

2022 Weed Control

Field Test Data

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



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- 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.

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ABBREVIATIONS

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

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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2022 Corn Herbicide Demonstration Northeast Research Farm

Treatment	Rate/A	6/13/22				7/6/22			10/19/22
		Wocg	Corw	Rrpw	Wibw	Yeft	Corw	Rrpw	Yield bu/A
Check	—	0	0	0	0	0	0	0	26
Pre									
Balance Flexx + Harness Xtra 6L	4 oz + 1.8 qt	98	96	98	98	88	96	99	173
Pre & Post									
Surestart II + Atrazine & Resicore + Durango DMA + Amsol	2 pt + 1 pt & 1.5 qt + 1 qt + 2.5%	96	95	98	98	98	98	99	179
Bicep Lite II Mag & Halex GT + Aatrex + NIS + AMS	1 qt & 3.6 pt + 1 pt + 0.25% + 1.7 lb	91	81	98	98	96	95	99	174
Calibra & Acuron GT + Aatrex + NIS + AMS	1.4 qt & 3.75 pt + 0.5 pt + 0.25% + 1.7 lb	86	84	98	98	97	99	99	173
Acuron & Acuron + RU Powermax + AMS	1.25 qt & 1.25 qt + 32 oz + 1.7 lb	84	91	98	98	97	99	99	172
Verdict + Atrazine & Status + Zidua SC + Atrazine + RU Powermax + COC + AMS	10 oz + 16 oz & 4 oz + 2.5 oz + 16 oz + 32 oz + 1% + 2.5 lb	94	96	98	98	95	99	99	172
Resicore + Atrazine & Durango DMA + Incinerate + Amsol	2 qt + 1 pt & 1 qt + 3 oz + 2.5%	97	98	98	98	98	99	99	175
Harness & RU Powermax + Atrazine + AMS	1.75 pt & 32 oz + 1 pt + 2.5 lb	96	87	98	98	98	80	99	177
Harness & Impact Core + Impact + Atrazine + MSO + AMS	1.75 pt & 20 oz + 0.75 oz + 1 pt + 0.5% + 2.5 lb	95	88	98	98	96	97	99	178
Harness & Sinate + Atrazine + MSO + AMS	1.75 pt & 28 oz + 1 pt + 1% + 3 lb	95	85	98	98	98	99	99	179
Harness Xtra 6L & Laudis + RU Powermax 3 + Amsol + Superb HC	1.8 qt & 3 oz + 30 oz + 2.5% + 0.5%	97	95	98	98	96	99	99	175
TriVolt + Atrazine & Laudis + Atrazine + RU Pmax 3 + Amsol + Superb HC	12 oz + 1 pt & 3 oz + 1 pt + 30 oz + 2.5% + 0.5%	97	95	98	98	98	99	99	174
Fearless & Katagon + Atrazine + Destiny HC	1.25 pt & 3.2 oz + 1 pt + 1%	92	84	98	98	94	97	99	168
Pre & Epost									
Harness & Shieldex + Atrazine + AMS + COC	1.75 pt & 1.35 oz + 1 qt + 1.7 lb + 1%	96	86	98	98	90	99	99	178
Restraint + Atrazine & Shieldex + Atrazine + AMS + COC	36 oz + 1 qt & 1.35 oz + 1 qt + 1.7 lb + 1%	97	97	98	98	91	99	99	170
Epost									
Harness Max + Atrazine + RU Powermax 3 + Amsol	55 oz + 1 pt + 30 oz + 2.5%	—	—	—	—	97	99	99	174
Anthem Maxx + Callisto + Atrazine + RU Powermax	3 oz + 3 oz + 1 pt + 1 qt	—	—	—	—	95	99	99	178
Armezon Pro + Atrazine + RU Powermax + COC + AMS	18 oz + 16 oz + 32 oz + 1% + 2.5 lb	—	—	—	—	97	99	99	175
LSD (0.05)		3	5	—	—	2	2	0.5	12

RCB: 4 reps

Variety: DKC 37-49 RIB

Planting Date: 5/16/22

Pre: 5/16/22

Epost: 6/16/22 Corn V2-3, 5-6 in; Corw 1-4 in.

Post: 6/22/22 Corn V4-5, 10-14 in; Wocg 2-4 in; Corw 2-4 in.

Soil: Clay Loam; 3.9% OM; 6.2 pH

Precipitation: (inches)

Pre: 1st week 0.46; 2nd week 2.58

Wocg=Woolly cupgrass
Corw=Common ragweed
Rrpw=Redroot pigweed
Wibw=Wild buckwheat
Yeft=Yellow foxtail

Comments: The objective of the study was to evaluate program treatments for weed control in corn. Moderate woolly cupgrass, yellow foxtail and redroot pigweed pressure. Several small rainfalls the first 10 days after planting activated preemergence treatments. Good pre and excellent postemergence weed control. Yields were consistent with no differences between herbicide treatments.



**SOUTH DAKOTA STATE
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2022 Corn Herbicide Demonstration Southeast Research Farm

Treatment	Rate/A	6/6/22		6/22/22		7/11/22		10/20/22	
		Vele	Cowh	Vele	Cowh	Grft	Vele	Cowh	Yield bu/A
Check	—	0	0	0	0	0	0	0	4
Pre									
Balance Flexx + Harness Xtra 6L	4 oz + 1.8 qt	95	98	88	99	97	91	92	39
Pre & Post									
Surestart II + Atrazine & Resicore + Durango DMA + Amsol	2 pt + 1 pt & 1.5 qt + 1 qt + 2.5%	73	97	98	99	99	99	99	66
Bicep Lite II Mag & Halex GT + Aatrex + NIS + AMS	1 qt & 3.6 pt + 1 pt + 0.25% + 1.7 lb	25	90	98	99	98	99	97	69
Calibra & Acuron GT + Aatrex + NIS + AMS	1.4 qt & 3.75 pt + 0.5 pt + 0.25% + 1.7 lb	65	85	98	99	99	99	99	67
Acuron & Acuron + RU Powermax + AMS	1.25 qt & 1.25 qt + 32 oz + 1.7 lb	78	90	97	99	99	99	98	59
Verdict + Atrazine & Status + Zidua SC + Atrazine + RU Powermax + COC + AMS	10 oz + 16 oz & 4 oz + 2.5 oz + 16 oz + 32 oz + 1% + 2.5 lb	78	95	98	99	99	99	98	61
Resicore + Atrazine & Durango DMA + Incinerate + Amsol	2 qt + 1 pt & 1 qt + 3 oz + 2.5%	94	98	99	99	99	99	99	52
Harness & RU Powermax + Atrazine + AMS	1.75 pt & 32 oz + 1 pt + 2.5 lb	44	97	96	99	99	99	96	57
Harness & Impact Core + Impact + Atrazine + MSO + AMS	1.75 pt & 20 oz + 0.75 oz + 1 pt + 0.5% + 2.5 lb	44	97	95	99	96	99	96	56
Harness & Sinate + Atrazine + MSO + AMS	1.75 pt & 28 oz + 1 pt + 1% + 3 lb	48	97	98	99	98	96	97	61
Harness Xtra 6L & Laudis + RU Powermax 3 + Amsol + Superb HC	1.8 qt & 3 oz + 30 oz + 2.5% + 0.5%	48	97	96	99	99	99	98	63
TriVolt + Atrazine & Laudis + Atrazine + RU Pmax 3 + Amsol + Superb HC	12 oz + 1 pt & 3 oz + 1 pt + 30 oz + 2.5% + 0.5%	78	96	98	99	99	99	99	58
Fearless & Katagon + Atrazine + Destiny HC	1.25 pt & 3.2 oz + 1 pt + 1%	29	95	91	98	97	97	94	55
Pre & Epost									
Harness & Shieldex + Atrazine + AMS + COC	1.75 pt & 1.35 oz + 1 qt + 1.7 lb + 1%	45	97	99	99	99	99	99	50
Restraint + Atrazine & Shieldex + Atrazine + AMS + COC	36 oz + 1 qt & 1.35 oz + 1 qt + 1.7 lb + 1%	58	97	99	99	97	99	99	51
Epost									
Harness Max + Atrazine + RU Powermax 3 + Amsol	55 oz + 1 pt + 30 oz + 2.5%	—	—	99	99	99	99	99	59
Anthem Maxx + Callisto + Atrazine + RU Powermax	3 oz + 3 oz + 1 pt + 1 qt	—	—	99	99	99	99	98	56
Armezon Pro + Atrazine + RU Powermax + COC + AMS	18 oz + 16 oz + 32 oz + 1% + 2.5 lb	—	—	99	99	99	99	95	66
LSD (0.05)		8	2	2	0.5	2	2	2	16

RCB: 4 reps

Variety: DKC 51-38 RIB

Planting Date: 5/10/22

Pre: 5/10/22

Epost: 6/8/22 Corn V3, 7-10 in.

Post: 6/15/22 Corn V4-5, 18-20 in; Vele 2-10 in; Cowh 4-11 in.

Soil: Silty Clay; 4.6% OM; 6.8 pH

Precipitation: (inches)

Pre: 1st week 0.44; 2nd week 0.07

Vele=Velvetleaf

Cowh=Common waterhemp

Grft=Green foxtail

Comments: The objective of the study was to evaluate program treatments for weed control in corn. Moderate green foxtail, velvetleaf and heavy common waterhemp pressure. Preemergence treatments were activated by 0.44 inches of rainfall the first week after planting with limited precipitation the next two weeks. Some differences in early velvetleaf control noted. Most treatments had excellent season long weed control. Extreme drought severely reduced yield.



