra 6L & Laudis + Atrazine + RU Pmax 3 + Amsol + Superb HC	4 oz + 1.25 qt & 3 oz + 1 pt + 30 oz + 2.5% + 0.5%	49	88	97	97	92	99	99	99	84	96	84	96	135
Harness Xtra 6L & Capreno + Atrazine + RU Pmax 3 + Amsol + Superb HC	1.8 qt & 3 oz + 0.5 pt + 30 oz + 2.5% + 0.5%	49	83	93	87	80	99	99	99	89	98	77	96	136
Anthem Maxx + Callisto + Atrazine & Anthem Maxx + Callisto + Atrazine + RU Powermax 3 + AMS + Induce	3 oz + 3 oz + 1 qt & 2.5 oz + 3 oz + 0.5 qt + 20 oz + 1.7 lb + 0.25%	34	86	95	91	84	99	99	99	85	98	81	97	133
Verdict + Atrazine & Status + Zidua SC + Atrazine + RU Powermax 3 + COC + AMS	10 oz + 16 oz & 4 oz + 2.5 oz + 16 oz + 30 oz + 1% + 2.5 lb	53	87	99	95	91	99	99	99	94	97	80	95	133
Epost														
Harness Max + Atrazine + RU Powermax 3 + Amsol	55 oz + 1 pt + 30 oz + 2.5%	–	–	–	–	–	99	96	99	98	96	73	92	132
Anthem Maxx + Callisto + Atrazine + RU Powermax 3 + AMS + Induce	4 oz + 3 oz + 1 qt + 20 oz + 1.7 lb + 0.25%	–	–	–	–	–	99	98	99	88	92	78	94	126
LSD (0.05)		27	9	6	8	9	–	2	1	5	4	12	4	11

RCB: 4 reps
Variety: DKC 37-49RIB
Planting Date: 5/9/23
Pre: 5/9/23
Epost: 6/6/23 Corn V3-4, 7-9 in; Rrpw 1-3 in; Colq 2-4 in; Yeft 1-4 in; Wocg 3-6 in; Corw 1-3 in.
Post: 6/8/23 Corn V3-4, 9-11 in; Rrpw 2-4 in; Colq 2-4 in; Yeft 2-4 in; Wocg 5-8 in; Corw 2-3 in.

Precipitation: (inches)
Pre: 1st week 0.47; 2nd week 0.00

Soil: Clay Loam; 3.2% OM; 6.3 pH

Rrpw=Redroot pigweed
Colq=Common lambsquarters
Yeft=Yellow foxtail
Wocg=Woolly cupgrass
Corw=Common ragweed

Comments: The objective of this study was to evaluate various herbicide programs applied in corn. Weed control was at least 80% or greater for most weed species except for woolly cupgrass. Woolly cupgrass control was poor with all PRE herbicides. Woolly cupgrass control increased to greater than 85% with all EPOST and POST herbicide treatments except for the Shieldex + Atrazine treatment. Yellow foxtail control was greater than 90% for all EPOST and POST herbicide treatments except for the Shieldex + Atrazine treatment. All broadleaf weeds were effectively controlled by the EPOST and POST herbicide treatments. Yield was largely not different between the herbicide programs.

South Dakota State University Extension

2023 Corn Herbicide Demonstration
Southeast Research Farm

Treatment	Rate/A	5/24/23				6/28/23				10/19/23
		Vele	Cowh	Colq	Grft	Vele	Colq	Cowh	Grft	Yield Bu/A
Check	---	0	0	0	0	0	0	0	0	148
Pre & Post										
Calibra & Acuron GT + Aatrex + NIS + AMS	1.4 qt & 3.75 pt + 1 pt + 0.25% + 1.7 lb	90	99	99	93	99	99	99	99	196
Acuron & Acuron + RU Pmax 3 + NIS + AMS	1.25 qt & 1.25 qt + 30 oz + 0.25% + 1.7 lb	92	99	99	96	99	99	99	99	197
Lumax EZ & Acuron GT + Aatrex + NIS + AMS	1.5 qt & 3.75 pt + 0.5 pt + 0.25% + 1.7 lb	90	99	97	95	99	99	99	99	194
Lumax EZ & Halex GT + Aatrex + NIS + AMS	1.5 qt & 3.6 pt + 0.5 pt + 0.25% + 1.7 lb	94	99	99	98	99	99	99	99	207
Restraint + Atrazine & Shieldex + Atrazine	36 oz + 1 qt & 1.35 oz + 1 qt	74	99	99	99	99	99	99	83	184
Restraint + Atrazine & Shieldex + Atrazine + RU Pmax 3	36 oz + 1 qt & 1.35 oz + 1 qt + 20 oz	84	99	99	99	99	99	99	99	196
TriVolt + Atrazine & Laudis + Atrazine + RU Pmax 3 + Amsol + Superb HC	12.5 oz + 1 pt & 3 oz + 1 pt + 30 oz + 2.5% + 0.5%	89	99	99	91	99	99	99	99	201
Balance Flexx + Harness Xtra 6L & Laudis + Atrazine + RU Pmax 3 + Amsol + Superb HC	4 oz + 1.25 qt & 3 oz + 1 pt + 30 oz + 2.5% + 0.5%	93	99	99	99	99	99	99	99	200
Harness Xtra 6L & Capreno + Atrazine + RU Pmax 3 + Amsol + Superb HC	1.8 qt & 3 oz + 0.5 pt + 30 oz + 2.5% + 0.5%	69	99	99	99	99	99	99	99	187
Anthem Maxx + Callisto + Atrazine & Anthem Maxx + Callisto + Atrazine + RU Powermax 3 + AMS + Induce	3 oz + 3 oz + 1 qt & 2.5 oz + 3 oz + 0.5 qt + 20 oz + 1.7 lb + 0.25%	93	99	99	88	99	99	99	98	198
Verdict + Atrazine & Status + Zidua SC + Atrazine + RU Powermax 3 + COC + AMS	10 oz + 16 oz & 4 oz + 2.5 oz + 16 oz + 30 oz + 1% + 2.5 lb	88	99	99	88	99	99	99	99	186
Epost										
Harness Max + Atrazine + RU Powermax 3 + Amsol	55 oz + 1 pt + 30 oz + 2.5%	–	–	–	–	99	99	99	99	185
Anthem Maxx + Callisto + Atrazine + RU Powermax 3 + AMS + Induce	4 oz + 3 oz + 1 qt + 20 oz + 1.7 lb + 0.25%	–	–	–	–	99	99	99	99	182
LSD (0.05)		6	–	2	10	0.5	0.5	–	6	26

RCB: 4 reps
Variety: DKC 101-33RIB
Planting Date: 5/3/23
Pre: 5/3/23
Epost: 6/2/23 Corn V4, 10-12 in; Vele 1-3 in; Cowh 1-3 in; Colq 1-2 in; Grft 2-4 in.
Post: 6/5/23 Corn V4-5, 12-16 in; Vele 1-4 in; Cowh 0.5-3 in; Colq 1-3 in; Grft 2-4 in.

Precipitation: (inches)
Pre: 1st week 0.39; 2nd week 0.73

Soil: Silty Clay; 4.6% OM; 6.6 pH

Vele=Velvetleaf
Cowh=Common waterhemp
Colq=Common lambsquarters
Grft=Green foxtail

Comments: The objective of this study was to evaluate various herbicide programs applied in corn. Velvetleaf control was variable with PRE herbicide treatments. However, all EPOST and POST herbicide treatments provided effective season long control of all tested weed species. Yield was largely not different between the herbicide programs.

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2023 Corn Herbicide Demonstration
Volga Research Farm

Treatment	Rate/A	5/29/23			6/26/23			9/15/23			10/17/23
		Gift	Cowh	Colq	Colq	Cowh	Gift	Colq	Cowh	Gift	Yield Bu/A
Check	---	0	0	0	0	0	0	0	0	0	45
Pre & Post											
Calibra & Acuron GT + Aatrex + NIS + AMS	1.4 qt & 3.75 pt + 1 pt + 0.25% + 1.7 lb	75	87	88	99	99	99	99	99	99	182
Acuron & Acuron + RU Pmax 3 + NIS + AMS	1.25 qt & 1.25 qt + 30 oz + 0.25% + 1.7 lb	75	94	95	99	96	99	99	98	99	196
Lumax EZ & Acuron GT + Aatrex + NIS + AMS	1.5 qt & 3.75 pt + 0.5 pt + 0.25% + 1.7 lb	80	84	86	99	95	97	99	99	99	158
Lumax EZ & Halex GT + Aatrex + NIS + AMS	1.5 qt & 3.6 pt + 0.5 pt + 0.25% + 1.7 lb	86	90	95	99	94	99	99	99	99	164
Restraint + Atrazine & Shieldex + Atrazine	36 oz + 1 qt & 1.35 oz + 1 qt	84	89	87	97	98	60	99	99	65	148
Restraint + Atrazine & Shieldex + Atrazine + RU Pmax 3	36 oz + 1 qt & 1.35 oz + 1 qt + 20 oz	85	93	94	98	95	97	99	99	99	186
TriVolt + Atrazine & Laudis + Atrazine + RU Pmax 3 + Amsol + Superb HC	12.5 oz + 1 pt & 3 oz + 1 pt + 30 oz + 2.5% + 0.5%	87	95	99	99	99	99	99	99	99	186
Balance Flexx + Harness Xtra 6L & Laudis + Atrazine + RU Pmax 3 + Amsol + Superb HC	4 oz + 1.25 qt & 3 oz + 1 pt + 30 oz + 2.5% + 0.5%	89	99	99	99	99	98	99	99	99	181
Harness Xtra 6L & Capreno + Atrazine + RU Pmax 3 + Amsol + Superb HC	1.8 qt & 3 oz + 0.5 pt + 30 oz + 2.5% + 0.5%	85	90	87	99	99	99	99	99	99	192
Anthem Maxx + Callisto + Atrazine & Anthem Maxx + Callisto + Atrazine + RU Powermax 3 + AMS + Induce	3 oz + 3 oz + 1 qt & 2.5 oz + 3 oz + 0.5 qt + 20 oz + 1.7 lb + 0.25%	75	88	93	99	98	95	99	99	99	194
Verdict + Atrazine & Status + Zidua SC + Atrazine + RU Powermax 3 + COC + AMS	10 oz + 16 oz & 4 oz + 2.5 oz + 16 oz + 30 oz + 1% + 2.5 lb	86	99	97	99	96	98	99	99	99	177
Epost											
Harness Max + Atrazine + RU Powermax 3 + Amsol	55 oz + 1 pt + 30 oz + 2.5%	–	–	–	99	98	99	99	99	99	174
Anthem Maxx + Callisto + Atrazine + RU Powermax 3 + AMS + Induce	4 oz + 3 oz + 1 qt + 20 oz + 1.7 lb + 0.25%	–	–	–	99	98	98	99	99	99	178
LSD (0.05)		11	7	8	2	5	5	–	1	5	42

RCB: 4 reps
Variety: DKC 44-97RIB
Planting Date: 5/8/23
Pre: 5/8/23
Epost: 6/5/23 Corn V2-3, 7-9 in; Gift 4-7 in; Cowh 1-3 in; Colq 1-3 in.
Post: 6/8/23 Corn V3-4, 9-12 in; Gift 3-5 in; Cowh 1-4 in; Colq 1-4 in.

Precipitation: (inches)
Pre: 1st week 0.81; 2nd week 0.0

Soil: Clay Loam; 5.4% OM; 6.3 pH

Gift=Giant foxtail
Cowh=Common waterhemp
Colq=Common lambsquarters

Comments: The objective of this study was to evaluate various herbicide programs applied in corn. Green foxtail control was more variable with PRE herbicide treatments. Lambsquarters and waterhemp control was less variable and control was greater than 80% for all treatments. Giant foxtail control was 95% or greater for all EPOST and POST herbicide treatments except for the Shieldex + Atrazine treatment. Broadleaf weeds were effectively controlled by the EPOST and POST herbicide treatments. Yield was largely not different between the herbicide programs. The herbicide program with the least yield was likely due to poor giant foxtail control.