**SOUTH DAKOTA STATE
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2022 Corn Herbicide Demonstration Volga Research Farm

Treatment	Rate/A	6/9/22		6/22/22		7/7/22		9/22/22		10/17/22	
		Gift	Cowh	Gift	Cowh	Gift	Cowh	Gift	Cowh	Yield bu/A	
Check	—	0	0	0	0	0	0	0	0	36	
Pre											
Balance Flexx + Harness Xtra 6L	4 oz + 1.8 qt	95	98	92	99	93	99	92	99	153	
Pre & Post											
Surestart II + Atrazine & Resicore + Durango DMA + Amsol	2 pt + 1 pt & 1.5 qt + 1 qt + 2.5%	87	98	97	99	97	99	98	99	170	
Bicep Lite II Mag & Halex GT + Aatrex + NIS + AMS	1 qt & 3.6 pt + 1 pt + 0.25% + 1.7 lb	91	98	93	99	97	99	99	99	167	
Calibra & Acuron GT + Aatrex + NIS + AMS	1.4 qt & 3.75 pt + 0.5 pt + 0.25% + 1.7 lb	85	95	93	99	97	99	98	99	167	
Acuron & Acuron + RU Powermax + AMS	1.25 qt & 1.25 qt + 32 oz + 1.7 lb	82	95	92	99	98	99	98	99	166	
Verdict + Atrazine & Status + Zidua SC + Atrazine + RU Powermax + COC + AMS	10 oz + 16 oz & 4 oz + 2.5 oz + 16 oz + 32 oz + 1% + 2.5 lb	88	96	96	99	98	99	99	99	152	
Resicore + Atrazine & Durango DMA + Incinerate + Amsol	2 qt + 1 pt & 1 qt + 3 oz + 2.5%	91	98	97	99	97	99	98	99	158	
Harness & RU Powermax + Atrazine + AMS	1.75 pt & 32 oz + 1 pt + 2.5 lb	95	98	98	99	97	98	98	98	163	
Harness & Impact Core + Impact + Atrazine + MSO + AMS	1.75 pt & 20 oz + 0.75 oz + 1 pt + 0.5% + 2.5 lb	93	98	97	99	97	99	98	99	158	
Harness & Sinate + Atrazine + MSO + AMS	1.75 pt & 28 oz + 1 pt + 1% + 3 lb	90	96	95	99	95	99	97	99	163	
Harness Xtra 6L & Laudis + RU Powermax 3 + Amsol + Superb HC	1.8 qt & 3 oz + 30 oz + 2.5% + 0.5%	94	98	98	99	98	99	98	99	167	
TriVolt + Atrazine & Laudis + Atrazine + RU Pmax 3 + Amsol + Superb HC	12 oz + 1 pt & 3 oz + 1 pt + 30 oz + 2.5% + 0.5%	93	98	96	99	98	99	98	99	168	
Fearless & Katagon + Atrazine + Destiny HC	1.25 pt & 3.2 oz + 1 pt + 1%	90	95	92	99	97	98	97	99	157	
Pre & Epost2											
Harness & Shieldex + Atrazine + AMS + COC	1.75 pt & 1.35 oz + 1 qt + 1.7 lb + 1%	91	97	98	99	97	98	98	98	165	
Restraint + Atrazine & Shieldex + Atrazine + AMS + COC	36 oz + 1 qt & 1.35 oz + 1 qt + 1.7 lb + 1%	92	97	98	99	97	99	98	99	154	
Epost											
Harness Max + Atrazine + RU Powermax 3 + Amsol	55 oz + 1 pt + 30 oz + 2.5%	97	98	98	99	98	99	98	99	163	
Anthem Maxx + Callisto + Atrazine + RU Powermax	3 oz + 3 oz + 1 pt + 1 qt	97	98	97	99	88	98	94	99	165	
Armezon Pro + Atrazine + RU Powermax + COC + AMS	18 oz + 16 oz + 32 oz + 1% + 2.5 lb	97	98	98	99	95	99	98	99	166	
LSD (0.05)		3	1	3	—	2	1	1	0.5	15	

RCB: 4 reps

Variety: DKC 45-94 RIB

Planting Date: 5/4/22

Pre: 5/4/22

Epost: 6/3/22 Corn V2, 4-5 in; Gift 1-3 lf, 0.5-3 in; Cowh 0.25-1 in.

Epost2: 6/9/22 Corn V2-3, 6-8 in; Gift 1-3 in; Cowh 0.5-1 in.

Post: 6/17/22 Corn V4-5, 13-15 in; Gift 2-7 in; Cowh 1-3 in.

Soil: Clay Loam; 4.4% OM; 5.5 pH

Precipitation: (inches)

Pre: 1st week 1.11; 2nd week 0.85

Gift=Giant foxtail

Cowh=Common waterhemp

Comments: The purpose of the study was to evaluate program treatments for weed control in corn. Heavy green foxtail and common waterhemp pressure. Preemergence treatments were activated by 1.11 inches of rainfall the first week after planting and near normal precipitation the month of May. Good preemergence and excellent post weed control. Yields were consistent with no significant differences between herbicide treatments.



**SOUTH DAKOTA STATE
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2022 Preemergence Treatments in Corn Northeast Research Farm

Treatment	Rate/A	6/13/22				6/30/22			9/28/22	10/19/22
		Wocg	Cowh	Rrpw	Wibw	Yeft	Rrpw	Cowh	Yeft	Yield bu/A
Check	—	0	0	0	0	0	0	0	0	71
Pre										
Harness Xtra 6L	2.3 qt	97	97	98	98	91	98	92	91	157
Bicep Lite II Mag	1.5 qt	91	92	98	98	78	95	84	71	146
Zidua SC + Atrazine	5 oz + 1 qt	91	94	98	98	78	98	84	75	153
Outlook + Atrazine	15 oz + 1 qt	95	92	98	98	85	98	84	81	155
Verdict + Atrazine	13 oz + 1 qt	93	98	98	98	83	98	92	75	146
Resicore + Atrazine	2 qt + 1 qt	94	98	98	98	87	98	96	82	159
Surestart II + Atrazine	2 pt + 1 qt	93	98	98	98	86	97	91	79	160
Balance Flexx + Atrazine	4 oz + 1 qt	89	98	98	98	77	97	92	72	152
Balance Flexx + Harness Xtra 6L	4 oz + 1.8 qt	96	98	98	98	91	98	95	91	153
Acuron	2.5 qt	92	98	98	98	88	98	96	77	152
Corvus + Atrazine	4.5 oz + 1 qt	96	98	98	98	93	98	96	90	168
TriVolt + Atrazine	20 oz + 1 qt	98	98	98	98	94	98	97	94	169
Maverick + Atrazine	16 oz + 1 qt	91	98	98	98	65	98	94	63	154
LSD (0.05)		3	1	—	0.5	4	1	2	5	19

RCB: 4 reps

Variety: DKC 37-49 RIB

Planting Date: 5/16/22

Pre: 5/16/22

Precipitation: (inches)

Pre: 1st week 0.46; 2nd week 2.58

Soil: Clay Loam; 3.9% OM; 6.2 pH

Wocg=Woolly cupgrass

Cowh=Common waterhemp

Rrpw=Redroot pigweed

Wibw=Wild buckwheat

Yeft=Yellow foxtail

Comments: The purpose of the study was to evaluate preemergence corn herbicide treatments for weed control and residual activity. Moderate woolly cupgrass, redroot pigweed and heavy yellow foxtail pressure. Several small rainfalls the first 10 days after planting activated treatments. Several treatments provided greater than 90 percent weed control through harvest and had the highest yield.



**SOUTH DAKOTA STATE
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2022 Preemergence Treatments in Corn Southeast Research Farm

Treatment	Rate/A	6/6/22			6/28/22		
		Grft	Vele	Cowh	Grft	Vele	Cowh
Check	—	0	0	0	0	0	0
Pre							
Harness Xtra 6L	2.3 qt	86	63	97	80	46	95
Bicep Lite II Mag	1.5 qt	75	49	96	69	50	92
Zidua SC + Atrazine	5 oz + 1 qt	75	70	96	69	63	92
Outlook + Atrazine	15 oz + 1 qt	83	61	97	78	53	93
Verdict + Atrazine	13 oz + 1 qt	83	79	96	78	81	93
Resicore + Atrazine	2 qt + 1 qt	84	93	97	78	95	96
Surestart II + Atrazine	2 pt + 1 qt	79	73	97	78	53	94
Balance Flexx + Atrazine	4 oz + 1 qt	80	88	97	76	90	94
Balance Flexx + Harness Xtra 6L	4 oz + 1.8 qt	86	88	97	83	91	95
Acuron	2.5 qt	78	88	97	74	91	96
Corvus + Atrazine	4.5 oz + 1 qt	76	89	96	80	90	95
TriVolt + Atrazine	20 oz + 1 qt	85	89	97	85	94	96
Maverick + Atrazine	16 oz + 1 qt	45	81	97	45	91	96
LSD (0.05)		7	6	1	5	6	1

RCB: 4 reps

Variety: DKC 51-38 RIB

Planting Date: 5/10/22

Pre: 5/10/22

Soil: Silty Clay; 4.4% OM; 6.8 pH

Precipitation: (inches)

Pre: 1st week 0.44; 2nd week 0.07

Grft=Green foxtail

Vele=Velvetleaf

Cowh=Common waterhemp

Comments: The purpose of the study was to evaluate preemergence corn herbicide treatments for weed control and residual activity. Moderate velvetleaf and common waterhemp and heavy green foxtail pressure. Preemergence treatments were activated by 0.44 inches of rainfall the first week after planting with limited precipitation the next two weeks. There were many differences for green foxtail and velvetleaf control and all treatments had good waterhemp control.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Preemergence Treatments in Corn Volga Research Farm

Treatment	Rate/A	6/9/22		6/28/22		9/22/22	10/14/22
		Gift	Cowh	Gift	Cowh	Gift	Yield bu/A
Check	—	0	0	0	0	0	26
Pre							
Harness Xtra 6L	2.3 qt	96	98	87	94	88	167
Bicep Lite II Mag	1.5 qt	91	98	82	84	78	148
Zidua SC + Atrazine	5 oz + 1 qt	87	97	82	87	78	159
Outlook + Atrazine	15 oz + 1 qt	93	97	85	92	86	166
Verdict + Atrazine	13 oz + 1 qt	92	98	83	94	88	150
Resicore + Atrazine	2 qt + 1 qt	93	98	88	96	88	154
Surestart II + Atrazine	2 pt + 1 qt	93	98	85	91	86	162
Balance Flexx + Atrazine	4 oz + 1 qt	95	98	87	89	90	164
Balance Flexx + Harness Xtra 6L	4 oz + 1.8 qt	95	98	90	95	95	154
Acuron	2.5 qt	89	97	84	93	78	138
Corvus + Atrazine	4.5 oz + 1 qt	92	97	87	91	93	167
TriVolt + Atrazine	20 oz + 1 qt	93	97	90	94	95	171
Maverick + Atrazine	16 oz + 1 qt	82	97	69	92	70	139
LSD (0.05)		4	0.5	6	3	7	18

RCB: 4 reps

Variety: DKC 45-94 RIB

Planting Date: 5/4/22

Pre: 5/4/22

Precipitation: (inches)

Pre: 1st week 1.11; 2nd week 0.85

Soil: Clay Loam; 4.4% OM; 5.5 pH

Gift=Giant foxtail

Cowh=Common waterhemp

Comments: The purpose of the study was to evaluate preemergence corn herbicide treatments for weed control and residual activity. Heavy giant foxtail and common waterhemp pressure. Preemergence treatments were activated by 1.11 inches of rainfall the first week after planting and near normal precipitation the month of May. Most treatments provided good preemergence waterhemp control. Some differences in mid and late season giant foxtail control were observed. Treatments with lower foxtail control had reduced yield.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Weed Control with Maverick in Corn Southeast Research Farm

Treatment	Rate/A	5/26/22	6/6/22		6/22/22			7/5/22			10/20/22
		VCRR	Vele	Cowh	Grft	Vele	Cowh	Grft	Vele	Cowh	Yield bu/A
Check	—	0	0	0	0	0	0	0	0	0	7
Epost											
RU Powermax + Induce + AMS	32 oz + 0.25% + 3 lb	0	—	—	99	99	86	95	98	80	42
Acuron + RU Powermax + Induce + AMS	48 oz + 32 oz + 0.25% + 3 lb	0	—	—	99	99	99	98	99	99	59
Halex GT + Induce + AMS	64 oz + 0.25% + 3 lb	0	—	—	99	98	95	98	99	91	65
Armezon Pro + RU Powermax + Induce + AMS	24 oz + 32 oz + 0.25% + 3 lb	0	—	—	99	99	96	98	99	93	69
Resicore + RU Powermax + Induce + AMS	44 oz + 32 oz + 0.25% + 3 lb	0	—	—	99	98	96	98	99	95	62
Maverick + RU Powermax + Induce + AMS	14 oz + 32 oz + 0.25% + 3 lb	0	—	—	99	99	97	98	99	94	64
Maverick + Aatrex + RU Powermax + Induce + AMS	14 oz + 16 oz + 32 oz + 0.25% + 3 lb	0	—	—	99	99	99	99	99	98	75
Pre & Post											
Acuron & Acuron + RU Powermax + Induce + AMS	48 oz & 48 oz + 32 oz + 0.25% + 3 lb	0	87	93	92	98	89	98	99	97	70
Maverick & Maverick + RU Powermax + Induce + AMS	18 oz & 14 oz + 32 oz + 0.25% + 3 lb	0	91	96	94	99	91	98	99	95	63
Maverick + Aatrex & Maverick + Aatrex + RU Powermax + Induce + AMS	18 oz + 16 oz & 14 oz + 16 oz + 32 oz + 0.25% + 3 lb	0	88	94	92	99	95	98	99	97	72
Perpetuo + Aatrex & Maverick + RU Powermax + Induce + AMS	8 oz + 32 oz & 14 oz + 32 oz + 0.25% + 3 lb	0	72	86	96	92	83	98	99	92	63
LSD (0.05)		—	3	3	3	1	4	1	0	6	12

RCB: 4 reps

Variety: DKC 51-38 RIB

Planting Date: 5/10/22

Pre: 5/10/22

Epost: 6/8/22 Corn V3, 7-10 in; Vele 1-5 in; Cowh 1-5 in; Grft 3-5 lf, 1-5 in.

Post: 6/17/22 Corn V5, 23 in.

Soil: Silty Clay; 4.4% OM; 6.8 pH

Precipitation: (inches)

Pre: 1st week 0.44; 2nd week 0.07

Grft=Green foxtail

Vele=Velvetleaf

Cowh=Common waterhemp

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

Comments: The objective of the study was to evaluate Maverick programs for weed control in corn. Moderate velvetleaf and heavy green foxtail and common waterhemp pressure. Preemergence treatments were activated by 0.44 inches of rainfall the first week after planting with limited precipitation the next two weeks. All treatments had good foxtail and velvetleaf control. Roundup alone only provided 80% waterhemp control. Extreme drought severely reduced yield.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Maverick in Corn for Pre Weed Control Southeast Research Farm

Treatment	Rate/A	5/26/22	6/6/22		6/22/22		7/5/22			10/20/22
		VCRR	Vele	Cowh	Vele	Cowh	Grft	Vele	Cowh	Yield bu/A
Check	—	0	0	0	0	0	0	0	0	4
Post										
RU Powermax 3 + Induce + AMS	21.8 oz + 0.25% + 3 lb	0	—	—	—	—	95	56	33	11
Pre & Post										
Acuron & RU Powermax 3 + Induce + AMS	3 qt & 21.8 oz + 0.25% + 3 lb	0	87	98	93	90	96	99	88	44
Bicep Lite II Mag & RU Powermax 3 + Induce + AMS	1.5 qt & 21.8 oz + 0.25% + 3 lb	0	31	97	18	86	94	40	70	33
Resicore & RU Powermax 3 + Induce + AMS	88 oz & 21.8 oz + 0.25% + 3 lb	0	92	98	92	97	97	96	92	46
Maverick & RU Powermax 3 + Induce + AMS	1 qt & 21.8 oz + 0.25% + 3 lb	0	92	98	91	89	95	94	90	47
Maverick + Aatrex & RU Powermax 3 + Induce + AMS	1 qt + 24 oz & 21.8 oz + 0.25% + 3 lb	0	92	98	92	97	97	96	92	52
Trivolt & RU Powermax 3 + Induce + AMS	21 oz & 21.8 oz + 0.25% + 3 lb	0	77	98	83	80	95	89	84	40
LSD (0.05)		—	4	0.5	3	4	1	9	12	15

RCB: 4 reps

Variety: DKC 51-38 RIB

Planting Date: 5/10/22

Pre: 5/10/22

Post: 6/26/22 Corn 34 in; Vele 3-8 in; Cowh 4-11 in; Grft 4-12 in.

Soil: Silty Clay; 4.4% OM; 6.8 pH

Precipitation: (inches)

Pre: 1st week 0.44; 2nd week 0.07

Grft=Green foxtail

Vele=Velvetleaf

Cowh=Common waterhemp

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

Comments: The objective of the study was to evaluate preemergence treatments followed by glyphosate for weed control in corn. Moderate green foxtail, velvetleaf and heavy common waterhemp pressure. Preemergence treatments were activated by 0.44 inches of rainfall the first week after planting with limited precipitation the next two weeks. Three treatments gave greater than 90% preemergence velvetleaf and waterhemp control. Roundup alone only provided 30% waterhemp control. Extreme drought severely reduced yield.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Trivolt Programs Southeast Research Farm

Treatment	Rate/A	5/26/22	6/2/22			6/28/22			7/15/22		
		VCRR	Vele	Cowh	VCRR	Grft	Vele	Cowh	Grft	Vele	Cowh
Check	—	0	0	0	0	0	0	0	0	0	0
Pre											
Trivolt + Atrazine	20 oz + 1 qt	0	55	80	0	91	90	87	95	94	90
Acuron	3 qt	0	65	81	0	91	97	95	92	96	90
Resicore + Atrazine	3 qt + 1 qt	0	74	87	0	93	98	96	94	97	95
Pre & Post											
Trivolt + Atrazine & DiFlexx Duo + Atrazine + RU Powermax 3 + Class Act Ridion	12 oz + 1 pt & 24 oz + 1 pt + 30 oz + 1%	0	48	70	0	99	99	98	99	99	97
Trivolt + Atrazine & Laudis + Atrazine + RU Powermax 3 + Amsol	12 oz + 1 pt & 3 oz + 1 pt + 30 oz + 2.5%	0	43	70	0	99	99	98	99	99	97
Trivolt + Atrazine & Capreno + Atrazine + Amsol	12 oz + 1 pt & 3 oz + 1 pt + 2.5%	0	46	70	0	96	99	94	96	99	93
Trivolt + Atrazine & Capreno + Atrazine + RU Powermax 3 + Amsol	12 oz + 1 pt & 3 oz + 1 pt + 30 oz + 2.5%	0	45	69	0	98	99	97	98	99	96
Trivolt + Atrazine & Harness Max + Atrazine + RU Powermax 3 + Amsol	12 oz + 1 pt & 40 oz + 1 pt + 30 oz + 2.5%	0	44	70	0	99	99	98	99	99	98
Harness + Atrazine & Laudis + Atrazine + RU Powermax 3 + Amsol	1.75 pt + 1 pt & 3 oz + 1 pt + 30 oz + 2.5%	0	40	73	0	99	99	99	99	99	97
LSD (0.05)		—	7	2	—	2	1	2	2	2	3

RCB: 4 reps

Variety: DKC 51-38 RIB

Planting Date: 5/10/22

Pre: 5/10/22

Post: 6/15/22 Corn V4-5, 18-20 in; Grft 3-7 in.

Soil: Silty Clay; 4.4% OM; 6.8 pH

Precipitation: (inches)

Pre: 1st week 0.44; 2nd week 0.07

Grft=Green foxtail

Vele=Velvetleaf

Cowh=Common waterhemp

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

Comments: The objective of the study was to evaluate Trivolt programs for weed control in corn. Moderate green foxtail, velvetleaf and heavy common waterhemp pressure. Preemergence treatments were activated by 0.44 inches of rainfall the first week after planting with limited precipitation the next two weeks. All pre followed by post programs provided good weed control.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Amvac Corn Weed Control Treatments Northeast Research Farm

Treatment	Rate/A	6/23/22		6/30/22		7/13/22			10/19/22
		Yeft	Corw	Yeft	Corw	Yeft	Rrpw	Corw	Yield bu/A
Epost									
Impact Core + Atrazine + MSO + AMS	30 oz + 3 pt + 0.5% + 2.5 lb	98	99	88	99	84	99	97	148
Impact Core + Impact + Atrazine + MSO + AMS	20 oz + 0.5 oz + 3 pt + 1% + 2.5 lb	99	99	94	99	87	99	97	146
Impact Core + Atrazine + RU Powermax + MSO + AMS	20 oz + 3 pt + 28.4 oz + 0.5% + 2.5 lb	99	99	98	99	92	99	99	148
Impact Core + Hornet + RU Powermax + MSO + AMS	30 oz + 3 oz + 28.4 oz + 0.5% + 2.5 lb	98	89	99	98	94	98	98	158
Sinate + Atrazine + Dual II Mag + MSO + AMS	28 oz + 3 pt + 1.33 pt + 1% + 3 lb	99	99	98	99	92	99	98	157
Pre & Post									
Dual II Mag & Impact Core + Atrazine + MSO + AMS	1.5 pt & 20 oz + 1 pt + 0.5% + 2.5 lb	91	30	99	88	91	96	93	131
Dual II Mag & Impact + Atrazine + MSO + AMS	1.5 pt & 1 oz + 1 pt + 1% + 2.5 lb	91	30	99	91	92	97	97	146
Dual II Mag & Sinate + Atrazine + MSO + AMS	1.5 pt & 24 oz + 1 pt + 1% + 3 lb	91	30	99	98	94	97	97	147
Pre & Lpost									
Dual II Mag & Impact + MSO + AMS	1.5 pt & 1.5 oz + 1% + 3 lb	91	30	85	23	94	97	88	122
Check	—	0	0	0	0	0	0	0	11
LSD (0.05)		1	1	2	3	3	1	2	15

RCB: 4 reps

Variety: DKC 37-49 RIB

Planting Date: 5/16/22

Pre: 5/16/22

Epost: 6/16/22 Corn V2-3, 5-6 in; Corw 1-4 in; Yeft 3 lf, 1-3 in; Rrpw 0.5-1 in.

Post: 6/22/22 Corn V4-5, 10-11 in; Corw 2-8 in.

Lpost: 6/28/22 Corn V5 14-18 in; Corw 4-14 in.