South Dakota State University Extension

2023 Storen vs. Acuron Flexi and Competitors
Northeast Research Farm

Treatment	Rate/A	6/7/23					6/26/23			8/2/23			10/23/23
		VCRR	Wocg	Yeft	Corw	Colq	Colq	Wocg	Yeft	Wocg	Yeft	Corw	Yield Bu/A
Check	---	0	0	0	0	0	0	0	0	0	0	0	6
Pre													
Storen	2.1 qt	0	50	78	82	90	96	20	63	40	58	83	55
Storen	2.4 qt	0	70	74	90	87	96	28	60	34	76	87	72
Acuron Flexi	2.25 qt	0	63	74	82	87	95	23	68	18	80	90	57
Resicore XL	2.5 qt	0	59	80	90	85	96	44	78	35	78	90	80
Resicore XL	3 qt	0	76	84	94	86	92	55	81	28	83	90	97
TriVolt	17.5 oz	0	63	81	86	88	89	33	73	58	89	90	79
TriVolt	20 oz	0	68	70	86	87	89	35	76	49	87	90	96
Maverick	24 oz	0	50	66	93	86	91	18	65	23	55	90	45
Maverick	32 oz	0	58	68	96	92	93	39	66	25	55	90	59
Pre & Epost													
Storen & Storen + RU Pmax 3 + Amsol	1.05 qt & 1.05 qt + 28 oz + 2.5%	0	57	75	80	84	99	97	98	99	99	99	133
Storen & Storen + RU Pmax 3 + Amsol	1.2 qt & 1.2 qt + 28 oz + 2.5%	0	58	75	82	81	99	97	98	99	99	99	133
Storen & Status + Halex GT + NIS + Amsol	1.2 qt & 5 oz + 4 pt + 0.25% + 2.5%	1	60	75	84	89	99	96	98	99	99	99	140
LSD (0.05)		0.5	24	11	6	6	5	12	8	28	18	4	34

RCB: 4 reps
Variety: DKC 37-49RIB
Planting Date: 5/9/23
Pre: 5/9/23
Epost: 6/6/23 Corn V3-V4, 7-9 in; Colq 2-4 in; Yeft 1-4 in; Wocg 3-6 in; Corw 1-3 in.

Precipitation: (inches)
Pre: 1st week 0.47; 2nd week 0.00

Soil: Clay Loam; 3.2% OM; 6.3 pH

Colq=Common lambsquarters
Yeft=Yellow foxtail
Wocg=Woolly cupgrass
Corw=Common ragweed
VCRR=Visual Crop Response Rating (0=no injury; 100=complete kill)

Comments: The objective of this study was to evaluate weed control, crop injury, and yield with various Storen and Acuron Flexi treatments applied in corn. The PRE herbicide treatments provided lower, variable grass control. The PRE herbicide treatments provided greater, variable broadleaf control. The EPOST herbicide treatments effectively controlled all weeds. No severe corn injury was noted. The PRE herbicide treatments provided the lowest yield likely attributable to poor woolly cupgrass control. The PRE & EPOST treatments provided higher yields due to increased weed control.

South Dakota State University Extension

2023 Resicore XL & Kyro Herbicide Programs
Volga Research Farm

Treatment	Rate/A	6/20/23				6/26/23	9/11/23		
		VCRR	Colq	Cowh	Gift	VCRR	Colq	Cowh	Gift
Pre									
Resicore XL + Aatrex	2.5 qt + 1 qt	1	88	87	69	1	97	94	78
Epost									
Resicore XL + Aatrex + RU Powermax 3 + Prime Oil + Amsol	1.5 qt + 1 qt + 26.7 oz + 1% + 2.5%	8	99	99	99	7	98	98	99
Pre & Post									
Resicore XL & Kyro + Aatrex + RU Powermax 3 + Prime Oil + Amsol	1.5 qt & 45 oz + 1 qt + 26.7 oz + 1% + 2.5%	5	99	99	96	6	99	99	99
Surestart II & Kyro + RU Powermax 3 + Aatrex + Prime Oil + Amsol	32 oz & 45 oz + 26.7 oz + 1 qt + 1% + 2.5%	7	99	99	92	6	99	99	99
Surpass NXT & Kyro + RU Powermax 3 + Aatrex + Prime Oil + Amsol	1 pt & 45 oz + 26.7 oz + 1 qt + 1% + 2.5%	5	98	96	93	3	99	99	99
Check	---	0	0	0	0	0	0	0	0
LSD (0.05)		4	2	3	9	3	2	2	2

RCB: 4 reps
Variety: B97T04SXE
Planting Date: 5/8/23
Pre: 5/8/23
Epost: 6/5/23
Post: 6/8/23

Soil: Clay Loam; 5.4% OM; 6.3 pH

Precipitation: (inches)
Pre: 1st week 0.81; 2nd week 0.00

Gift=Giant foxtail
Cowh=Common waterhemp
Colq=Common lambsquarters
VCRR=Visual Crop Response Rating (0=no injury; 100=complete kill)

Comments: The objective of this study was to evaluate weed control and crop injury with various Resicore and Kyro XL treatments/programs. PRE herbicide treatments provided poor giant foxtail control while the broadleaf weeds were controlled greater than 85%. The PRE & POST and EPOST herbicide treatments effectively controlled all weeds. Low levels of crop injury were noted.

2023 Anthem Maxx Programs
Southeast Research Farm

Treatment	Rate/A	5/15/23	5/31/23				6/22/23				10/19/23
		VCRR	Vele	Colq	Cowh	Grft	Vele	Colq	Cowh	Grft	Yield Bu/A
Check	---	0	0	0	0	0	0	0	0	0	120
Pre											
Anthem Maxx + Callisto + Atrazine	4 oz + 6 oz + 1 qt	0	86	99	98	84	90	94	93	68	166
TriVolt	12 oz	0	88	97	99	86	86	99	92	77	178
Maverick	18 oz	0	88	99	95	76	84	95	90	63	158
Acuron Flexi + Zidua SC	2 qt + 2.5 oz	0	94	96	99	94	95	99	97	83	181
Dual II Magnum	16 oz	0	54	88	90	81	51	80	84	62	153
Outlook	14 oz	0	59	85	92	92	45	80	87	79	146
Epost											
Anthem Maxx + Callisto + Atrazine + RU Powermax 3 + AMS + Induce	4 oz + 3 oz + 1 qt + 20 oz + 1.7 lb + 0.25%	–	–	–	–	–	99	99	98	93	170
Pre & Post											
Anthem Maxx + Callisto + Atrazine & Anthem Maxx + Callisto + Atrazine + RU Powermax 3 + AMS + Induce	3 oz + 3 oz + 1 qt & 2.5 oz + 3 oz + 0.5 qt + 20 oz + 1.7 lb + 0.25%	0	85	99	99	88	99	99	99	99	177
Lexar EZ & Acuron GT + AMS + Induce	1.75 qt & 3.75 pt + 1.7 lb + 0.25%	3	92	99	99	87	99	99	99	98	185
LSD (0.05)		2	8	7	4	10	7	8	6	10	21

RCB: 4 reps
Variety: DKC 101-33RIB
Planting Date: 5/3/23
Pre: 5/3/23
Epost: 6/2/23 Corn V4, 10-12 in; Vele 1-3 in; Cowh 1-3 in; Colq 1-2 in; Grft 2-4 in.
Post: 6/5/23 Corn V4-5, 12-16 in; Vele 1-4 in; Cowh 0.5-3 in; Colq 1-3 in; Grft 2-4 in.

Precipitation: (inches)
Pre: 1st week 0.39; 2nd week 0.73

Soil: Silty Clay; 4.6% OM; 6.6 pH

Vele=Velvetleaf
Cowh=Common waterhemp
Colq=Common lambsquarters
Grft=Green foxtail
VCRR=Visual Crop Response Rating (0=no injury; 100=complete kill)

Comments: The objective of this study was to evaluate weed control and yield with various herbicide treatments/programs with and without Anthem Maxx. Maverick provided relatively poor green foxtail control. The EPOST and PRE & POST herbicide programs effectively controlled all weeds. Lower control for lambsquarters and waterhemp was noted for Dual II Magnum and Outlook. Velvetleaf control was greater than 85% except for the Dual II Magnum and Outlook treatments; poor velvetleaf control is expected with these herbicides. Yield was the lowest with the Dual II Magnum and Outlook treatments likely attributable to poor velvetleaf control. Yield was largely not different between the herbicide treatments and programs. Yield was also low with the Maverick treatment likely attributable to poor green foxtail control.

South Dakota State University Extension

2023 Roundup Ready Soybean Demonstration
Northeast Research Farm

Treatment	Rate/A	6/14/23		7/12/23		9/18/23		10/10/23
		Rrpw	Yeft	Rrpw	Yeft	Rrpw	Yeft	Yield Bu/A
Check	---	0	0	0	0	0	0	8
Pre & Post								
Authority Supreme & Cobra + RU Powermax 3 + NIS	8 oz & 12 oz + 30 oz + 0.25%	80	40	99	90	97	67	45
Broadaxe XC & Flexstar GT + Dual Magnum + MSO + AMS	28 oz & 56 oz + 16 oz + 1% + 3 lb	77	53	97	96	95	79	46
Authority MTZ & Anthem Maxx + RU Powermax 3 + COC + AMS	14 oz & 3 oz + 30 oz + 1% + 3 lb	71	46	97	95	92	73	44
Fierce MTZ & RU Powermax 3 + Perpetuo + NIS	16 oz & 30 oz + 6 oz + 0.25%	85	51	99	98	97	88	49
Tendovo & Flexstar GT + AMS	2.35 qt & 56 oz + 3 lb	72	58	97	98	95	81	49
LSD (0.05)		9	8	3	3	5	5	6

RCB: 4 reps
Variety: AG09XF3
Planting Date: 5/23/23
Pre: 5/23/23
Post: 6/21/23 Soy 2-3 tri, 7-8 in; Rrpw 3-11 in; Yeft 3-10 in.

Precipitation: (inches)
Pre: 1st week 0.00; 2nd week 0.41

Soil: Clay Loam; 4.1% OM; 5.8 pH

Rrpw=Redroot pigweed
Yeft=Yellow foxtail

Comments: The objective of the study was to evaluate weed control and yield with different herbicide programs applied in Roundup Ready soybean. Dry conditions after PRE herbicide application resulted in low weed control. Weed control was 90% or greater after the POST herbicide application. Redroot pigweed control remained greater than 90% prior to harvest. Yellow foxtail control decreased prior to harvest where differences between some treatments were noted. Yield was not different between the herbicide programs.

South Dakota State University Extension

2023 Roundup Ready Soybean Demonstration
Southeast Research Farm

Treatment	Rate/A	6/7/23		7/5/23		9/22/23			10/6/23
		Vele	Cowh	Vele	Cowh	Vele	Colq	Cowh	Yield Bu/A
Check	---	0	0	0	0	0	0	0	28
Pre & Post									
Authority Supreme & Cobra + RU Powermax 3 + NIS	8 oz & 12 oz + 30 oz + 0.25%	92	85	98	95	99	99	98	57
Broadaxe XC & Flexstar GT + Dual Magnum + MSO + AMS	28 oz & 56 oz + 16 oz + 1% + 3 lb	86	82	96	99	85	99	99	59
Authority MTZ & Anthem Maxx + RU Powermax 3 + COC + AMS	14 oz & 3 oz + 30 oz + 1% + 3 lb	88	81	99	86	97	99	88	58
Fierce MTZ & RU Powermax 3 + Perpetuo + NIS	16 oz & 30 oz + 6 oz + 0.25%	89	86	94	91	97	99	95	60
Tendovo & Flexstar GT + AMS	2.35 qt & 56 oz + 3 lb	88	84	96	92	99	99	96	62
LSD (0.05)		7	5	4	7	4	1	6	5

RCB: 4 reps
Variety: AG21XF0
Planting Date: 5/17/23
Pre: 5/17/23
Post: 6/12/23 Soy 2 tri, 5-7 in; Vele 1-5 in; Cowh 2-6 in.

Soil: Clay; 4.8% OM; 7.0 pH

Precipitation: (inches)
Pre: 1st week 0.01; 2nd week 0.03

Vele=Velvetleaf
Cowh=Common waterhemp
Colq=Common lambsquarters

Comments: The objective of the study was to evaluate weed control and yield with different herbicide programs applied in Roundup Ready soybean. Dry conditions occurred after PRE herbicide application but weed control was greater than 80% for all treatments. Velvetleaf control was 95% or greater after the POST herbicide application. Waterhemp control was 90% or greater after the POST herbicide application except for the “Anthem Maxx + RU Powermax 3” where the control was lower than the other treatments. Control for velvetleaf and waterhemp prior to harvest were similar as the previous evaluation. Lambsquarters was completely controlled all season with each herbicide program. Yield was not different between the herbicide programs.

South Dakota State University Extension

2023 Roundup Ready Soybean Demonstration
Volga Research Farm

Treatment	Rate/A	6/6/23			7/3/23			9/15/23			9/28/23
		Colq	Cowh	Gift	Colq	Cowh	Gift	Colq	Cowh	Gift	Yield Bu/A
Check	---	0	0	0	0	0	0	0	0	0	24
Pre & Post											
Authority Supreme & Cobra + RU Powermax 3 + NIS	8 oz & 12 oz + 30 oz + 0.25%	89	73	59	99	82	99	98	70	98	41
Broadaxe XC & Flexstar GT + Dual Magnum + MSO + AMS	28 oz & 56 oz + 16 oz + 1% + 3 lb	85	79	69	99	85	99	96	83	97	45
Authority MTZ & Anthem Maxx + RU Powermax 3 + COC + AMS	14 oz & 3 oz + 30 oz + 1% + 3 lb	90	77	56	99	77	99	97	61	97	40
Fierce MTZ & RU Powermax 3 + Perpetuo + NIS	16 oz & 30 oz + 6 oz + 0.25%	86	83	75	99	90	99	98	81	98	46
Tendovo & Flexstar GT + AMS	2.35 qt & 56 oz + 3 lb	82	76	59	99	83	99	97	73	99	44
LSD (0.05)		6	7	15	–	4	–	2	11	2	4

RCB: 4 reps
Variety: AG12XF1
Planting Date: 5/16/23
Pre: 5/16/23
Post: 6/13/23 Soy 2-3 tri, 6-7 in; Gift 5-9 in; Cowh 1-8 in; Colq 2-5 in.

Precipitation: (inches)
Pre: 1st week 0.00; 2nd week 0.01

Soil: Clay Loam; 5.2% OM; 6.0 pH

Gift=Giant foxtail
Cowh=Common waterhemp
Colq=Common lambsquarters

Comments: The objective of the study was to evaluate weed control and yield with different herbicide programs applied in Roundup Ready soybean. Dry conditions after PRE herbicide application resulted in lower control for giant foxtail and waterhemp. The PRE herbicide treatments controlled lambsquarters greater than 80% but differences between treatments were noted. Dry conditions occurred before and after the POST herbicide applications. Waterhemp control was between 77 to 85% with the POST herbicide treatments but one treatment provided 90% control. Lambsquarters and giant foxtail were effectively controlled with all POST herbicide treatments. Yield was largely not different between the herbicide programs. Two herbicide programs yielded lower than the rest of the herbicide programs.

South Dakota State University Extension

2023 Dicamba Soybean Demonstration
Northeast Research Farm

Treatment	Rate/A	6/14/23		7/12/23		9/18/23		10/10/23
		Rrpw	Yeft	Rrpw	Yeft	Rrpw	Yeft	Yield Bu/A
Check	---	0	0	0	0	0	0	8
Pre & Post								
Broadaxe XC + Dimetric 3L & Tavium + RU Powermax 3 + Volt-Edge + Class Act Ridion + OnTarget	28 oz + 10 oz & 56.5 oz + 30 oz + 26 oz + 1% + 0.5%	77	55	99	96	92	78	47
Tavium + Dimetric 3L + Volt-Edge + OnTarget & Flexstar GT + Dual Magnum + MSO + AMS	56.5 oz + 10 oz + 26 oz + 0.5% & 3.5 pt + 1 pt + 1% + 1.7 lb	73	54	99	95	97	77	48
Tendovo & Tavium + RU Powermax 3 + Volt-Edge + Class Act Ridion + OnTarget	1.75 pt & 56.5 oz + 30 oz + 26 oz + 1% + 0.5%	77	53	94	97	85	73	44
Prefix + Dimetric 3L & Tavium + RU Powermax 3 + Volt-Edge + Class Act Ridion + OnTarget	2 pt + 10 oz & 56.5 oz + 30 oz + 26 oz + 1% + 0.5%	72	50	99	97	92	75	48
Boundary & Tavium + RU Powermax 3 + Volt-Edge + Class Act Ridion + OnTarget	2 pt & 56.5 oz + 30 oz + 26 oz + 1% + 0.5%	77	46	98	98	86	70	47
Fierce EZ & RU Powermax 3 + Xtendimax + Perpetuo + Select Max + Intact + Induce + Volt-Edge	6 oz & 30 oz + 22 oz + 6 oz + 9 oz + 0.5% + 0.25% + 26 oz	85	53	99	97	97	74	52
Fierce MTZ & RU Powermax 3 + Xtendimax + Perpetuo + Select Max + Intact + Induce + Volt-Edge	1 pt & 30 oz + 22 oz + 6 oz + 9 oz + 0.5% + 0.25% + 26 oz	86	53	98	96	99	75	49
Warrant + Mauler & RU Powermax 3 + Xtendimax + Volt-Edge + Intact + Class Act Ridion	48 oz + 8 oz & 30 oz + 22 oz + 26 oz + 0.5% + 1%	78	56	99	97	99	75	51
Engenia + Pursuit + Zidua SC + Sentris & Liberty + RU Powermax 3 + Outlook + AMS	12.8 oz + 3 oz + 3.25 oz + 8 oz & 32 oz + 30 oz + 10 oz + 3 lb	80	52	99	97	99	79	51
LSD (0.05)		11	8	2	1	6	6	5

RCB: 4 reps
Variety: AG09XF3
Planting Date: 5/23/23
Pre: 5/23/23
Post: 6/21/23 Soy 2-3 tri, 7-8 in; Rrpw 3-11 in; Yeft 3-10 in.

Precipitation: (inches)
Pre: 1st week 0.00; 2nd week 0.41

Soil: Clay Loam; 4.1% OM; 5.8 pH

Rrpw=Redroot pigweed
Yeft=Yellow foxtail

Comments: The objective of the study was to evaluate weed control and yield with different herbicide programs applied in Xtend (Xtendflex) soybean. Weed control was low and variable with the dry conditions after PRE herbicide applications. Weed control was greater than 90% with all POST herbicide treatment. Redroot pigweed control decreased with some treatments prior to harvest. Yellow foxtail control decreased prior to harvest. Yield was largely not different between the herbicide programs.

South Dakota State University Extension

2023 Dicamba Soybean Demonstration
Southeast Research Farm

Treatment	Rate/A	6/7/23				7/5/23			9/22/23			10/6/23
		Vele	Colq	Cowh	Grft	Vele	Cowh	Grft	Vele	Cowh	Grft	Yield Bu/A
Check	---	0	0	0	0	0	0	0	0	0	0	26
Pre & Post												
Broadaxe XC + Dimetric 3L & Tavium + RU Pmax 3 + Volt-Edge + Class Act Ridion + OnTarget	28 oz + 10 oz & 56.5 oz + 30 oz + 26 oz + 1% + 0.5%	80	94	84	92	99	98	99	99	99	99	49
Tavium + Dimetric 3L + Volt-Edge + OnTarget & Flexstar GT + Dual Magnum + MSO + AMS	56.5 oz + 10 oz + 26 oz + 0.5% & 3.5 pt + 1 pt + 1% + 1.7 lb	82	91	83	92	98	98	99	99	99	99	52
Tendovo & Tavium + RU Pmax 3 + Volt-Edge + Class Act Ridion + OnTarget	1.75 pt & 56.5 oz + 30 oz + 26 oz + 1% + 0.5%	79	88	79	94	99	90	99	99	98	99	54
Prefix + Dimetric 3L & Tavium + RU Pmax 3 + Volt-Edge + Class Act Ridion + OnTarget	2 pt + 10 oz & 56.5 oz + 30 oz + 26 oz + 1% + 0.5%	79	88	84	93	99	94	99	99	99	99	51
Boundary & Tavium + RU Pmax 3 + Volt-Edge + Class Act Ridion + OnTarget	2 pt & 56.5 oz + 30 oz + 26 oz + 1% + 0.5%	79	93	83	89	99	95	99	99	99	99	55
Fierce EZ & RU Powermax 3 + Xtendimax + Perpetuo + Select Max + Intact + Induce + Volt-Edge	6 oz & 30 oz + 22 oz + 6 oz + 9 oz + 0.5% + 0.25% + 26 oz	86	94	93	86	97	99	99	99	99	99	49
Fierce MTZ & RU Powermax 3 + Xtendimax + Perpetuo + Select Max + Intact + Induce + Volt-Edge	1 pt & 30 oz + 22 oz + 6 oz + 9 oz + 0.5% + 0.25% + 26 oz	82	98	90	88	96	99	99	99	99	99	52
Warrant + Mauler & RU Powermax 3 + Xtendimax + Volt-Edge + Intact + Class Act Ridion	48 oz + 8 oz & 30 oz + 22 oz + 26 oz + 0.5% + 1%	77	90	86	85	99	97	99	99	99	99	56
Engenia + Pursuit + Zidua SC + Sentris & Liberty + RU Powermax 3 + Outlook + AMS	12.8 oz + 3 oz + 3.25 oz + 8 oz & 32 oz + 30 oz + 10 oz + 3 lb	73	90	81	94	99	97	99	99	99	99	53
LSD (0.05)		6	6	8	9	2	4	–	–	1	–	8

RCB: 4 reps
Variety: AG21XF0
Planting Date: 5/17/23
Pre: 5/17/23
Post: 6/14/23 Soy 2-3 tri, 6-8 in; Vele 2-6 in; Cowh 2-9 in.

Precipitation: (inches)
Pre: 1st week 0.01; 2nd week 0.03

Soil: Clay; 4.6% OM; 7.4 pH

Vele=Velvetleaf
Cowh=Common waterhemp
Colq=Common lambsquarters
Grft=Green foxtail

Comments: The objective of the study was to evaluate weed control and yield with different herbicide programs applied in Xtend (Xtendflex) soybean. Weed control was variable but greater than anticipated with the dry conditions after PRE herbicide applications. Weed control was greater than 90% with all POST herbicide treatments prior to harvest. Minimal control differences between treatments were noted for velvetleaf and waterhemp. Yield was not different between the herbicide programs.