Soil: Clay Loam; 3.9% OM; 6.2 pH

Precipitation: (inches)

Pre: 1st week 0.46; 2nd week 2.58

Corw=Common ragweed

Rrpw=Redroot pigweed

Yeft=Yellow foxtail

Comments: The purpose of the study was to evaluate Impact Core treatments for weed control and residual activity. Heavy yellow foxtail and common ragweed pressure. Lower early ragweed control in some treatments significantly reduced yield.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Armezon Efficacy and Adjuvants in Corn Volga Research Farm

Treatment	Rate/A	6/23/22		6/28/22		7/7/22	
		Gift	Cowh	Gift	Cowh	Gift	Cowh
Check	—	0	0	0	0	0	0
Post							
Armezon	0.5 oz	45	41	30	30	39	34
Armezon + Merge	0.5 oz + 0.5%	90	90	78	78	65	64
Armezon + Journey HSOC	0.5 oz + 0.5%	80	73	51	55	50	53
Armezon + Journey HSOC	0.5 oz + 1%	87	83	64	60	55	61
Armezon + StrikeLock	0.5 oz + 0.5%	86	73	61	50	56	53
Armezon + StrikeLock	0.5 oz + 1%	89	84	77	60	60	63
Armezon + Superb	0.5 oz + 0.5%	90	80	61	56	56	50
Armezon + Superb	0.5 oz + 1%	90	86	76	60	64	61
Armezon + Class Act NG	0.5 oz + 1.25%	88	65	65	53	63	55
Armezon + Class Act NG	0.5 oz + 2.5%	90	80	79	61	69	60
LSD (0.05)		7	7	6	6	8	5

RCB: 4 reps

Variety: DKC 45-94 RIB

Planting Date: 5/4/22

Post: 6/9/22 Corn V2-3, 6-8 in; Gift 2-7 in; Cowh 0.5-4 in.

Soil: Clay Loam; 4.4% OM; 5.5 pH

Gift=Giant foxtail

Cowh=Common waterhemp

Comments: The purpose of the study was to evaluate adjuvants with Armezon for weed control corn. Heavy green foxtail and common waterhemp pressure. A lower rate of Armezon was used to detect adjuvant differences. All additives increased control compared to Armezon alone. Differences between treatments and an adjuvant rate response were observed.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Roundup Ready Soybean Demonstration Northeast Research Farm

Treatment	Rate/A	6/23/22		7/13/22		9/28/22			10/11/22
		Yeft	Rrpw	Yeft	Rrpw	Yeft	Wocg	Corw	Yield bu/A
Check	—	0	0	0	0	0	0	0	6
PPI & Post									
Treflan + Dimetric 3L & RU Powermax 3 + Amsol + Flexstar	1.5 pt + 10.67 oz & 30 oz + 2 qt + 1 pt	75	98	99	99	98	99	95	48
Prowl H2O + Dimetric 3L & RU Powermax 3 + Amsol + Avalanche Ultra	3 pt + 10.67 oz & 30 oz + 2 qt + 1.5 pt	75	98	99	99	98	99	96	48
Pre & Post									
Sonic & Flexstar + Select Max + COC	5 oz & 1 pt + 12 oz + 0.25%	30	98	78	99	96	58	99	26
Authority MTZ & Avalanche Ultra + Section Three + NIS	14 oz & 1.5 pt + 5.33 oz + 0.25%	23	98	54	98	95	33	99	11
Authority Supreme & Cobra + Select Max + NIS	8 oz & 12.8 oz + 12 oz + 0.25%	68	98	77	98	94	54	98	33
Sonic & EverpreX + Durango DMA + Amsol	4.5 oz & 1 pt + 1 qt + 2.5%	29	98	99	99	99	99	99	46
Broadaxe XC + Dimetric 3L & Flexstar GT + Dual Magnum + AMS + MSO	28 oz + 10 oz & 56 oz + 1 pt + 3.4 lb + 1%	66	98	99	99	99	99	99	46
Authority MTZ & Anthem Maxx + COC + RU Powermax 3 + AMS	14 oz & 3 oz + 1 pt + 30 oz + 1.7 lb	24	98	99	99	99	99	98	43
Zidua Pro & RU Powermax 3 + Outlook + Amsol	6 oz & 30 oz + 10 oz + 2 qt	79	98	99	99	99	99	99	50
Fierce EZ & RU Powermax 3 + Perpetuo + Induce + AMS	6 oz & 30 oz + 6 oz + 0.25% + 3 lb	46	98	99	99	99	99	98	48
Fierce MTZ & RU Powermax 3 + Perpetuo + Induce + AMS	16 oz & 30 oz + 6 oz + 0.25% + 3 lb	45	98	99	99	99	99	99	47
Tendovo & Flexstar GT + AMS	2.35 qt & 3.5 pt + 3.4 lb	85	98	99	99	99	99	99	50
LSD (0.05)		6	—	2	1	2	4	1	5

RCB: 4 reps

Variety: AG09XF0

Planting Date: 5/26/22

PPI/Pre: 5/26/22

Post: 6/28/22 Soy 2-3 tri, 6-8 in; Yeft 3-7 in; Rrpw 1-2 in.

Soil: Clay Loam; 4.1% OM; 5.8 pH

Precipitation: (inches)

Pre: 1st week 2.56; 2nd week 0.16

Yeft=Yellow foxtail

Rrpw=redroot pigweed

Comments: The objective of the study was to evaluate program treatments for weed control in soybeans. Moderate woolly cupgrass and heavy yellow foxtail and redroot pigweed pressure. Pre treatments were activated with a 2.56 inch rain 4 days after planting. Most treatments provided good late season weed control. Poor woolly cupgrass control in some treatments significantly reduced yield.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Roundup Ready Soybean Demonstration Southeast Research Farm

Treatment	Rate/A	6/22/22			7/11/22			9/30/22			10/3/22
		Grft	Vele	Cowh	Grft	Vele	Cowh	Grft	Cowh	Vele	Yield bu/A
Check	—	0	0	0	0	0	0	0	0	0	3
PPI & Post											
Treflan + Dimetric 3L & RU Powermax 3 + Amsol + Flexstar	1.5 pt + 10.67 oz & 30 oz + 2 qt + 1 pt	86	87	92	99	97	94	99	89	97	21
Prowl H2O + Dimetric 3L & RU Pmax 3 + Amsol + Avalanche Ultra	3 pt + 10.67 oz & 30 oz + 2 qt + 1.5 pt	86	83	91	99	92	93	99	89	96	22
Pre & Post											
Sonic & Flexstar + Select Max + COC	5 oz & 1 pt + 12 oz + 0.25%	66	89	93	87	90	92	88	87	83	13
Authority MTZ & Avalanche Ultra + Section Three + NIS	14 oz & 1.5 pt + 5.33 oz + 0.25%	55	74	91	75	61	92	73	85	58	9
Authority Supreme & Cobra + Select Max + NIS	8 oz & 12.8 oz + 12 oz + 0.25%	64	85	89	79	73	90	82	83	77	15
Sonic & EverpreX + Durango DMA + Amsol	4.5 oz & 1 pt + 1 qt + 2.5%	58	88	88	99	99	93	99	88	99	21
Broadaxe XC + Dimetric 3L & Flexstar GT + Dual Magnum + AMS + MSO	28 oz + 10 oz & 56 oz + 1 pt + 3.4 lb + 1%	66	81	90	99	93	93	99	93	94	21
Authority MTZ & Anthem Maxx + COC + RU Powermax 3 + AMS	14 oz & 3 oz + 1 pt + 30 oz + 1.7 lb	58	81	88	99	99	93	99	88	99	20
Zidua Pro & RU Powermax 3 + Outlook + Amsol	6 oz & 30 oz + 10 oz + 2 qt	78	89	90	99	97	89	99	82	98	21
Fierce EZ & RU Powermax 3 + Perpetuo + Induce + AMS	6 oz & 30 oz + 6 oz + 0.25% + 3 lb	63	75	86	99	98	90	99	83	99	20
Fierce MTZ & RU Powermax 3 + Perpetuo + Induce + AMS	16 oz & 30 oz + 6 oz + 0.25% + 3 lb	58	53	86	99	98	90	99	83	99	20
Tendovo & Flexstar GT + AMS	2.35 qt & 3.5 pt + 3.4 lb	82	79	93	99	97	93	99	93	99	22
LSD (0.05)		11	12	4	3	7	2	4	5	11	3

RCB: 4 reps

Variety: AG20XF1

Planting Date: 5/18/22

PPI/Pre: 5/18/22

Post: 6/28/22 Soy 4-5 tri, 9-12 in; Grft 5-10 in; Vele 3-9 in; Cowh 3-9 in.

Soil: Clay; 4.3% OM; 7.2 pH

Precipitation: (inches)

Pre: 1st week 0.26; 2nd week 0.75

Grft=Green foxtail

Vele=Velvetleaf

Cowh=Common waterhemp

Comments: The objective of the study was to evaluate program treatments for weed control in soybeans. Moderate green foxtail, velvetleaf and heavy common waterhemp pressure. There was enough moisture early in the season for soybean germination and herbicide activation. There were many differences for preemergence green foxtail and velvetleaf control, and many treatments had good waterhemp control. Treatments with poor late season weed control had reduced yields. Extreme drought severely reduced overall yield.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Roundup Ready Soybean Demonstration Volga Research Farm

Treatment	Rate/A	6/23/22		7/20/22		9/22/22		9/29/22
		Gift	Cowh	Gift	Cowh	Gift	Cowh	
Check	—	0	0	0	0	0	0	6
PPI & Post								
Treflan + Dimetric 3L & RU Powermax 3 + Amsol + Flexstar	1.5 pt + 10.67 oz & 30 oz + 2 qt + 1 pt	90	89	99	96	99	96	46
Prowl H2O + Dimetric 3L & RU Powermax 3 + Amsol + Avalanche Ultra	3 pt + 10.67 oz & 30 oz + 2 qt + 1.5 pt	91	90	99	96	99	96	46
Pre & Post								
Sonic & Flexstar + Select Max + COC	5 oz & 1 pt + 12 oz + 0.25%	81	93	98	97	99	97	47
Authority MTZ & Avalanche Ultra + Section Three + NIS	14 oz & 1.5 pt + 5.33 oz + 0.25%	81	91	94	95	89	93	46
Authority Supreme & Cobra + Select Max + NIS	8 oz & 12.8 oz + 12 oz + 0.25%	83	93	96	98	99	98	45
Sonic & EverpreX + Durango DMA + Amsol	4.5 oz & 1 pt + 1 qt + 2.5%	85	93	99	85	99	80	43
Broadaxe XC + Dimetric 3L & Flexstar GT + Dual Magnum + AMS + MSO	28 oz + 10 oz & 56 oz + 1 pt + 3.4 lb + 1%	91	95	99	99	99	99	47
Authority MTZ & Anthem Maxx + COC + RU Powermax 3 + AMS	14 oz & 3 oz + 1 pt + 30 oz + 1.7 lb	70	92	99	86	99	79	39
Zidua Pro & RU Powermax 3 + Outlook + Amsol	6 oz & 30 oz + 10 oz + 2 qt	94	96	99	90	99	87	46
Fierce EZ & RU Powermax 3 + Perpetuo + Induce + AMS	6 oz & 30 oz + 6 oz + 0.25% + 3 lb	80	90	99	88	99	83	42
Fierce MTZ & RU Powermax 3 + Perpetuo + Induce + AMS	16 oz & 30 oz + 6 oz + 0.25% + 3 lb	89	93	99	86	99	82	42
Tendovo & Flexstar GT + AMS	2.35 qt & 3.5 pt + 3.4 lb	94	96	99	99	99	99	47
LSD (0.05)		13	4	4	5	8	10	5

RCB: 4 reps

Variety: AG12XF1

Planting Date: 5/23/22

PPI: 5/23/22

Pre: 5/24/22

Post: 6/27/22 Soy 4 tri, 8-10 in; Gift 3-8 in; Cowh 2-8 in.