South Dakota State University Extension

2023 Dicamba Soybean Demonstration
Volga Research Farm

Treatment	Rate/A	6/6/23			7/3/23			9/15/23			9/28/23
		Colq	Cowh	Gift	Colq	Cowh	Gift	Colq	Cowh	Gift	Yield Bu/A
Check	---	0	0	0	0	0	0	0	0	0	23
Pre & Post											
Broadaxe XC + Dimetric 3L & Tavium + RU Pmax 3 + Volt-Edge + Class Act Ridion + OnTarget	28 oz + 10 oz & 56.5 oz + 30 oz + 26 oz + 1% + 0.5%	82	80	83	99	85	96	99	95	99	41
Tavium + Dimetric 3L + Volt-Edge + OnTarget & Flexstar GT + Dual Magnum +MSO +AMS	56.5 oz + 10 oz + 26 oz + 0.5% & 3.5 pt + 1 pt + 1% + 1.7 lb	89	77	82	99	84	98	99	78	99	44
Tendovo & Tavium + RU Pmax 3 + Volt-Edge + Class Act Ridion + OnTarget	1.75 pt & 56.5 oz + 30 oz + 26 oz + 1% + 0.5%	89	76	82	99	880	98	99	78	99	42
Prefix + Dimetric 3L & Tavium + RU Pmax 3 + Volt-Edge + Class Act Ridion + OnTarget	2 pt + 10 oz & 56.5 oz + 30 oz + 26 oz + 1% + 0.5%	84	71	85	99	83	97	99	85	98	42
Boundary & Tavium + RU Pmax 3 + Volt-Edge + Class Act Ridion + OnTarget	2 pt & 56.5 oz + 30 oz + 26 oz + 1% + 0.5%	89	72	82	99	82	95	99	80	99	41
Fierce EZ & RU Powermax 3 + Xtendimax + Perpetuo + Select Max + Intact + Induce + Volt-Edge	6 oz & 30 oz + 22 oz + 6 oz + 9 oz + 0.5% + 0.25% + 26 oz	89	88	87	99	92	99	99	93	99	44
Fierce MTZ & RU Powermax 3 + Xtendimax + Perpetuo + Select Max + Intact + Induce + Volt-Edge	1 pt & 30 oz + 22 oz + 6 oz + 9 oz + 0.5% + 0.25% + 26 oz	93	88	89	99	91	99	99	98	99	47
Warrant + Mauler & RU Powermax 3 + Xtendimax + Volt-Edge + Intact + Class Act Ridion	48 oz + 8 oz & 30 oz + 22 oz + 26 oz + 0.5% + 1%	89	82	86	98	87	99	99	93	99	44
Engenia + Pursuit + Zidua SC + Sentris & Liberty + RU Powermax 3 + Outlook + AMS	12.8 oz + 3 oz + 3.25 oz + 8 oz & 32 oz + 30 oz + 10 oz + 3 lb	89	71	85	99	72	99	99	49	99	37
LSD (0.05)		15	7	11	1	5	3	–	9	1	6

RCB: 4 reps
Variety: AG12XF1
Planting Date: 5/16/23
Pre: 5/16/23
Post: 6/14/23 Soy 2-3 tri, 6-8 in; Cowh 2-8 in; Colq 2-6 in.

Precipitation: (inches)
Pre: 1st week 0.00; 2nd week 0.01

Soil: Clay Loam; 5.2% OM; 6.0 pH

Gift=Giant foxtail
Cowh=Common waterhemp
Colq=Common lambsquarters

Comments: The objective of the study was to evaluate weed control and yield with different herbicide programs applied in Xtend (Xtendflex) soybean. Weed control was variable with the dry conditions after PRE herbicide applications. Waterhemp control ranged from 72 to 92% with differences between POST herbicide treatments noted. Lambsquarters and giant foxtail control was greater than 95% with all POST herbicide treatments prior to harvest. Yield was largely not different between the herbicide programs. The herbicide program that yielded the least was likely due to poor waterhemp control throughout the growing season.

South Dakota State University Extension

2023 Enlist Soybean Demonstration
Northeast Research Farm

Treatment	Rate/A	6/14/23			7/12/23		9/18/23		10/10/23
		Colq	Rrpw	Yeft	Rrpw	Yeft	Rrpw	Yeft	Yield Bu/A
Check	---	0	0	0	0	0	0	0	13
Pre & Post									
Authority Edge & Anthem Maxx + RU Powermax 3 + Enlist One + Amsol	8 oz & 2.8 oz + 30 oz + 2 pt + 2.5%	85	57	30	99	98	83	77	51
Authority Supreme & Anthem Maxx + RU Powermax 3 + Enlist One + Amsol	6 oz & 2.8 oz + 30 oz + 2 pt + 2.5%	87	63	25	99	97	88	76	52
Firstrate + Fierce EZ & Enlist One + RU Pmax 3 + Perpetuo + Select Max + AMS + Induce	0.6 oz + 6 oz & 1 qt + 30 oz + 6 oz + 9 oz + 1.7 lb + 0.25%	81	68	34	99	97	91	79	53
Kyber & Enlist One + Liberty + EverpreX + Amsol	1 pt & 2 pt + 2 pt + 1 pt + 2.5%	89	79	59	99	66	97	67	50
Verdict + Outlook & Liberty + Enlist One + + Zidua SC + AMS	5 oz + 8 oz & 32 oz + 32 oz + 2.5 oz + 3 lb	82	55	41	98	64	92	54	42
LSD (0.05)		11	10	12	1	4	7	7	5

RCB: 4 reps
Variety: NK09-H7E3
Planting Date: 5/23/23
Pre: 5/23/23
Post: 6/21/23 Soy 2-3 tri, 7-8 in; Colq 3-12 in; Rrpw 3-11 in; Yeft 3-10 in.

Precipitation: (inches)
Pre: 1st week 0.00; 2nd week 0.41

Soil: Clay Loam; 4.1% OM; 5.8 pH

Colq=Common lambsquarters
Rrpw=Redroot pigweed
Yeft=Yellow foxtail

Comments: The objective of the study was to evaluate weed control and yield with different herbicide programs applied in Enlist (E3) soybean. Dry conditions occurred after PRE herbicide application. Lambsquarters was control 80% or greater with the PRE herbicide treatments and pressure decreased throughout the growing season. Redroot pigweed and yellow foxtail control was low and variable. Redroot pigweed control with POST herbicide treatments was greater than 90% but control decreases were noted prior harvest. Yellow foxtail control was lowest with POST treatments containing only Liberty to provide control. Yield was largely not different between the herbicide programs. The lowest yielding herbicide program was likely due to poor yellow foxtail control.

South Dakota State University Extension

2023 Enlist Soybean Demonstration
Southeast Research Farm

Treatment	Rate/A	6/7/23		7/5/23		9/22/23		10/6/23
		Vele	Cowh	Vele	Cowh	Vele	Cowh	Yield Bu/A
Check	---	0	0	0	0	0	0	23
Pre & Post								
Authority Edge & Anthem Maxx + RU Pmax 3 + Enlist One + Amsol	8 oz & 2.8 oz + 30 oz + 2 pt + 2.5%	85	80	99	99	99	99	60
Authority Supreme & Anthem Maxx + RU Pmax 3 + Enlist One + Amsol	6 oz & 2.8 oz + 30 oz + 2 pt + 2.5%	91	82	99	99	99	99	60
Firstrate + Fierce EZ & Enlist One + RU Powermax 3 + Perpetuo + Select Max + AMS + Induce	0.6 oz + 6 oz & 1 qt + 30 oz + 6 oz + 9 oz + 1.7 lb + 0.25%	96	90	99	99	99	99	61
Kyber & Enlist One + Liberty + EverpreX + Amsol	1 pt & 2 pt + 2 pt + 1 pt + 2.5%	88	86	99	99	99	99	63
Verdict + Outlook & Liberty + Enlist One + Zidua SC + AMS	5 oz + 8 oz & 32 oz + 32 oz + 2.5 oz + 3 lb	87	84	99	99	99	99	63
LSD (0.05)		6	6	–	–	–	–	7

RCB: 4 reps
Variety: DSR-150SE
Planting Date: 5/17/23
Pre: 5/17/23
Post: 6/14/23 Soy 2-3 tri, 6-8 in; Vele 2-6 in; Cowh 2-9 in.

Precipitation: (inches)
Pre: 1st week 0.01; 2nd week 0.03

Soil: Clay; 4.8% OM; 7.0 pH

Vele=Velvetleaf
Cowh=Common waterhemp

Comments: The objective of the study was to evaluate weed control and yield with different herbicide programs applied in Enlist (E3) soybean. Despite dry conditions after PRE herbicide applications, weed control was 80% or greater with some minimal control differences between treatments noticed. Weed control was greater than 95% with all POST herbicide treatments until prior to harvest. Yield was not different between the herbicide programs.

South Dakota State University Extension

2023 Enlist Soybean Demonstration
Volga Research Farm

Treatment	Rate/A	6/6/23			7/3/23			9/15/23			9/28/23
		Colq	Cowh	Gift	Colq	Cowh	Gift	Colq	Cowh	Gift	Yield Bu/A
Check	---	0	0	0	0	0	0	0	0	0	22
Pre & Post											
Authority Edge & Anthem Maxx + RU Powermax 3 + Enlist One + Amsol	8 oz & 2.8 oz + 30 oz + 2 pt + 2.5%	91	79	76	99	85	99	99	92	99	48
Authority Supreme & Anthem Maxx + RU Powermax 3 + Enlist One + Amsol	6 oz & 2.8 oz + 30 oz + 2 pt + 2.5%	86	75	63	99	88	99	99	94	99	51
Firstrate + Fierce EZ & Enlist One + RU Pmax 3 + Perpetuo + Select Max + AMS + Induce	0.6 oz + 6 oz & 1 qt + 30 oz + 6 oz + 9 oz + 1.7 lb + 0.25%	87	79	69	99	91	99	99	98	99	51
Kyber & Enlist One + Liberty + EverpreX + Amsol	1 pt & 2 pt + 2 pt + 1 pt + 2.5%	82	84	67	99	96	95	99	98	97	50
Verdict + Outlook & Liberty + Enlist One + Zidua SC + AMS	5 oz + 8 oz & 32 oz + 32 oz + 2.5 oz + 3 lb	83	78	68	99	89	93	99	97	97	49
LSD (0.05)		5	5	9	–	3	4	–	6	4	4

RCB: 4 reps
Variety: NK14-W6E3
Planting Date: 5/16/23
Pre: 5/16/23
Post: 6/14/23 Soy 2 tri, 6-8 in; Cowh 2-8 in; Colq 2-6 in.

Precipitation: (inches)
Pre: 1st week 0.00; 2nd week 0.01

Soil: Clay Loam; 5.2% OM; 6.0 pH

Gift=Giant foxtail
Cowh=Common waterhemp
Colq=Common lambsquarters

Comments: The objective of the study was to evaluate weed control and yield with different herbicide programs applied in Enlist (E3) soybean. Despite dry conditions after PRE herbicide applications, lambsquarters control was greater than 80%. The dry conditions resulted in variable giant foxtail and waterhemp control with PRE herbicide treatments. Waterhemp control ranged from 85 to 96% with POST herbicide treatments with differences between treatments noted. Lambsquarters and yellow foxtail were controlled greater than 90% with all POST herbicide treatments. Weed control was greater than 90% prior to harvest. Yield was not different between the herbicide programs.

South Dakota State University Extension

2023 Liberty Link Soybean Demonstration
Northeast Research Farm

Treatment	Rate/A	6/14/23		7/6/23		9/18/23		10/10/23
		Rrpw	Yeft	Rrpw	Yeft	Rrpw	Yeft	Yield Bu/A
Check	---	0	0	0	0	0	0	7
Pre & Post								
Fierce EZ & Liberty + Perpetuo + Select Max + Induce + AMS	6 oz & 32 oz + 6 oz + 9 oz + 0.25% + 3 lb	81	50	98	86	98	73	52
Fierce MTZ & Liberty + Perpetuo + Select Max + Induce + AMS	16 oz & 32 oz + 6 oz + 9 oz + 0.25% + 3 lb	83	53	98	90	99	81	55
Zidua Pro & Liberty + RU Powermax 3 + Outlook + AMS	4.5 oz & 32 oz + 30 oz + 10 oz + 3 lb	67	46	99	97	99	78	54
Moccasin MTZ & Interline + AMS	3.56 pt & 32 oz + 3 lb	71	61	96	86	92	82	56
LSD (0.05)		11	9	3	4	5	7	3

RCB: 4 reps
Variety: AG09XF3
Planting Date: 5/23/23
Pre: 5/23/23
Post: 6/14/23 Soy cot-1 tri, 4-6 in; Rrpw 1-4 in; Yeft 2-5 lf, 1-8 in.

Precipitation: (inches)
Pre: 1st week 0.00; 2nd week 0.41

Soil: Clay Loam; 4.1% OM; 5.8 pH

Rrpw=Redroot pigweed
Yeft=Yellow foxtail

Comments: The objective of the study was to evaluate weed control and yield with different herbicide programs applied in Liberty Link soybean. Dry conditions after PRE herbicide application resulted in low weed control. Redroot pigweed control was 90% or greater after the POST herbicide application until prior to harvest. Yellow foxtail control was low with differences between treatments noted. Prior to harvest, yellow foxtail control decreased for all treatments. Yield was largely not different between the herbicide programs.

South Dakota State University Extension

2023 Liberty Link Soybean Demonstration
Southeast Research Farm

Treatment	Rate/A	6/7/23		7/5/23		9/22/23			10/6/23
		Vele	Cowh	Vele	Cowh	Vele	Colq	Cowh	Yield Bu/A
Check	---	0	0	0	0	0	0	0	26
Pre & Post									
Fierce EZ & Liberty + Perpetuo + Select Max + Induce + AMS	6 oz & 32 oz + 6 oz + 9 oz + 0.25% + 3 lb	84	88	98	99	97	99	99	64
Fierce MTZ & Liberty + Perpetuo + Select Max + Induce + AMS	16 oz & 32 oz + 6 oz + 9 oz + 0.25% + 3 lb	87	84	96	98	98	99	99	63
Zidua Pro & Liberty + RU Powermax 3 + Outlook + AMS	4.5 oz & 32 oz + 30 oz + 10 oz + 3 lb	88	77	99	93	99	99	99	64
Moccasin MTZ & Interline + AMS	3.56 pt & 32 oz + 3 lb	85	84	97	90	98	96	94	62
LSD (0.05)		5	5	4	4	3	4	3	6

RCB: 4 reps
Variety: AG21XF0
Planting Date: 5/17/23
Pre: 5/17/23
Post: 6/14/23 Soy 2-3 tri, 6-8 in; Vele 2-6 in; Cowh 2-9 in.

Precipitation: (inches)
Pre: 1st week 0.01; 2nd week 0.03

Soil: Clay; 4.8% OM; 7.0 pH

Vele=Velvetleaf
Cowh=Common waterhemp
Colq=Common lambsquarters

Comments: The objective of the study was to evaluate weed control and yield with different herbicide programs applied in Liberty Link soybean. Despite dry conditions after PRE herbicide applications, velvetleaf control was greater than 80%. The dry conditions resulted in variable waterhemp control with PRE herbicide treatments. Weed control was 90% or greater after the POST herbicide application until prior to harvest. Yield was not different between the different herbicide programs.

South Dakota State University Extension

2023 Liberty Link Soybean Demonstration
Volga Research Farm

Treatment	Rate/A	6/6/23			7/3/23			9/15/23			9/28/23
		Colq	Cowh	Gift	Colq	Cowh	Gift	Colq	Cowh	Gift	Yield Bu/A
Check	---	0	0	0	0	0	0	0	0	0	20
Pre & Post											
Fierce EZ & Liberty + Perpetuo + Select Max + Induce + AMS	6 oz & 32 oz + 6 oz + 9 oz + 0.25% + 3 lb	85	81	68	85	87	98	80	79	93	44
Fierce MTZ & Liberty + Perpetuo + Select Max + Induce + AMS	16 oz & 32 oz + 6 oz + 9 oz + 0.25% + 3 lb	87	84	82	96	91	97	92	87	98	45
Zidua Pro & Liberty + RU Powermax 3 + Outlook + AMS	4.5 oz & 32 oz + 30 oz + 10 oz + 3 lb	83	78	87	99	84	99	90	76	98	40
Moccasin MTZ & Interline + AMS	3.56 pt & 32 oz + 3 lb	86	79	76	83	83	99	81	75	94	40
LSD (0.05)		5	5	16	5	4	2	12	6	4	6

RCB: 4 reps
Variety: AG12XF1
Planting Date: 5/16/23
Pre: 5/16/23
Post: 6/14/23 Soy 2-3 tri, 6-8 in; Cowh 2-8 in; Colq 2-6 in.

Precipitation: (inches)
Pre: 1st week 0.00; 2nd week 0.01

Soil: Clay Loam; 5.2% OM; 6.0 pH

Gift=Giant foxtail
Cowh=Common waterhemp
Colq=Common lambsquarters

Comments: The objective of the study was to evaluate weed control and yield with different herbicide programs applied in Liberty Link soybean. Despite dry conditions after PRE herbicide applications, lambsquarters control was greater than 80%. The dry conditions resulted in variable giant foxtail and waterhemp control with PRE herbicide treatments. Lambsquarters control ranged from 83 to 99% with POST herbicide treatments with differences between treatments noted. Waterhemp control ranged from 83 to 91% with POST herbicide treatments with differences between treatments noted. Yellow foxtail control was 90% or greater after the POST herbicide application until prior to harvest. Lambsquarters and waterhemp control decreased prior to harvest. Yield was not different between the herbicide programs.

South Dakota State University Extension

2023 Conventional Soybean Demonstration
Northeast Research Farm

Treatment	Rate/A	6/14/23		7/6/23				9/18/23		10/10/23
		Rrpw	Yeft	Colq	Rrpw	Yeft	Wocg	Rrpw	Yeft	Yield Bu/A
Check	---	0	0	0	0	0	0	0	0	8
PPI & Post										
Prowl H20 + Dimetric 3L & Cobra + Select Max + NIS	3 pt + 10.6 oz & 12.5 oz + 16 oz + 0.25%	62	74	86	74	90	85	66	85	41
Pre & Post										
Outlook & Cobra + Pursuit + COC	16 oz & 12.5 oz + 4 oz + 1%	53	40	82	92	55	55	84	60	32
Tendovo & Flexstar + Fusilade DX + NIS	2.35 qt & 12 oz + 12 oz + 0.25%	66	55	84	80	58	55	71	74	38
Broadaxe XC & Flexstar + Fusilade DX + NIS	28 oz & 12 oz + 12 oz + 0.25%	67	55	87	79	68	68	67	67	39
Zidua Pro & Avalanche Ultra + Poast + COC	6 oz & 24 oz + 1.5 pt + 1%	68	45	90	85	75	83	74	78	40
Zidua SC & Avalanche Ultra + Poast + COC	5 oz & 24 oz + 1.5 pt + 1%	66	33	90	84	85	84	77	77	39
Authority Supreme & Marvel + Select Max + NIS	6 oz & 7.25 oz + 16 oz + 0.25%	67	39	99	68	86	88	58	81	32
Authority MTZ & Marvel + Select Max + NIS	14 oz & 7.25 oz + 16 oz + 0.25%	69	36	99	71	81	82	63	73	32
Sonic & Flexstar + Fusilade DX + NIS	5 oz & 12 oz + 12 oz + 0.25%	56	40	89	77	75	65	70	68	27
Sonic + EverpreX & Flexstar + Fusilade DX + NIS	5 oz + 1.67 pt & 12 oz + 12 oz + 0.25%	64	52	84	76	78	53	75	86	37
Warrant + Mauler & Perpetuo + Select Max + COC	48 oz + 8 oz & 6 oz + 16 oz + 1%	67	58	92	70	95	83	63	91	35
Warrant & Cobra + Select Max + NIS	48 oz & 12.5 oz + 16 oz + 0.25%	75	51	85	79	91	82	73	75	35
Fierce MTZ & Perpetuo + Select Max + COC	1 pt & 6 oz + 16 oz + 1%	81	59	95	84	89	85	80	83	46
Fierce EZ & Cobra + Select Max + NIS	6 oz & 12.5 oz + 16 oz + 0.25%	84	57	83	88	85	84	89	86	42
LSD (0.05)		10	10	7	6	8	9	7	9	6

RCB: 4 reps
Variety: AG09XF3
Planting Date: 5/23/23
PPI/Pre: 5/23/23
Post: 6/14/23 Soy cot-1 tri, 4-6 in; Rrpw 1-4 in; Yeft 2-5 lf, 1-8 in.

Precipitation: (inches)
Pre: 1st week 0.00; 2nd week 0.41

Soil: Clay Loam; 4.1% OM; 5.8 pH

Rrpw=Redroot pigweed
Colq=Common lambsquarters
Yeft=Yellow foxtail
Wocg=Woolly cupgrass

Comments: The objective of the study was to evaluate weed control and yield with different conventional herbicide programs applied in soybean. Weed control was poor and variable with the dry conditions after PRE herbicide applications. Weed control increased but remained variable due to the dry conditions after the POST herbicide applications. Yield was variable between the herbicide programs.

South Dakota State University Extension

2023 Conventional Soybean Demonstration
Southeast Research Farm

Treatment	Rate/A	6/7/23				7/5/23			9/22/23		10/6/23
		Vele	Colq	Cowh	Grft	Vele	Cowh	Grft	Vele	Colq	Yield Bu/A
Check	---	0	0	0	0	0	0	0	0	0	19
PPI & Post											
Prowl H20 + Dimetric 3L & Cobra + Select Max + NIS	3 pt + 10.6 oz & 12.5 oz + 16 oz + 0.25%	83	95	88	93	72	93	99	61	90	45
Pre & Post											
Outlook & Cobra + Pursuit + COC	16 oz & 12.5 oz + 4 oz + 1%	76	89	81	88	83	95	94	80	74	45
Tendovo & Flexstar + Fusilade DX + NIS	2.35 qt & 12 oz + 12 oz + 0.25%	76	91	85	88	75	96	99	67	84	44
Broadaxe XC & Flexstar + Fusilade DX + NIS	28 oz & 12 oz + 12 oz + 0.25%	78	92	82	93	70	93	99	58	94	34
Zidua Pro & Avalanche Ultra + Poast + COC	6 oz & 24 oz + 1.5 pt + 1%	82	89	81	91	72	90	99	66	90	38
Zidua SC & Avalanche Ultra + Poast + COC	5 oz & 24 oz + 1.5 pt + 1%	79	91	75	90	67	89	99	59	91	30
Authority Supreme & Marvel + Select Max + NIS	6 oz & 7.25 oz + 16 oz + 0.25%	82	93	81	83	95	92	97	94	93	46
Authority MTZ & Marvel + Select Max + NIS	14 oz & 7.25 oz + 16 oz + 0.25%	84	95	83	90	95	90	97	93	99	45
Sonic & Flexstar + Fusilade DX + NIS	5 oz & 12 oz + 12 oz + 0.25%	81	94	77	89	72	89	97	66	89	40
Sonic + EverpreX & Flexstar + Fusilade DX + NIS	5 oz + 1.67 pt & 12 oz + 12 oz + 0.25%	88	89	87	93	79	93	98	69	74	41
Warrant + Mauler & Perpetuo + Select Max + COC	48 oz + 8 oz & 6 oz + 16 oz + 1%	71	86	88	86	87	89	97	78	83	46
Warrant & Cobra + Select Max + NIS	48 oz & 12.5 oz + 16 oz + 0.25%	72	91	83	89	68	95	99	65	58	28
Fierce MTZ & Perpetuo + Select Max + COC	1 pt & 6 oz + 16 oz + 1%	79	95	90	90	85	92	99	76	96	41
Fierce EZ & Cobra + Select Max + NIS	6 oz & 12.5 oz + 16 oz + 0.25%	86	95	88	88	79	92	99	71	86	36
LSD (0.05)		10	5	7	9	10	4	4	13	15	8

RCB: 4 reps
Variety: AG21XF0
Planting Date: 5/17/23
PPI/Pre: 5/17/23
Post: 6/12/23 Soy 2 tri, 5-7 in; Vele 1-5 in; Cowh 2-6 in.

Precipitation: (inches)
Pre: 1st week 0.01; 2nd week 0.03

Soil: Clay; 4.8% OM; 7.0 pH

Vele=Velvetleaf
Cowh=Common waterhemp
Colq=Common lambsquarters
Grft=Green foxtail

Comments: The objective of the study was to evaluate weed control and yield with different conventional herbicide programs applied in soybean. Weed control was variable with the dry conditions after PRE and POST herbicide applications. The PPI & POST herbicide program provided the most consistent control as the incorporation mimics the rainfall needed for PRE herbicide activation. Yield was variable between the herbicide programs.