Soil: Clay Loam; 4.2% OM; 5.8 pH

Precipitation: (inches)

Pre: 1st week 0.90; 2nd week 0.08

Gift=Giant foxtail

Cowh=Common waterhemp

Comments: The objective of the study was to evaluate program treatments for weed control in soybeans. Moderate giant foxtail and heavy common waterhemp pressure. Preemergence treatments were activated by 0.90 inches of rainfall the first week after planting with limited precipitation for the next two weeks. Most treatments provided good preemergence waterhemp control. Many programs had excellent season long weed control. There were no significant yield differences between treatments.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Dicamba Soybean Demonstration Northeast Research Farm

Treatment	Rate/A	6/23/22		7/13/22		9/28/22		10/7/22	
		Yeft	Rrpw	Yeft	Rrpw	Yeft	Rrpw	Yield bu/A	
Check	—	0	0	0	0	0	0	5	
Pre & Post									
Broadaxe XC + Tricor DF & RU Powermax + Volt Edge + Class Act Ridion + OnTarget	28 oz + 5 oz & 56.5 oz + 27 oz + 26 oz + 0.5% + 0.5%	63	98	98	99	97	99	50	
Tavium + Tricor DF + Volt Edge + OnTarget & Flexstar GT + Dual Magnum + MSO + AMS	56.5 oz + 5 oz + 26 oz + 0.5% & 3.5 pt + 1 pt + 0.5% + 1.7 lb	44	98	99	99	97	99	47	
Boundary & RU Powermax + Tavium + Volt Edge + Class Act Ridion + OnTarget	2 pt & 27 oz + 56.5 oz + 26 oz + 0.5% + 0.5%	58	98	98	99	98	99	52	
Tendovo & Tavium + RU Powermax + Volt Edge + Class Act Ridion + OnTarget	1.75 pt & 56.5 oz + 27 oz + 26 oz + 0.5% + 0.5%	39	98	98	99	96	98	49	
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	71	98	98	99	98	99	52	
Engenia + Sharpen + Zidua SC + Sentris & Engenia + RU Powermax 3 + Outlook + Sentris + Class Act Ridion + OnTarget	12.8 oz + 1 oz + 3.25 oz + 8 oz & 12.8 oz + 30 oz + 10 oz + 8 oz + 0.5% + 0.5%	53	98	98	99	97	99	50	
Fierce EZ & RU Powermax 3 + Xtendimax + Perpetuo + Intact + Induce + Volt Edge	6 oz & 30 oz + 22 oz + 6 oz + 0.5% + 0.25% + 26 oz	38	98	98	99	98	99	47	
Fierce MTZ & RU Powermax 3 + Xtendimax + Perpetuo + Intact + Induce + Volt Edge	1 pt & 30 oz + 22 oz + 6 oz + 0.5% + 0.25% + 26 oz	34	98	99	99	97	99	45	
Warrant + Mauler & Liberty + Xtendimax + Volt Edge + Intact + Class Act Ridion	48 oz + 8 oz & 32 oz + 22 oz + 26 oz + 0.5% + 1%	18	98	88	99	63	99	40	
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%	13	98	99	99	93	99	48	
LSD (0.05)		8	—	0.5	0.5	2	0.5	5	

RCB: 4 reps

Variety: AG09XF0

Planting Date: 5/26/22

Pre: 5/26/22

Post: 6/28/22 Soy 2-3 tri, 6-8 in; Rrpw 1-2 in.

Soil: Clay Loam; 4.1% OM; 5.8 pH

Precipitation: (inches)

Pre: 1st week 2.56; 2nd week 0.16

Yeft=Yellow foxtail

Rrpw=redroot pigweed

Comments: The objective of the study was to evaluate combination treatments with dicamba for weed control in XtendFlex soybeans. Heavy yellow foxtail and redroot pigweed pressure. Pre treatments were activated with a 2.56 inch rain 4 days after planting. Preemergence treatments did not adequately control yellow foxtail. One treatment with poor late season foxtail control had reduced yield.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Dicamba Soybean Demonstration Southeast Research Farm

Treatment	Rate/A	6/22/22			7/11/22			9/30/22			10/3/22
		Grft	Vele	Cowh	Grft	Vele	Cowh	Grft	Cowh	Vele	Yield bu/A
Check	—	0	0	0	0	0	0	0	0	0	3
Pre & Post											
Broadaxe XC + Tricor DF & RU Powermax + Volt Edge + Class Act Ridion + OnTarget	28 oz + 5 oz & 56.5 oz + 27 oz + 26 oz + 0.5% + 0.5%	76	76	86	98	99	93	98	94	99	23
Tavium + Tricor DF + Volt Edge + OnTarget & Flexstar GT + Dual Magnum + MSO + AMS	56.5 oz + 5 oz + 26 oz + 0.5% & 3.5 pt + 1 pt + 0.5% + 1.7 lb	86	94	93	99	99	95	99	95	98	21
Boundary & RU Powermax + Tavium + Volt Edge + Class Act Ridion + OnTarget	2 pt & 27 oz + 56.5 oz + 26 oz + 0.5% + 0.5%	55	41	86	99	99	91	97	94	99	21
Tendovo & Tavium + RU Powermax + Volt Edge + Class Act Ridion + OnTarget	1.75 pt & 56.5 oz + 27 oz + 26 oz + 0.5% + 0.5%	60	87	88	98	97	92	97	93	99	22
Engenia + Pursuit + Zidua SC + Sentris & Liberty + RU Pmax 3 + Outlook + AMS	12.8 oz + 3 oz + 3.25 oz + 8 oz & 32 oz + 30 oz + 10 oz + 3 lb	91	96	95	99	99	97	99	97	99	25
Engenia + Sharpen + Zidua SC + Sentris & Engenia + RU Powermax 3 + Outlook + Sentris + Class Act Ridion + OnTarget	12.8 oz + 1 oz + 3.25 oz + 8 oz & 12.8 oz + 30 oz + 10 oz + 8 oz + 0.5% + 0.5%	87	93	95	99	99	97	99	98	99	23
Fierce EZ & RU Pmax 3 + Xtendimax + Perpetuo + Intact + Induce + Volt Edge	6 oz & 30 oz + 22 oz + 6 oz + 0.5% + 0.25% + 26 oz	35	50	87	99	99	95	97	93	98	17
Fierce MTZ & RU Pmax 3 + Xtendimax + Perpetuo + Intact + Induce + Volt Edge	1 pt & 30 oz + 22 oz + 6 oz + 0.5% + 0.25% + 26 oz	38	59	85	99	98	92	98	92	98	17
Warrant + Mauler & Liberty + Xtendimax + Volt Edge + Intact + Class Act Ridion	48 oz + 8 oz & 32 oz + 22 oz + 26 oz + 0.5% + 1%	55	58	90	97	97	96	75	95	96	20
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%	58	58	86	99	98	94	98	94	99	25
LSD (0.05)		13	9	4	1	1	3	3	2	2	5

RCB: 4 reps

Variety: AG20XF1

Planting Date: 5/18/22

Pre: 5/18/22

Post: 6/28/22 Soy 4-5 tri, 9-12 in; Grft 5-10 in; Vele 3-9 in; Cowh 3-9 in.

Soil: Clay; 4.3% OM; 7.2 pH

Precipitation: (inches)

Pre: 1st week 0.26; 2nd week 0.75

Grft=Green foxtail

Vele=Velvetleaf

Cowh=Common waterhemp

Comments: The objective of the study was to evaluate combination treatments with dicamba for weed control in XtendFlex soybeans. Moderate green foxtail, velvetleaf and heavy common waterhemp pressure. There was enough moisture early in the season for soybean germination and herbicide activation. There were some differences for early evaluations of preemergence weed control. Most treatments had good weed control after the follow up postemergence application. Extreme drought severely reduced yield.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Dicamba Soybean Demonstration Volga Research Farm

Treatment	Rate/A	6/23/22	7/12/22	9/22/22	9/28/22		
		Cowh	Gift	Cowh	Gift	Cowh	Yield bu/A
Check	—	0	0	0	0	0	24
Pre & Post							
Broadaxe XC + Tricor DF & RU Powermax + Volt Edge + Class Act Ridion + OnTarget	28 oz + 5 oz & 56.5 oz + 27 oz + 26 oz + 0.5% + 0.5%	98	99	99	99	98	43
Tavium + Tricor DF + Volt Edge + OnTarget & Flexstar GT + Dual Magnum + MSO + AMS	56.5 oz + 5 oz + 26 oz + 0.5% & 3.5 pt + 1 pt + 0.5% + 1.7 lb	97	99	99	99	98	42
Boundary & RU Powermax + Tavium + Volt Edge + Class Act Ridion + OnTarget	2 pt & 27 oz + 56.5 oz + 26 oz + 0.5% + 0.5%	97	99	98	99	99	44
Tendovo & Tavium + RU Powermax + Volt Edge + Class Act Ridion + OnTarget	1.75 pt & 56.5 oz + 27 oz + 26 oz + 0.5% + 0.5%	96	98	97	99	97	43
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	97	99	99	99	98	44
Engenia + Sharpen + Zidua SC + Sentris & Engenia + RU Powermax 3 + Outlook + Sentris + Class Act Ridion + OnTarget	12.8 oz + 1 oz + 3.25 oz + 8 oz & 12.8 oz + 30 oz + 10 oz + 8 oz + 0.5% + 0.5%	98	99	98	99	99	43
Fierce EZ & RU Powermax 3 + Xtendimax + Perpetuo + Intact + Induce + Volt Edge	6 oz & 30 oz + 22 oz + 6 oz + 0.5% + 0.25% + 26 oz	96	99	98	99	99	44
Fierce MTZ & RU Powermax 3 + Xtendimax + Perpetuo + Intact + Induce + Volt Edge	1 pt & 30 oz + 22 oz + 6 oz + 0.5% + 0.25% + 26 oz	96	99	98	99	99	45
Warrant + Mauler & Liberty + Xtendimax + Volt Edge + Intact + Class Act Ridion	48 oz + 8 oz & 32 oz + 22 oz + 26 oz + 0.5% + 1%	97	99	98	99	98	45
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%	97	99	98	99	98	46
LSD (0.05)		2	1	1	0.5	1	3

RCB: 4 reps

Variety: AG12XF1

Planting Date: 5/23/22

Pre: 5/24/22

Post: 6/27/22 Soy 4 tri, 6-8 in; Gift 3-8 in; Cowh 2-7 in.

Soil: Clay Loam; 4.5% OM; 5.9 pH

Precipitation: (inches)

Pre: 1st week 0.90; 2nd week 0.08

Gift=Giant foxtail

Cowh=Common waterhemp

Comments: The objective of the study was to evaluate combination treatments with dicamba for weed control in XtendFlex soybeans. Moderate giant foxtail and heavy common waterhemp pressure. Preemergence treatments were activated by 0.90 inches of rainfall the first week after planting with limited precipitation for the next two weeks. All treatments provided good preemergence waterhemp control. All programs had excellent season long weed control. Yields were consistent with no significant differences between herbicide treatments.