South Dakota State University Extension

2023 Conventional Soybean Demonstration
Volga Research Farm

Treatment	Rate/A	6/6/23			7/3/23			9/15/23			10/11/23
		Colq	Cowh	Gift	Colq	Cowh	Gift	Colq	Cowh	Gift	Yield Bu/A
Check	---	0	0	0	0	0	0	0	0	0	20
PPI & Post											
Prowl H20 + Dimetric 3L & Cobra + Select Max + NIS	3 pt + 10.6 oz & 12.5 oz + 16 oz + 0.25%	89	80	82	80	83	92	68	64	95	36
Pre & Post											
Outlook & Cobra + Pursuit + COC	16 oz & 12.5 oz + 4 oz + 1%	85	73	74	88	81	86	86	65	90	36
Tendovo & Flexstar + Fusilade DX + NIS	2.35 qt & 12 oz + 12 oz + 0.25%	79	78	64	81	81	83	85	56	85	33
Broadaxe XC & Flexstar + Fusilade DX + NIS	28 oz & 12 oz + 12 oz + 0.25%	78	77	72	81	78	94	84	59	90	33
Zidua Pro & Avalanche Ultra + Poast + COC	6 oz & 24 oz + 1.5 pt + 1%	85	74	74	82	77	95	76	68	94	32
Zidua SC & Avalanche Ultra + Poast + COC	5 oz & 24 oz + 1.5 pt + 1%	86	70	71	78	79	93	69	63	94	29
Authority Supreme & Marvel + Select Max + NIS	6 oz & 7.25 oz + 16 oz + 0.25%	90	72	68	93	67	95	86	56	96	32
Authority MTZ & Marvel + Select Max + NIS	14 oz & 7.25 oz + 16 oz + 0.25%	90	76	69	95	72	95	90	57	92	34
Sonic & Flexstar + Fusilade DX + NIS	5 oz & 12 oz + 12 oz + 0.25%	84	71	68	80	71	85	80	63	84	29
Sonic + EverpreX & Flexstar + Fusilade DX + NIS	5 oz + 1.67 pt & 12 oz + 12 oz + 0.25%	83	77	65	82	74	82	78	56	85	28
Warrant + Mauler & Perpetuo + Select Max + COC	48 oz + 8 oz & 6 oz + 16 oz + 1%	87	76	66	89	65	95	87	55	96	28
Warrant & Cobra + Select Max + NIS	48 oz & 12.5 oz + 16 oz + 0.25%	88	74	75	85	79	95	77	65	95	29
Fierce MTZ & Perpetuo + Select Max + COC	1 pt & 6 oz + 16 oz + 1%	85	81	68	84	82	94	86	75	95	34
Fierce EZ & Cobra + Select Max + NIS	6 oz & 12.5 oz + 16 oz + 0.25%	87	82	77	82	87	91	82	80	99	36
LSD (0.05)		10	6	12	15	5	8	18	10	9	9

RCB: 4 reps
Variety: AG12XF1
Planting Date: 5/16/23
PPI/Pre: 5/16/23
Post: 6/13/23 Soy 2-3 tri, 6-7 in; Gift 5-9 in; Cowh 1-8 in; Colq 2-5 in.

Precipitation: (inches)
Pre: 1st week 0.00; 2nd week 0.01

Soil: Clay Loam; 5.2% OM; 6.0 pH

Gift=Giant foxtail
Cowh=Common waterhemp
Colq=Common lambsquarters

Comments: The objective of the study was to evaluate weed control and yield with different conventional herbicide programs applied in soybean. Weed control was variable with the dry conditions after PRE and POST herbicide applications. The PPI & POST herbicide program provided the most consistent control as the incorporation mimics the rainfall needed for PRE herbicide activation. Yield was not different between the herbicide programs. Soybean yield was lower than anticipated likely due to the low and variable weed control.

South Dakota State University Extension

2023 No-Till Conventional Soybean Demonstration
Southeast Research Farm

Treatment	Rate/A	6/7/23			7/5/23			9/22/23		10/9/23
		Vele	Kocz	Yeft	Vele	Kocz	Yeft	Vele	Kocz	Yield Bu/A
Check	---	0	0	0	0	0	0	0	0	17
EPP & Post										
Prowl H20 + Dimetric 3L & Flexstar + Fusilade DX + NIS	3 pt + 10.7 oz & 12 oz + 12 oz + 0.25%	83	95	83	79	86	89	71	78	37
Boundary & Flexstar + Fusilade DX + NIS	32 oz & 12 oz + 12 oz + 0.25%	86	92	82	86	86	85	70	78	36
Prowl H2O + Zidua SC & Avalanche Ultra + Poast + NIS	3 pt + 5.75 oz & 24 oz + 1.5 pt + 0.25%	85	91	95	81	84	91	61	70	37
Fierce MTZ & Cobra + Select Max + NIS	1 pt & 12.5 oz + 16 oz + 0.25%	87	98	93	80	91	94	63	90	43
Authority Supreme & Marvel + Select Max + NIS	11.5 oz & 7.25 oz + 16 oz + 0.25%	94	98	96	99	99	99	98	99	51
Pre & Post										
Zidua Pro & Avalanche Ultra + Poast + NIS	6 oz & 24 oz + 1.5 pt + 0.25%	95	93	95	94	90	97	95	84	42
Authority Supreme & Marvel + Select Max + NIS	11.5 oz & 7.25 oz + 16 oz + 0.25%	94	98	91	99	95	98	85	93	50
Tendovo & Flexstar + Fusilade DX + NIS	2.35 qt & 12 oz + 12 oz + 0.25%	86	79	82	99	77	92	93	68	46
Sonic + EverpreX & Flexstar + Fusilade DX + NIS	5 oz + 1.67 pt & 12 oz + 12 oz + 0.25%	91	85	90	98	84	91	91	70	43
Warrant + Mauler & Perpetuo + Select Max + NIS	48 oz + 8 oz & 6 oz + 16 oz + 0.25%	90	94	90	98	85	90	87	80	44
EPP & Pre & Post										
Warrant & Mauler & Perpetuo + Select Max + NIS	48 oz & 8 oz & 6 oz + 16 oz + 0.25%	83	91	91	96	84	93	75	73	46
Prowl H2O & Zidua Pro & Avalanche Ultra + Poast + NIS	3 pt & 6 oz & 24 oz + 1.5 pt + 0.25%	94	93	93	97	91	94	90	91	48
Prowl H2O & Authority Supreme & Marvel + Select Max + NIS	3 pt & 11.5 oz & 7.25 oz + 16 oz + 0.25%	93	94	88	99	95	95	96	94	53
Zidua SC & Dual Magnum & Cobra + Pursuit + NIS	5.75 oz & 1.67 pt & 12.5 oz + 4 oz + 0.25%	86	88	94	92	85	91	87	89	45
Prowl H2O & Fierce MTZ & Cobra + Select Max + NIS	3 pt & 1 pt & 12.5 oz + 16 oz + 0.25%	91	94	94	88	91	94	74	81	45
LSD (0.05)		10	12	9	6	8	6	19	17	11

RCB: 4 reps
Variety: AG21XF0
Planting Date: 5/19/23
EPP: 5/3/23
Pre: 5/17/23
Post: 6/21/23 Soy 3-4 tri, 7-9 in; Vele 2-16 in; Kocz 2-21 in; Yeft 3-8 in.

Precipitation: (inches)
EPP: 1st week 0.39; 2nd week 0.73
Pre: 1st week 0.01; 2nd week 0.03

Soil: Silty Clay; 3.5% OM; 6.7 pH

Vele=Velvetleaf
Kocz=Kochia
Yeft=Yellow foxtail

Comments: The objective of the study was to evaluate weed control and yield with different conventional herbicide programs applied in no-till planted soybean. Roundup and Reviton were applied at a burndown timing to control already emerged weeds. Weed control was generally higher with PRE & POST and EPP & PRE & POST herbicide programs compared to EPP & POST herbicide programs. Soybean yield followed a similar pattern, where yield was generally higher with PRE & POST and EPP & PRE & POST herbicide programs compared to EPP & POST herbicide programs.

South Dakota State University Extension

2023 Enlist Weed Control Programs in E3 Soybeans
Southeast Research Farm

Treatment	Rate/A	6/15/23		6/22/23			7/5/23			10/6/23
		Cowh	Grft	VCRR	Cowh	Grft	VCRR	Cowh	Grft	Yield Bu/A
Check	---	0	0	0	0	0	0	0	0	35
Pre & Post										
Kyber & Enlist One + Liberty + Amsol	1 pt & 2 pt + 2 pt + 2.5%	86	91	6	99	99	2	99	99	54
Kyber & Enlist One + Liberty + EverpreX + Amsol	1 pt & 2 pt + 2 pt + 1 pt + 2.5%	89	92	12	99	98	2	99	99	57
Kyber & Enlist One + Liberty + Amsol	0.5 pt & 2 pt + 2 pt + 2.5%	79	89	5	97	99	0	99	99	55
Kyber & Enlist One + RU Powermax 3 + Amsol	0.5 pt & 2 pt + 1 qt + 2.5%	72	89	8	94	99	1	99	99	61
Kyber & Enlist One + Liberty + EverpreX + Amsol	0.5 pt & 2 pt + 2 pt + 1 pt + 2.5%	76	98	10	99	99	3	99	99	58
Kyber & Enlist One + RU Powermax 3 + EverpreX + Amsol	0.5 pt & 2 pt + 30 oz + 1 pt + 2.5%	77	97	11	94	98	3	99	99	56
Kyber & Flexstar + Liberty + Amsol	0.5 pt & 1 pt + 2 pt + 2.5%	80	92	15	94	98	7	99	99	56
Kyber & RU Powermax 3 + Flexstar + Amsol	0.5 pt & 30 oz + 1 pt + 2.5%	84	87	17	89	98	7	99	99	60
Kyber & Enlist One + RU Powermax 3 + Liberty + EverpreX + Amsol	0.5 pt & 2 pt + 30 oz + 2 pt + 1 pt + 2.5%	77	94	8	99	99	4	99	99	55
LSD (0.05)		7	12	2	4	2	2	–	–	7

RCB: 4 reps
Variety: B202EE
Planting Date: 5/17/23
Pre: 5/17/23
Post: 6/14/23 Soy 2-3 tri, 6-8 in; Cowh 2-9 in; Grft 2-4 lf, 3-6 in.

Precipitation: (inches)
Pre: 1st week 0.01; 2nd week 0.03

Soil: Clay; 4.6% OM; 6.1 pH

Cowh=Common waterhemp
Grft=Green foxtail
VCRR=Visual Crop Response Rating (0=no injury; 100=complete kill)

Comments: The objective of the study was to evaluate weed control and yield with different herbicide programs applied in Enlist E3 soybean. Waterhemp control was variable with the dry conditions after PRE herbicide applications. Green foxtail control was greater than 85% for all PRE herbicide treatments. Waterhemp control was greater than 95% prior to harvest. Green foxtail was effectively controlled all season with the POST herbicide treatments. Crop injury was noted after the POST herbicide application but decreased as the growing season progressed and did not result in yield loss. Yield was not different between the herbicide programs.

South Dakota State University Extension

2023 Xtendimax Paired Soil Residual
Southeast Research Farm

Treatment	Rate/A	5/31/23					6/5/23			6/15/23			
		VCRR	Vele	Colq	Cowh	Grft	Vele	Colq	Cowh	Vele	Colq	Cowh	Grft
Check	---	0	0	0	0	0	0	0	0	0	0	0	0
Pre													
Warrant + Mauler	48 oz + 8 oz	0	92	86	76	97	83	83	76	85	75	81	89
Warrant	48 oz	0	73	81	74	87	73	79	76	77	73	77	85
Warrant Ultra	50 oz	0	79	93	75	83	81	82	77	77	74	81	85
Warrant + Mauler + Xtendimax + Vaporgrip	48 oz + 8 oz + 22 oz + 20 oz	0	83	93	76	87	81	87	82	87	88	87	88
Warrant + Xtendimax + Vaporgrip	48 oz + 22 oz + 20 oz	0	84	90	76	91	85	84	86	88	86	86	87
Warrant Ultra + Intact + Xtendimax + Vaporgrip	50 oz + 0.5% + 22 oz + 20 oz	0	81	94	75	95	81	87	80	87	91	87	89
Xtendimax + Vaporgrip	22 oz + 20 oz	0	79	92	76	60	76	82	73	84	84	79	84
Authority MTZ	16 oz	0	84	95	72	92	86	91	78	86	90	77	86
Authority MTZ + Xtendimax + Vaporgrip	16 oz + 22 oz + 20 oz	0	78	95	77	92	79	93	75	84	92	81	82
LSD (0.05)		–	9	10	13	13	9	9	11	4	5	4	7

RCB: 4 reps
Variety: AG21XF0
Planting Date: 5/17/23
Pre: 5/17/23

Soil: Clay; 4.6% OM; 7.4 pH

Precipitation: (inches)
Pre: 1st week 0.01; 2nd week 0.03

Vele=Velvetleaf
Cowh=Common waterhemp
Colq=Common lambsquarters
Grft=Green foxtail
VCRR=Visual Crop Response Rating (0=no injury; 100=complete kill)

Comments: The objective of the study was to evaluate weed control with various preemergence herbicides with and without Xtendimax. Weed control was variable with the dry conditions after PRE herbicide applications. Control for each weed species remained similar for each treatment for the duration of the study.

South Dakota State University Extension

2023 Reviton Burndown for Soybeans
Southeast Research Farm

Treatment	Rate/A	5/24/23			5/31/23		6/5/23
		Kocz	Colq	Dali	Kocz	Dali	Kocz
Check	---	0	0	0	0	0	0
Burndn							
Reviton + RU Powermax 3 + Helmet MTZ + AMS + Helm MSO	1 oz + 20 oz + 2.1 pt + 1.7 lb + 1%	89	99	98	94	99	72
Reviton + RU Powermax 3 + Zone Elite + AMS + Helm MSO	1 oz + 20 oz + 32 oz + 1.7 lb + 1%	92	99	96	97	99	82
Reviton + RU Powermax 3 + Helmet MTZ + 2,4-D ester + AMS + Helm MSO	1 oz + 20 oz + 2.1 pt + 1 pt + 1.7 lb + 1%	90	99	96	93	99	82
LSD (0.05)		8	–	4	5	1	13

RCB: 4 reps
Variety: AG21XF0
Planting Date: 5/19/23
Burndn: 5/17/23 Kocz 2-6 in.

Soil: Silty Clay; 3.7% OM; 6.6 pH

Precipitation: (inches)
Burndn: 1st week 0.01; 2nd week 0.03

Kocz=Kochia
Colq=Common lambsquarters
Dali=Dandelion

Comments: The objective of the study was to evaluate burndown weed control. Weed control was greater than 85% with all treatments at the first evaluation. Lambsquarters and dandelion were effectively controlled for the remaining duration of the study. Kochia control decreased but remained greater than 80% for two treatments.

South Dakota State University Extension

2023 Evaluation of Adjuvants with Liberty and Enlist
Southeast Research Farm

Treatment	Rate/A	7/5/23			7/14/23			7/21/23		10/6/23
		Vele	Cowh	Grft	VCRR	Cowh	Grft	Cowh	Grft	Yield Bu/A
Post										
Liberty + Preference + AMS	25 oz + 0.25% + 3 lb	99	80	99	0	85	99	83	99	48
Liberty + Agrasyst 90 + AMS	25 oz + 0.25% + 3 lb	99	81	96	0	82	96	82	97	44
Liberty + Full Load + AMS	25 oz + 0.25% + 1.5 lb	99	84	97	0	86	99	84	99	49
Enlist One	1.5 pt	99	87	–	0	96	–	97	–	47
Liberty + Enlist One + Preference + AMS	25 oz + 1.5 pt + 0.25% + 3 lb	99	94	99	0	95	99	95	97	52
Liberty + Enlist One + Agrasyst 90 + AMS	25 oz + 1.5 pt + 0.25% + 3 lb	99	95	98	0	97	97	96	96	50
Liberty + Enlist One + Full Load + AMS	25 oz + 1.5 pt + 0.25% + 1.5 lb	99	95	98	0	97	99	98	99	53
Check	---	0	0	0	0	0	0	0	0	23
LSD (0.05)		1	4	5	–	4	3	7	4	6

RCB: 4 reps
Variety: NK19-Y5E3
Planting Date: 5/17/23
Post: 6/14/23

Soil: Clay; 4.6% OM; 6.1 pH

Vele=Velvetleaf
Cowh=Common waterhemp
Grft=Green foxtail
VCRR=Visual Crop Response Rating (0=no injury; 100=complete kill)

Comments: The objective of the study was to evaluate weed control and yield with different adjuvants applied with Liberty and Enlist One in Enlist E3 soybean. Velvetleaf was effectively controlled with all treatments. Variable and lower waterhemp control was noted with treatments containing only Liberty + an adjuvant. Green foxtail control was greater than 95%. No crop injury was observed. Yield was not different between the herbicide programs.

South Dakota State University Extension

2023 Huskie FX Tolerance and Efficacy
Northeast Research Farm

Treatment	Rate/A	6/14/23			6/21/23	6/30/23		8/2/23	
		VCRR	Colq	Corw	VCRR	Colq	Corw	Colq	Corw
Check	---	0	0	0	0	0	0	0	0
Post									
Huskie FX	15.5 oz	1	56	87	1	86	99	87	98
Huskie FX	18 oz	1	69	89	3	90	99	98	99
Talinor + CoAct+	13.7 oz + 2.75 oz	0	63	85	3	71	99	71	98
Bronate	16 oz	0	77	83	4	98	96	99	99
WideARmatch + MCPA ester	14 oz + 8 oz	2	70	73	3	99	99	99	99
Huskie FX + Varro FX	15.5 oz + 13.69 oz	1	62	88	0	87	98	93	99
Axial Star + Huskie FX	16.4 oz + 15.5 oz	2	66	86	2	84	99	82	99
LSD (0.05)		2	10	6	2	7	3	10	1

RCB: 4 reps
Variety: Surpass
Planting Date: 5/2/23
Post: 6/6/23 Sp Wht 5 lf 1-2 tiller, 9-11 in; Colq 2-7 in; Corw 3-7 in.

Soil: Clay Loam; 4.1% OM; 5.8 pH

Colq=Common lambsquarters
Corw=Common ragweed
VCRR=Visual Crop Response Rating (0=no injury; 100=compete kill)

Comments: The objective of this study was to evaluate weed control and wheat injury with Huskie FX, tank mixtures, and similar herbicides. Initial weed control evaluations were variable for both species. Lambsquarters control was largely greater than 85%; only two treatments provided lower control. Common ragweed was effectively controlled with all tested treatments. Wheat injury was minimal with all tested treatments. Injury may have been exaggerated due to the hot and dry conditions that occurred during the study.

South Dakota State University Extension

2023 Axial 100 with Broadleaf Tankmixes
Northeast Research Farm

Treatment	Rate/A	6/14/23				6/21/23				6/30/23			
		VCRR	Yeft	Colq	Corw	VCRR	Yeft	Colq	Corw	VCRR	Yeft	Colq	Corw
Check	---	0	0	0	0	0	0	0	0	0	0	0	0
Post													
Axial 100 + Strikelock	8.2 oz + 8 oz	0	54	0	0	0	75	0	0	0	78	0	0
Axial 100 + Sterling Blue	8.2 oz + 4 oz	0	58	53	66	0	61	53	65	0	55	83	96
Axial 100 + Shredder 2,4-D LV6 + Strikelock	8.2 oz + 0.67 pt + 8 oz	0	65	71	73	0	77	82	79	0	78	98	86
Axial 100 + Kochiavore + Strikelock	8.2 oz + 1.5 pt + 8 oz	1	60	81	85	0	77	89	87	1	77	99	99
Axial 100 + Weld + Strikelock	8.2 oz + 1.5 pt + 8 oz	2	64	72	74	0	81	83	82	0	80	96	93
Axial 100 + Carnivore + Strikelock	8.2 oz + 1.5 pt + 8 oz	1	61	78	80	0	79	90	90	0	79	99	99
Axial 100 + WideARmatch + Strikelock	8.2 oz + 14 oz + 8 oz	1	62	70	73	0	77	81	80	0	86	98	98
Axial 100 + Huskie Complete + Strikelock	8.2 oz + 13.5 oz + 8 oz	0	44	63	70	0	70	85	87	0	65	88	97
Axial 100 + Bison + Strikelock	8.2 oz + 1.5 pt + 8 oz	1	49	80	81	0	75	88	88	0	83	99	99
LSD (0.05)		2	6	5	4	–	6	4	5	0.5	7	5	5

RCB: 4 reps
Variety: Surpass
Planting Date: 5/2/23
Post: 6/6/23 Sp Wht 5 lf 1-2 tiller, 9-11 in; Colq 2-7 in; Corw 3-7 in; Yeft 3-4 lf, 3-6 in.

Soil: Clay Loam; 4.1% OM; 5.8 pH

Colq=Common lambsquarters
Corw=Common ragweed
Yeft=Yellow foxtail
VCRR=Visual Crop Response Rating (0=no injury; 100=compete kill)

Comments: The objective of this study was to evaluate weed control and crop injury with Axial 100 and various tank mixtures with broadleaf herbicides. Yellow foxtail control was relatively poor with all treatments. The poor control was likely influenced by the hot and dry conditions that occurred during the study. The Axial 100 + Sterling Blue and Axial 100 + Huskie Complete provided the lowest yellow foxtail control compared to Axial 100 and other tank mixtures. The Axial 100 + Sterling Blue resulted in the lowest lambsquarters control. All other treatments controlled the broadleaf weeds greater than 85%. Slight crop injury was observed early and the injury subsided as the season progressed.

South Dakota State University Extension

2023 Axial 100 with Adjuvants for Grass Control
Northeast Research Farm

Treatment	Rate/A	6/14/23				6/21/23				6/30/23			
		VCRR	Wocg	Yeft	Bygr	VCRR	Yeft	Wocg	Bygr	VCRR	Wogc	Yeft	Bygr
Check	---	0	0	0	0	0	0	0	0	0	0	0	0
Post													
Axial XL	16.4 oz	8	67	77	78	0	88	89	89	0	79	95	92
Axial 100	8.2 oz	4	50	50	67	0	60	50	70	0	43	50	50
Axial 100 + Adigor	8.2 oz + 9.6 oz	6	53	65	71	0	90	91	92	0	79	89	86
Axial 100 + Noble	8.2 oz + 1 pt	8	50	62	73	0	83	87	90	0	62	85	87
Axial 100 + Destiny HC	8.2 oz + 8 oz	3	63	61	65	0	83	76	80	0	73	85	86
Axial 100 + Destiny HC	8.2 oz + 10 oz	5	53	63	68	0	84	78	88	0	74	85	83
Axial 100 + Destiny HC + Interlock	8.2 oz + 10 oz + 4 oz	9	62	69	75	0	87	89	90	0	78	89	87
Axial 100 + Destiny HC + Masterlock	8.2 oz + 10 oz + 6.4 oz	6	50	68	72	0	88	82	87	0	75	86	84
Axial 100 + Strikelock	8.2 oz + 8 oz	9	58	68	73	0	88	78	89	2	80	87	87
Axial 100 + Strikelock	8.2 oz + 10 oz	6	55	62	69	0	88	83	90	0	76	89	87
Axial 100 + Superb HC	8.2 oz + 10 oz	5	61	67	72	0	85	77	88	0	69	81	81
Axial 100 + Preference	8.2 oz + 0.25%	5	60	58	73	0	75	72	87	1	60	76	82
Axial 100 + Powerlock	8.2 oz + 6.5 oz	10	62	64	73	0	76	73	83	0	68	81	85
LSD (0.05)		3	7	7	6	–	7	7	8	1	6	4	4

RCB: 3 reps
Variety: Surpass
Planting Date: 5/2/23
Post: 6/6/23 Sp Wht 5 lf, 9-11 in; Wocg 4-9 in; Yeft 3-6 in.

Soil: Clay Loam; 3.0% OM; 6.1 pH

Wocg=Woolly cupgrass
Yeft=Yellow foxtail
Bygr=Barnyardgrass
VCRR=Visual Crop Response Rating (0=no injury; 100=compete kill)

Comments: The objective of this study was to evaluate weed control and crop injury with Axial 100 applied in wheat. Axial XL provided the greatest weed control consistently. Axial 100 without an adjuvant provided the lowest control for all weed species. The addition of an adjuvant increased the weed control for Axial 100. Early crop injury was noted but decreased as the season progressed.