2022 Enlist Soybean Demonstration Northeast Research Farm

**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

Treatment	Rate/A	6/23/22		7/13/22		9/28/22		10/11/22
		Yeft	Rrpw	Yeft	Pesw	Yeft	Cowh	Yield bu/A
Check	—	0	0	0	0	0	0	4
Pre & Post								
Sonic & Enlist One + Durango DMA + Amsol	5 oz & 32 oz + 32 oz + 2.5%	28	98	99	99	98	99	47
Sonic & Enlist One + Liberty + Amsol	5 oz & 2 pt + 2 pt + 2.5%	28	98	95	99	85	98	44
Verdict + Outlook & Liberty + Enlist One + Zidua SC + AMS	5 oz + 8 oz & 32 oz + 32 oz + 2.5 oz + 3 lb	63	98	96	99	91	98	48
Fierce EZ & Enlist One + RU Powermax 3 + Perpetuo + AMS + Induce	6 oz & 1 pt + 30 oz + 6 oz + 1.5 lb + 0.25%	54	98	99	99	99	99	48
Fierce EZ + Firstrate & Enlist One + RU Powermax 3 + Perpetuo + AMS + Induce	6 oz + 0.6 oz & 1 pt + 30 oz + 6 oz + 1.5 lb + 0.25%	55	98	99	99	99	99	48
LSD (0.05)		3	4	1	2	5	6	4

RCB: 4 reps

Variety: Impact 10E125N

Planting Date: 5/26/22

Pre: 5/26/22

Post: 6/28/22 Soy 2 tri, 6-8 in; Yeft 5-8 in; Rrpw 1-4 in.

Soil: Clay Loam; 4.1% OM; 5.8 pH

Precipitation: (inches)

Pre: 1st week 2.56; 2nd week 0.16

Yeft=Yellow foxtail

Rrpw=Redroot pigweed

Pesw=Pennsylvania smartweed

Cowh=Common waterhemp

Comments: The objective of the study was to evaluate combination treatments with Enlist for weed control in Enlist E3 soybeans. Heavy yellow foxtail, redroot pigweed, and moderate common waterhemp pressure. Pre treatments were activated with a 2.56 inch rain 4 days after planting. Preemergence treatments did not adequately control yellow foxtail. Post emergence applications provided good weed control.



2022 Enlist Soybean Demonstration Southeast Research Farm

**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

Treatment	Rate/A	6/22/22			7/11/22			9/30/22			10/3/22
		Grft	Vele	Cowh	Grft	Vele	Cowh	Grft	Cowh	Vele	Yield bu/A
Check	—	0	0	0	0	0	0	0	0	0	2
Pre & Post											
Sonic & Enlist One + Durango DMA + Amsol	5 oz & 32 oz + 32 oz + 2.5%	69	91	91	99	99	98	99	99	99	23
Sonic & Enlist One + Liberty + Amsol	5 oz & 2 pt + 2 pt + 2.5%	73	92	90	99	99	98	96	98	98	24
Verdict + Outlook & Liberty + Enlist One + Zidua SC + AMS	5 oz + 8 oz & 32 oz + 32 oz + 2.5 oz + 3 lb	50	75	89	98	97	98	94	98	98	23
Fierce EZ & Enlist One + RU Powermax 3 + Perpetuo + AMS + Induce	6 oz & 1 pt + 30 oz + 6 oz + 1.5 lb + 0.25%	30	53	83	99	98	95	98	92	99	19
Fierce EZ + Firstrate & Enlist One + RU Powermax 3 + Perpetuo + AMS + Induce	6 oz + 0.6 oz & 1 pt + 30 oz + 6 oz + 1.5 lb + 0.25%	38	86	82	99	98	97	99	98	99	24
LSD (0.05)		6	7	6	1	3	2	2	3	3	3

RCB: 4 reps

Variety: Impact NK S20-E3

Planting Date: 5/18/22

Pre: 5/18/22

Post: 6/26/22 Soy 5-6 tri, 7-11 in; Grft 4-7 in; Vele 3-7 in; Cowh 3-10 in.

Soil: Clay; 4.3% OM; 7.0 pH

Precipitation: (inches)

Pre: 1st week 0.26; 2nd week 0.75

Grft=Green foxtail

Vele=Velvetleaf

Cowh=Common waterhemp

Comments: The objective of the study was to evaluate combination treatments with Enlist for weed control in Enlist E3 soybeans. Moderate green foxtail, velvetleaf and heavy common waterhemp pressure. There was enough moisture early in the season for soybean germination and herbicide activation. Several treatments provided good early season velvetleaf and waterhemp control. All treatments had good weed control after the follow up postemergence application. Extreme drought severely reduced yield.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Enlist Soybean Demonstration Volga Research Farm

Treatment	Rate/A	6/22/22		7/18/22		9/22/22		9/29/22
		Gift	Cowh	Gift	Cowh	Gift	Cowh	Yield bu/A
Check	—	0	0	0	0	0	0	5
Pre & Post								
Sonic & Enlist One + Durango DMA + Amsol	5 oz & 32 oz + 32 oz + 2.5%	79	92	97	98	97	99	44
Sonic & Enlist One + Liberty + Amsol	5 oz & 2 pt + 2 pt + 2.5%	83	94	97	98	97	98	45
Verdict + Outlook & Liberty + Enlist One + Zidua SC + AMS	5 oz + 8 oz & 32 oz + 32 oz + 2.5 oz + 3 lb	97	98	98	99	98	99	44
Fierce EZ & Enlist One + RU Powermax 3 + Perpetuo + AMS + Induce	6 oz & 1 pt + 30 oz + 6 oz + 1.5 lb + 0.25%	86	90	98	98	98	98	44
Fierce EZ + Firstrate & Enlist One + RU Powermax 3 + Perpetuo + AMS + Induce	6 oz + 0.6 oz & 1 pt + 30 oz + 6 oz + 1.5 lb + 0.25%	92	94	98	98	98	98	44
LSD (0.05)		9	4	1	3	2	4	3

RCB: 4 reps

Variety: Impact 10E125N

Planting Date: 5/23/22

Pre: 5/24/22

Post: 6/22/22 Soy 3 tri, 5-6 in; Gift 3-7 in; Cowh 2-7 in.

Precipitation: (inches)

Pre: 1st week 0.90; 2nd week 0.08

Soil: Clay Loam; 4.2% OM; 5.8 pH

Gift=Giant foxtail

Cowh=Common waterhemp

Comments: The objective of the study was to evaluate combination treatments with Enlist for weed control in Enlist E3 soybeans. Moderate giant foxtail and heavy common waterhemp pressure. Preemergence treatments were activated by 0.90 inches of rainfall the first week after planting with limited precipitation for the next two weeks. All programs had excellent season long weed control. Yields were consistent with no significant differences between herbicide treatments.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Liberty Soybean Demonstration Northeast Research Farm

Treatment	Rate/A	6/23/22		7/13/22		9/28/22		10/11/22
		Yeft	Rrpw	Yeft	Rrpw	Yeft	Pesw	Yield bu/A
Check	—	0	0	0	0	0	0	6
Pre & Post								
Authority MTZ & Cheetah + AMS	14 oz & 32 oz + 3 lb	25	98	94	98	81	99	44
Dimetric Charged & Total SL + AMS	15 oz & 32 oz + 1.5 lb	43	98	95	99	90	99	47
Moccasin MTZ & Interline + AMS	3.56 pt & 32 oz + 3 lb	89	98	96	99	97	99	51
Fierce EZ & Liberty + Perpetuo + Select Max + Induce + AMS	6 oz & 32 oz + 6 oz + 9 oz + 0.25% + 3 lb	59	98	98	99	97	99	44
Fierce EZ + Firstrate & Liberty + Perpetuo + Select Max + Induce + AMS	6 oz + 0.6 oz & 32 oz + 6 oz + 9 oz + 0.25% + 3 lb	60	98	97	99	98	99	47
Zidua Pro & Liberty + RU Powermax 3 + Outlook + AMS	4.5 oz & 32 oz + 30 oz + 10 oz + 3 lb	71	98	99	99	99	99	47
LSD (0.05)		4	—	2	1	3	—	3

RCB: 4 reps

Variety: AG09XF0

Planting Date: 5/26/22

Pre: 5/26/22

Post: 6/28/22 Soy 2-3 tri, 6-8 in; Yeft 1-5 in; Rrpw 1-3 in.

Precipitation: (inches)

Pre: 1st week 2.56; 2nd week 0.16

Soil: Clay Loam; 4.1% OM; 5.8 pH

Yeft=Yellow foxtail

Rrpw=Redroot pigweed

Pesw=Pennsylvania smartweed

Comments: The objective of the study was to evaluate combination treatments with Liberty for weed control in XtendFlex soybeans. Heavy yellow foxtail and redroot pigweed pressure. Most preemergence treatments did not adequately control yellow foxtail. Yields were reduced for treatments with lower yellow foxtail control.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Liberty Soybean Demonstration Southeast Research Farm

Treatment	Rate/A	6/22/22			7/11/22			9/30/22			10/3/22	
		Grft	Vele	Cowh	Grft	Vele	Cowh	Grft	Vele	Cowh	Colq	Yield bu/A
Check	—	0	0	0	0	0	0	0	0	0	0	1
Pre & Post												
Authority MTZ & Cheetah + AMS	14 oz & 32 oz + 3 lb	53	58	91	98	80	93	91	61	92	92	17
Dimetric Charged & Total SL + AMS	15 oz & 32 oz + 1.5 lb	58	68	88	97	81	89	94	58	82	83	18
Moccasin MTZ & Interline + AMS	3.56 pt & 32 oz + 3 lb	69	69	93	98	83	92	96	70	87	86	18
Fierce EZ & Liberty + Perpetuo + Select Max + Induce + AMS	6 oz & 32 oz + 6 oz + 9 oz + 0.25% + 3 lb	45	48	74	98	88	91	94	63	81	78	21
Fierce EZ + Firstrate & Liberty + Perpetuo + Select Max + Induce + AMS	6 oz + 0.6 oz & 32 oz + 6 oz + 9 oz + 0.25% + 3 lb	70	93	87	98	98	95	97	98	91	90	22
Zidua Pro & Liberty + RU Powermax 3 + Outlook + AMS	4.5 oz & 32 oz + 30 oz + 10 oz + 3 lb	81	94	89	99	97	93	99	98	87	97	24
LSD (0.05)		7	10	5	1	4	3	2	12	7	6	5

RCB: 4 reps

Variety: NK S20-E3

Planting Date: 5/18/22

Pre: 5/18/22

Post: 6/26/22 Soy 5-6 tri, 7-11 in; Grft 4-7 in; Vele 3-7 in; Cowh 3-10 in.

Soil: Clay; 4.3% OM; 7.0 pH

Precipitation: (inches)

Pre: 1st week 0.26; 2nd week 0.75

Grft=Green foxtail

Vele=Velvetleaf

Cowh=Common waterhemp

Colq=Common lambsquarters

Comments: The objective of the study was to evaluate combination treatments with Liberty for weed control in Enlist E3 soybeans. Moderate green foxtail, velvetleaf and heavy common waterhemp pressure. There was enough moisture early in the season for soybean germination and herbicide activation. There were differences for early season preemergence weed control. Only a few treatments had good late season weed control. Extreme drought severely reduced yield.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Liberty Soybean Demonstration Volga Research Farm

Treatment	Rate/A	6/22/22		7/18/22		9/22/22		9/29/22
		Gift	Cowh	Gift	Cowh	Gift	Cowh	
Check	—	0	0	0	0	0	0	6
Pre & Post								
Authority MTZ & Cheetah + AMS	14 oz & 32 oz + 3 lb	78	93	97	98	94	98	45
Dimetric Charged & Total SL + AMS	15 oz & 32 oz + 1.5 lb	84	94	97	98	94	98	45
Moccasin MTZ & Interline + AMS	3.56 pt & 32 oz + 3 lb	97	97	99	99	99	99	45
Fierce EZ & Liberty + Perpetuo + Select Max + Induce + AMS	6 oz & 32 oz + 6 oz + 9 oz + 0.25% + 3 lb	86	92	98	99	97	99	44
Fierce EZ + Firstrate & Liberty + Perpetuo + Select Max + Induce + AMS	6 oz + 0.6 oz & 32 oz + 6 oz + 9 oz + 0.25% + 3 lb	85	95	98	99	97	99	44
Zidua Pro & Liberty + RU Powermax 3 + Outlook + AMS	4.5 oz & 32 oz + 30 oz + 10 oz + 3 lb	95	96	98	99	99	99	43
LSD (0.05)		6	1	2	1	4	1	2

RCB: 4 reps

Variety: Impact 10E125N

Planting Date: 5/23/22

Pre: 5/24/22

Post: 6/22/22 Soy 3 tri, 5-6 in; Gift 3-7 in; Cowh 2-7 in.

Precipitation: (inches)

Pre: 1st week 0.90; 2nd week 0.08

Soil: Clay Loam; 4.2% OM; 5.8 pH

Gift=Giant foxtail

Cowh=Common waterhemp

Comments: The objective of the study was to evaluate combination treatments with glufosinate for weed control in Enlist E3 soybeans. Moderate giant foxtail and heavy common waterhemp pressure. Preemergence treatments were activated by 0.90 inches of rainfall the first week after planting with limited precipitation for the next two weeks. All programs had excellent season long weed control. Yields were consistent with no significant differences between herbicide treatments.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 LLGT27 Soybean Demonstration Northeast Research Farm

Treatment	Rate/A	6/23/22		7/13/22		9/28/22		10/11/22
		Yeft	Rrpw	Yeft	Cowh	Yeft	Cowh	Yield bu/A
Check	—	0	0	0	0	0	0	4
Epost								
RU Powermax + AMS	30 oz + 1.7 lb	—	—	97	78	88	43	35
Liberty + AMS	32 oz + 1.7 lb	—	—	84	80	83	66	39
Liberty + RU Powermax 3 + AMS	32 oz + 30 oz + 1.7 lb	—	—	95	88	84	73	42
Pre & Post								
Alite 27 + Dimetric 3L & RU Powermax 3 + AMS	3 oz + 10.67 oz & 30 oz + 1.7 lb	65	97	99	96	99	97	54
Alite 27 + Dimetric 3L & Liberty + AMS	3 oz + 10.67 oz & 32 oz + 1.7 lb	65	96	94	97	97	98	56
Alite 27 + Outlook & Liberty + AMS	3 oz + 10 oz & 32 oz + 1.7 lb	69	92	94	96	98	97	56
Alite 27 + Zidua SC & Liberty + RU Powermax 3 + Outlook + AMS	2 oz + 2.5 oz & 32 oz + 30 oz + 10 oz + 3 lb	70	93	99	98	98	97	54
LSD (0.05)		3	3	3	10	5	6	6

RCB: 4 reps

Variety: NK S16-LLGT27

Planting Date: 5/26/22

Pre: 5/26/22

Epost: 6/22/22 Soy 2 tri, 6-7 in; Yeft 2.5 in; Rrpw 3-5 in.

Post: 6/28/22 Soy 2-3 tri, 6-8 in; Yeft 2-5 in; Rrpw 2-4 in.

Soil: Clay Loam; 4.1% OM; 5.8 pH

Precipitation: (inches)

Pre: 1st week 2.56; 2nd week 0.16

Yeft=Yellow foxtail

Rrpw=Redroot pigweed

Cowh=Common waterhemp

Comments: The objective of the study was to evaluate combination treatments with Alite 27 for weed control in LLGT27 soybeans. Heavy yellow foxtail and moderate redroot pigweed and waterhemp pressure. Pretreatments were activated with a 2.56 inch rain 4 days after planting. Weed control was good with Alite 27 combinations. Early post treatments with glyphosate and glufosinate had poor late season control and reduced yields.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 LLGT27 Soybean Demonstration Southeast Research Farm

Treatment	Rate/A	6/22/22			7/11/22			9/30/22		10/3/22
		Grft	Vele	Cowh	Grft	Vele	Cowh	Grft	Cowh	Yield bu/A
Check	—	0	0	0	0	0	0	0	0	2
Epost										
RU Powermax + AMS	30 oz + 1.7 lb	99	99	93	99	99	77	92	48	15
Liberty + AMS	32 oz + 1.7 lb	98	99	99	96	97	90	88	84	15
Liberty + RU Powermax 3 + AMS	32 oz + 30 oz + 1.7 lb	99	99	97	99	99	91	90	79	19
Pre & Post										
Alite 27 + Dimetric 3L & RU Powermax 3 + AMS	3 oz + 10.67 oz & 30 oz + 1.7 lb	94	96	95	99	99	94	99	92	19
Alite 27 + Dimetric 3L & Liberty + AMS	3 oz + 10.67 oz & 32 oz + 1.7 lb	93	96	97	98	95	96	99	95	22
Alite 27 + Outlook & Liberty + AMS	3 oz + 10 oz & 32 oz + 1.7 lb	94	95	98	99	97	97	99	96	21
Alite 27 + Zidua SC & Liberty + RU Powermax 3 + Outlook + AMS	2 oz + 2.5 oz & 32 oz + 30 oz + 10 oz + 3 lb	92	98	94	99	99	95	99	92	19
LSD (0.05)		2	2	2	1	2	3	5	4	4

RCB: 4 reps

Variety: NK S20-LLGT27

Planting Date: 5/18/22

Pre: 5/18/22

Epost: 6/15/22 Soy 1-2 tri, 3-5 in; Grft 2-7 in; Vele 0.5-2 in; Cowh 0.5-2 in.

Post: 6/26/22 Soy 5-6 tri, 7-11 in; Grft 4-7 in; Vele 3-7 in; Cowh 3-10 in.

Soil: Clay; 4.3% OM; 7.0 pH

Precipitation: (inches)

Pre: 1st week 0.26; 2nd week 0.75

Grft=Green foxtail

Vele=Velvetleaf

Cowh=Common waterhemp

Comments: The objective of the study was to evaluate combination treatments with Alite 27 for weed control in LLGT27 soybeans. Moderate green foxtail, velvetleaf and heavy common waterhemp pressure. There was enough moisture early in the season for soybean germination and herbicide activation. Alite 27 combinations provided good preemergence weed control. Poor weed control with Liberty or Roundup alone significantly reduced yield. Extreme drought severely reduced overall yield.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 LLGT27 Soybean Demonstration Volga Research Farm

Treatment	Rate/A	6/23/22			7/18/22			9/22/22		9/29/22
		Gift	Colq	Cowh	Gift	Cowh	Colq	Gift	Cowh	Yield bu/A
Check	—	0	0	0	0	0	0	0	0	6
Epost										
RU Powermax + AMS	30 oz + 1.7 lb	—	—	—	99	15	99	99	13	21
Liberty + AMS	32 oz + 1.7 lb	—	—	—	99	79	98	99	80	38
Liberty + RU Powermax 3 + AMS	32 oz + 30 oz + 1.7 lb	—	—	—	99	83	99	99	82	40
Pre & Post										
Alite 27 + Dimetric 3L & RU Powermax 3 + AMS	3 oz + 10.67 oz & 30 oz + 1.7 lb	98	99	99	99	99	99	99	98	39
Alite 27 + Dimetric 3L & Liberty + AMS	3 oz + 10.67 oz & 32 oz + 1.7 lb	98	99	99	99	99	99	99	99	39
Alite 27 + Outlook & Liberty + AMS	3 oz + 10 oz & 32 oz + 1.7 lb	99	99	99	99	99	99	99	99	39
Alite 27 + Zidua SC & Liberty + RU Powermax 3 + Outlook + AMS	2 oz + 2.5 oz & 32 oz + 30 oz + 10 oz + 3 lb	99	99	99	99	99	99	99	99	41
LSD (0.05)		1	—	0.5	0.5	4	1	—	4	3

RCB: 4 reps

Variety: NK S20-LLGT27

Planting Date: 5/23/22

Pre: 5/23/22

Epost: 6/22/22 Soy 3 tri, 5-6 in.

Post: 6/27/22 Soy 4 tri, 8-10 in; Gift 5-8 in.

Soil: Clay Loam; 4.2% OM; 5.8 pH

Precipitation: (inches)

Pre: 1st week 0.90; 2nd week 0.08

Gift=Giant foxtail

Colq=Common lambsquarters

Cowh=Common waterhemp

Comments: The objective of the study was to evaluate combination treatments with Alite 27 for weed control in LLGT27 soybeans. Moderate giant foxtail and heavy common waterhemp pressure. Preemergence treatments were activated by 0.90 inches of rainfall the first week after planting with limited precipitation for the next two weeks. Alite 27 combinations provided good preemergence weed control. Poor waterhemp control with Roundup alone significantly reduced yield.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Preview 2.1SC Programs in Soybeans Southeast Research Farm

Treatment	Rate/A	6/22/22			7/11/22			7/27/22			10/3/22
		Grft	Vele	Cowh	Grft	Vele	Cowh	Grft	Cowh	Vele	Yield bu/A
Check	—	0	0	0	0	0	0	0	0	0	5
Pre & Epost											
Preview 2.1SC & Interline + Amsol	21 oz & 32 oz + 5%	91	84	93	98	94	97	98	97	92	28
Preview 2.1SC + Moccasin & Interline + Amsol	21 oz + 1.25 pt & 32 oz + 5%	91	81	93	99	92	97	98	97	88	26
Preview 2.1SC & Intermoc + Amsol	21 oz & 64 oz + 5%	90	78	91	99	81	95	98	97	71	21
Preview 2.1SC + Moccasin & Intermoc + Amsol	21 oz + 1.25 pt & 64 oz + 5%	90	86	93	99	87	96	98	98	71	25
Preview 2.1SC + Firstrate & Intermoc + Amsol	21 oz + 0.6 oz & 64 oz + 5%	93	91	94	98	96	98	98	96	93	30
Tripzin ZC & Intermoc + Amsol	43 oz & 64 oz + 5%	87	78	94	98	88	96	98	97	75	23
Moccasin MTZ & Intermoc + Amsol	42 oz & 64 oz + 5%	89	76	93	99	82	96	98	97	76	23
Zidua Pro & Dual Magnum + Liberty + Amsol	6 oz & 1.33 pt + 29 oz + 5%	93	93	90	99	97	97	97	98	95	29
Boundary & Dual Magnum + Liberty + Amsol	32 oz & 1.33 pt + 29 oz + 5%	90	60	95	99	90	96	98	98	81	27
LSD (0.05)		2	10	2	1	8	2	1	2	11	4

RCB: 4 reps

Variety: NK S20-E3

Planting Date: 5/20/22

Pre: 5/22/22

Epost: 6/26/22 Soy 3 tri, 6-8 in; Grft 5-10 in; Vele 3-6 in; Cowh 2-9 in.