South Dakota State University Extension

2023 Imiflex Herbicide Programs for Igrowth Forage Sorghum Northeast Research Farm

Treatment	Rate/A	6/15/23				7/6/23				8/2/23		
		Rrpw	Yeft	Wocg	Voco	Rrpw	Yeft	Wocg	Voco	Yeft	Wocg	Voco
Check	---	0	0	0	0	0	0	0	0	0	0	0
Pre & Post												
Moccasin II Plus & Atrazine + COC	1.33 pt & 2.4 pt + 1%	69	68	46	0	99	75	45	0	90	30	0
Moccasin II Plus + ImiFlex & Atrazine + COC	1.33 pt + 9 oz & 2.4 pt + 1%	82	71	48	28	99	80	40	0	90	38	0
Moccasin II Plus & ImiFlex + Atrazine + COC + 28% N	1.33 pt & 6 oz + 2.4 pt + 1% + 2.5%	82	73	51	0	99	90	75	69	99	80	90
Moccasin II Plus + ImiFlex & Clarity + Atrazine + NIS + 28% N	1.33 pt + 9 oz & 6 oz + 2.4 pt + 0.25% + 2.5%	86	75	50	45	99	78	38	0	95	38	8
Moccasin II Plus + Atrazine & Clarity + ImiFlex + NIS + 28% N	1.33 pt + 2.4 pt & 6 oz + 6 oz + 0.25% + 2.5%	74	76	51	0	95	86	60	68	95	85	91
LSD (0.05)		16	10	16	17	4	6	17	5	5	9	6

RCB: 4 reps
Variety: ADV F8484IG
Planting Date: 6/1/23
Pre: 6/1/23
Post: 6/29/23 Sorg 6-11 in; Rrpw 2-5 in; Wocg 3-9 in; Voco 7-20 in.

Precipitation: (inches)
Pre: 1st week 0.07; 2nd week 0.48

Soil: Clay Loam; 3.2% OM; 6.3 pH

Rrpw=Redroot Pigweed
Yeft=Yellow foxtail
Wocg=Woolly cupgrass
Voco=Volunteer corn

Comments: The objective of this study was to evaluate weed and volunteer corn control with various ImiFlex herbicide programs in IGrowth sorghum. Redroot pigweed control was variable with PRE herbicide treatments due to the dry conditions. The POST herbicide treatments effectively controlled redroot pigweed for the remainder of the study. Yellow foxtail control was relatively poor with PRE herbicide treatments due to the dry conditions. However, yellow foxtail control increased after POST herbicide treatments were applied. Woolly cupgrass control was generally very poor with all treatments except for when ImiFlex was applied POST. ImiFlex applied PRE controlled volunteer corn less than when the herbicide was applied POST.

South Dakota State University Extension

2023 Reviton Burndown for Sorghum
Southeast Research Farm

Treatment	Rate/A	6/9/23	6/15/23		6/22/23	
		Kocz	VCRR	Kocz	VCRR	Kocz
Check	---	0	0	0	0	0
Burndn						
Reviton + Helm MSO	2 oz + 1%	43	0	28	0	33
Reviton + RU Powermax 3 + AMS + Helm MSO	1 oz + 20 oz + 1.7 lb + 1%	41	0	25	0	15
Reviton + RU Powermax 3 + Clarifier + AMS + Helm MSO	1 oz + 20 oz + 8 oz + 1.7 lb + 1%	87	0	88	0	85
Reviton + RU Powermax 3 + Helmet + Clarifier + AMS + Helm MSO	1 oz + 20 oz + 1.33 pt + 8 oz + 1.7 lb + 1%	83	0	82	0	84
RU Powermax 3 + Helmet + Clarifier + AMS	20 oz + 1.33 pt + 8 oz + 1.7 lb	87	0	84	0	85
LSD (0.05)		13	–	14	–	12

RCB: 4 reps
Variety: LGS 5002T
Planting Date: 6/1/23
EPP: 5/24/23 Kocz 1-10 in.

Soil: Silty Clay; 3.7% OM; 6.6 pH

Precipitation: (inches)
EPP: 1st week 0.03; 2nd week 0.55

Kocz=Kochia
VCRR=Visual Crop Response Rating (0=no injury; 100=complete kill)

Comments: The objective of the study was to evaluate burndown herbicide treatments to control kochia. Kochia control was the lowest with the Reviton + RU Powermax 3 treatments. Control increased by at least 40% with the addition of Clarifier and Helmet + Clarifer to Reviton + RU Powermax 3. The treatments containing at least three different herbicides provided at least 80% control of the kochia for the duration of the study.

South Dakota State University Extension

2023 Reviton-Sorghum Plantback
Southeast Research Farm

Treatment	Rate/A	6/9/23			6/15/23				6/22/23		
		VCRR	Kocz	Cowh	VCRR	Kocz	Cowh	Stand	VCRR	Kocz	Cowh
Check	---	0	0	0	0	0	0	0	0	0	0
EPP7											
RU Powermax 3 + Helmet + AMS	20 oz + 1.33 pt + 1.7 lb	0	55	65	0	28	20	13	0	50	27
Reviton + RU Pmax 3 + AMS + Helm MSO	2 oz + 20 oz + 1.7 lb + 1%	0	71	90	0	69	90	11	0	52	79
Reviton + RU Powermax 3 + Helmet + AMS + Helm MSO	2 oz + 20 oz + 1.33 pt + 1.7 lb + 1%	0	80	96	0	73	91	11	0	68	79
Reviton + RU Pmax 3 + AMS + Helm MSO	1 oz + 20 oz + 1.7 lb + 1%	0	71	83	0	49	68	12	0	60	60
Reviton + RU Powermax 3 + Helmet + AMS + Helm MSO	1 oz + 20 oz + 1.33 pt + 1.7 lb + 1%	0	78	98	0	11	90	10	0	55	83
EPP3											
RU Powermax 3 + Helmet + AMS	20 oz + 1.33 pt + 1.7 lb	0	29	50	0	15	50	14	0	13	27
Reviton + RU Pmax 3 + AMS + Helm MSO	2 oz + 20 oz + 1.7 lb + 1%	0	60	93	0	61	86	14	0	49	88
Reviton + RU Powermax 3 + Helmet + AMS + Helm MSO	2 oz + 20 oz + 1.33 pt + 1.7 lb + 1%	0	83	92	0	48	89	14	0	51	82
Reviton + RU Pmax 3 + AMS + Helm MSO	1 oz + 20 oz + 1.7 lb + 1%	0	74	86	0	42	90	14	0	38	82
Reviton + RU Powermax 3 + Helmet + AMS + Helm MSO	1 oz + 20 oz + 1.33 pt + 1.7 lb + 1%	0	60	92	0	28	86	13	0	25	87
Pre											
RU Powermax 3 + Helmet + AMS	20 oz + 1.33 pt + 1.7 lb	0	13	13	0	10	10	13	0	13	10
Reviton + RU Pmax 3 + AMS + Helm MSO	2 oz + 20 oz + 1.7 lb + 1%	0	78	83	0	58	77	13	0	70	77
Reviton + RU Powermax 3 + Helmet + AMS + Helm MSO	2 oz + 20 oz + 1.33 pt + 1.7 lb + 1%	0	80	80	0	38	80	13	0	71	78
Reviton + RU Pmax 3 + AMS + Helm MSO	1 oz + 20 oz + 1.7 lb + 1%	0	64	76	0	43	73	12	0	38	55
Reviton + RU Powermax 3 + Helmet + AMS + Helm MSO	1 oz + 20 oz + 1.33 pt + 1.7 lb + 1%	0	61	88	0	67	83	12	0	35	70
LSD (0.05)		–	20	9	–	17	10	5	–	22	19

RCB: 4 reps
Variety: LGS 5002T
Planting Date: 6/1/23
EPP7: 5/24/23 Kocz 1-10 in; Cowh cot.-2 lf, 0.25-1 in.
EPP3: 5/28/23 Kocz 2-10 in.
Pre: 6/2/23 Kocz 4-11 in; Cowh 1-3 in.

Precipitation: (inches)
EPP7: 1st week 0.03; 2nd week 0.55
EPP3: 1st week 0.47; 2nd week 1.39
Pre: 1st week 0.50; 2nd week 1.24

Soil: Silty Clay; 3.5% OM; 6.7 pH

Kocz=Kochia
Cowh=Common waterhemp
VCRR=Visual Crop Response Rating (0=no injury; 100=complete kill)
Stand=Stand Count

Comments: The objective of the study was to evaluate weed control and sorghum response to Reviton applied at several different preplant timings. Weed control was highly variable but control was the greatest when small plants were treated with at least three different herbicides. Sorghum was not injured with any herbicide treatment at any timing.

South Dakota State University Extension

2023 Crop Safety of Glufosinate Burndown Before Sunflowers
Volga Research Farm

Treatment	Rate/A	6/20/23	6/27/23	7/13/23
		VCRR	VCRR	Stand
Check	---	0	0	6
Pre				
Liberty + AMS 2000	43 oz + 3 lb	0	1	6
Liberty + AMS 2000	86 oz + 6 lb	0	1	7
EPP3				
Liberty + AMS 2000	43 oz + 3 lb	0	1	7
Liberty + AMS 2000	86 oz + 6 lb	0	0	6
EPP7				
Liberty + AMS 2000	43 oz + 3 lb	0	0	6
Liberty + AMS 2000	86 oz + 6 lb	1	1	7
Pre				
RU Powermax 3 + AMS 2000	30 oz + 3 lb	0	0	6
RU Powermax 3 + AMS 2000	60 oz + 6 lb	0	0	7
LSD (0.05)		1	1	2

RCB: 4 reps
Variety: Cobalt II
Planting Date: 6/8/23
EPP7: 5/30/23
EPP3: 6/5/23
Pre: 6/8/23

Precipitation: (inches)
Pre: 1st week 0.59; 2nd week 0.00

Soil: Clay Loam; 5.4% OM; 6.3 pH

VCRR=Visual Crop Response Rating (0=no injury; 100=complete kill)
Stand=Stand count

Comments: The objective of this study was to evaluate the safety of glufosinate (Liberty) applied for burndown weed control in sunflower. No evaluated treatment caused significant injury or reduced stand.

South Dakota State University Extension

2023 EPTC VS Eptam 7 Comparison in Dry Beans
Volga Research Farm

Treatment	Rate/A	6/3/23			6/20/23			6/27/23		
		VCRR	Cowh	Gift	VCRR	Cowh	Gift	VCRR	Cowh	Gift
Check	---	0	0	0	0	0	0	0	0	0
PPI										
EPTC + Dual Magnum	4.5 pt + 1.67 pt	0	87	87	2	95	91	0	94	91
Eptam 7 + Dual Magnum	4.5 pt + 1.67 pt	0	83	86	2	95	90	0	91	93
EPTC + Prowl H2O	4.5 pt + 3 pt	0	85	77	0	95	84	1	80	93
Eptam 7 + Prowl H2O	4.5 pt + 3 pt	0	86	79	1	95	88	0	81	94
EPTC + Sonalan	4.5 pt + 3 pt	0	87	89	1	95	93	0	96	93
Eptam 7 + Sonalan	4.5 pt + 3 pt	0	87	89	4	95	91	0	94	91
LSD (0.05)		–	5	6	3	–	6	1	6	3

RCB: 4 reps
Variety: ND Polar Navy bean
Planting Date: 5/30/23
PPI: 5/30/23

Soil: Clay Loam; 5.4% OM; 6.3 pH

Precipitation: (inches)
Pre: 1st week 0.48; 2nd week 0.67

Gift=Giant foxtail
Cowh=Common waterhemp
VCRR=Visual Crop Response Rating (0=no injury; 100=complete kill)

Comments: The objective of this study was to evaluate weed control with formulation and tank mixtures with EPTC in dry bean. All treatments were incorporated after the application. Common waterhemp control was the greatest with EPTC/EPTAM + Dual Magnum and EPTC/EPTAM + Sonalan. Giant foxtail control was greater than 90% with all treatments at the final evaluation of the study. All crop injury was minimal and decreased as the growing season progressed.