Soil: Silty Clay Loam; 4.5% OM; 6.6 pH

Precipitation: (inches)

Pre: 1st week 0.29; 2nd week 0.89

Grft=Green foxtail

Vele=Velvetleaf

Cowh=Common waterhemp

Comments: The objective of the study was to evaluate several preemergence treatments followed by glufosinate for weed control in soybeans. Moderate green foxtail, waterhemp and heavy velvetleaf weed pressure. There was enough moisture early in the season for soybean germination and herbicide activation. All treatments had good late season control of green foxtail and common waterhemp. Poor velvetleaf control in some treatments reduced yield. Extreme drought severely reduced overall yield.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Enlist Weed Control Programs in E3 Soybeans Southeast Research Farm

Treatment	Rate/A	7/5/22			7/11/22			7/19/22		
		Grft	Vele	Cowh	Grft	Vele	Cowh	Grft	Vele	Cowh
Pre & Epost										
Kyber & Enlist One + Liberty + EverpreX + Amsol	1 pt & 2 pt + 2 pt + 1 pt + 2.5%	96	89	95	98	92	98	98	88	98
Kyber & Enlist One + Durango DMA + EverpreX + Amsol	1 pt & 2 pt + 32 oz + 1 pt + 2.5%	97	93	95	98	99	96	99	98	96
Kyber & Durango DMA + Liberty + EverpreX + Amsol	1 pt & 32 oz + 2 pt + 1 pt + 2.5%	98	88	96	98	88	93	99	86	86
Pre & Epost & Post										
Kyber & Enlist One + Liberty + EverpreX + Amsol & Enlist One + Liberty + Amsol	1 pt & 2 pt + 2 pt + 1 pt + 2.5% & 2 pt + 2 pt + 2.5%	97	89	96	98	92	98	99	99	99
Kyber & Enlist One + Durango DMA + EverpreX + Amsol & Enlist One + Liberty + Amsol	1 pt & 2 pt + 32 oz + 1 pt + 2.5% & 2 pt + 2 pt + 2.5%	97	95	96	98	99	94	99	99	99
Kyber & Enlist One + Liberty + EverpreX + Amsol & Enlist One + Durango DMA + Amsol	1 pt & 2 pt + 2 pt + 1 pt + 2.5% & 2 pt + 32 oz + 2.5%	95	90	97	99	93	98	99	99	99
Check	—	0	0	0	0	0	0	0	0	0
LSD (0.05)		1	4	1	0.5	4	3	0.5	3	2

RCB: 4 reps

Variety: Hoegemeyer 2123E

Planting Date: 5/20/22

Pre: 5/22/22

Epost: 6/26/22 Soy 3 tri, 6-8 in; Grft 5-10 in; Vele 3-6 in; Cowh 2-9 in.

Post: 7/12/22 Soy 14-16 in, bloom; Grft 6-8 in; Vele 6-8 in; Cowh 4-6 in.

Soil: Silty Clay Loam; 4.5% OM; 6.6 pH

Precipitation: (inches)

Pre: 1st week 0.29; 2nd week 0.89

Grft=Green foxtail

Vele=Velvetleaf

Cowh=Common waterhemp

Comments: The objective of the study was to evaluate Kyber preemergence followed by combination post treatments for weed control in Enlist E3 soybeans. Moderate green foxtail, waterhemp and velvetleaf weed pressure. There was enough moisture early in the season for soybean germination and herbicide activation. Most treatments provided good late season weed control.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Tendovo Crop Tolerance and Efficacy in Conventional Till Soybeans Southeast Research Farm

Treatment	Rate/A	6/15/22			6/28/22			7/19/22			10/3/22
		Grft	Vele	Cowh	Grft	Vele	Cowh	Grft	Cowh	Vele	Yield bu/A
Check	—	0	0	0	0	0	0	0	0	0	3
Pre & Post											
Tendovo & Tavium + RU Powermax 3 + Volt-Edge + Intact + Class Act Ridion	2.1 qt & 3.53 pt + 30 oz + 20 oz + 0.5% + 1%	91	97	97	85	92	87	98	96	98	27
Tendovo & Tavium + RU Powermax 3 + Volt-Edge + Intact + Class Act Ridion	2.35 qt & 3.53 pt + 30 oz + 20 oz + 0.5% + 1%	90	98	98	87	94	90	98	97	98	26
Boundary & Tavium + RU Powermax 3 + Volt-Edge + Intact + Class Act Ridion	2.4 pt & 3.53 pt + 30 oz + 20 oz + 0.5% + 1%	87	97	96	77	76	86	98	96	97	26
Broadaxe XC & Tavium + RU Powermax 3 + Volt-Edge + Intact + Class Act Ridion	32 oz & 3.53 pt + 30 oz + 20 oz + 0.5% + 1%	88	94	97	85	76	93	98	97	98	24
Sonic & Tavium + RU Powermax 3 + Volt-Edge + Intact + Class Act Ridion	8 oz & 3.53 pt + 30 oz + 20 oz + 0.5% + 1%	87	97	97	84	94	92	98	98	98	22
Fierce MTZ & Tavium + RU Powermax 3 + Volt-Edge + Intact + Class Act Ridion	1.5 pt & 3.53 pt + 30 oz + 20 oz + 0.5% + 1%	58	95	97	57	88	88	98	96	99	18
Zidua Pro & Tavium + RU Powermax 3 + Volt-Edge + Intact + Class Act Ridion	6 oz & 3.53 pt + 30 oz + 20 oz + 0.5% + 1%	93	98	97	90	91	88	98	96	99	23
Authority Edge & Tavium + RU Powermax 3 + Volt-Edge + Intact + Class Act Ridion	11 oz & 3.53 pt + 30 oz + 20 oz + 0.5% + 1%	86	97	98	81	88	89	98	98	99	20
LSD (0.05)		6	2	2	8	7	3	1	2	2	5

RCB: 4 reps

Variety: AG 20XF1

Planting Date: 5/18/22

Pre: 5/18/22

Post: 6/28/22 Soy 4-5 tri, 9-12 in; Grft 5-10 in; Vele 3-9 in; Cowh 3-9 in.

Soil: Clay; 4.3% OM; 7.2 pH

Precipitation: (inches)

Pre: 1st week 0.26; 2nd week 0.75

Grft=Green foxtail

Vele=Velvetleaf

Cowh=Common waterhemp

Comments: The objective of the study was to evaluate several preemergence treatments followed by Tavium and glyphosate for weed control in soybeans. Moderate green foxtail, velvetleaf and heavy common waterhemp pressure. There was enough moisture early in the season for soybean germination and herbicide activation. Many treatments provided good early season preemergence weed control and had excellent control after the post application. Extreme drought severely reduced yield.



2022 Dicamba Paired Soil Residual Southeast Research Farm

**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

Treatment	Rate/A	6/2/22	6/6/22	6/22/22		
		VCRR	VCRR Stunt	Grft	Vele	Cowh
Check	—	0	0	0	0	0
Pre						
Warrant + Mauler	48 oz + 8 oz	0	0	65	45	88
Warrant	48 oz	0	0	66	20	89
Warrant Ultra	50 oz	0	0	81	20	92
Fierce EZ	6 oz	0	20	45	63	83
Valor EZ	2 oz	0	16	48	71	78
Authority MTZ	10 oz	0	0	63	83	90
Warrant + Mauler + Xtendimax + Vaporgrip	48 oz + 8 oz + 22 oz + 20 oz	0	0	91	91	94
Warrant + Xtendimax + Vaporgrip	48 oz + 22 oz + 20 oz	0	0	89	92	95
Warrant Ultra + Intact + Xtendimax + Vaporgrip	50 oz + 0.5% + 22 oz + 20 oz	0	0	91	92	96
Fierce EZ + Xtendimax + Vaporgrip + Intact	6 oz + 22 oz + 20 oz + 0.5%	0	20	93	95	92
Valor EZ + Xtendimax + Vaporgrip	2 oz + 22 oz + 20 oz	0	14	90	94	92
Authority MTZ + Xtendimax + Vaporgrip	10 oz + 22 oz + 20 oz	0	0	85	93	95
Xtendimax + Vaporgrip	22 oz + 20 oz	0	0	53	83	91
LSD (0.05)		—	3	8	8	4

RCB: 4 reps

Variety: AG 20XF1

Planting Date: 5/18/22

Pre: 5/18/22

Soil: Clay; 4.5% OM; 6.7 pH

Precipitation: (inches)

Pre: 1st week 0.26; 2nd week 0.75

Grft=Green foxtail

Vele=Velvetleaf

Cowh=Common waterhemp

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

Comments: The objective of the study was to evaluate several preemergence treatments alone and tankmixed with Xtendimax for weed control in soybeans. Moderate green foxtail, velvetleaf and heavy common waterhemp pressure. There was enough moisture early in the season for soybean germination and herbicide activation. The addition Xtendimax preemergence significantly increased weed control. Velvetleaf had the greatest increase in control.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Engenia Pre Weed Control in Soybeans Southeast Research Farm

Treatment	Rate/A	6/15/22			6/28/22		
		Grft	Vele	Cowh	Grft	Vele	Cowh
Check	—	0	0	0	0	0	0
Pre							
Engenia + Sentris	12.8 oz + 8 oz	76	90	94	56	80	80
Zidua SC	3.25 oz	45	63	48	48	43	43
Engenia + Zidua SC + Sentris	12.8 oz + 3.25 oz + 8 oz	91	97	98	79	85	88
Zidua Pro	6 oz	84	90	94	77	80	71
Engenia + Zidua Pro + Sentris	12.8 oz + 6 oz + 8 oz	90	98	97	87	90	89
Authority Edge	8 oz	63	85	86	51	63	65
Engenia + Authority Edge + Sentris	12.8 oz + 8 oz + 8 oz	88	94	98	82	89	91
Engenia Prime	16 oz	88	98	98	86	90	89
LSD (0.05)		9	4	9	8	6	10

RCB: 4 reps

Variety: AG 20XF1

Planting Date: 5/18/22

Pre: 5/18/22

Soil: Clay; 4.3% OM; 7.2 pH

Precipitation: (inches)

Pre: 1st week 0.26; 2nd week 0.75

Grft=Green foxtail

Vele=Velvetleaf

Cowh=Common waterhemp

Comments: The objective of the study was to evaluate some preemergence treatments alone and tankmixed with Engenia for weed control in soybeans. Moderate green foxtail, velvetleaf and heavy common waterhemp pressure. There was enough moisture early in the season for soybean germination and herbicide activation. The addition Engenia preemergence significantly increased weed control. Engenia alone had good activity on velvetleaf and waterhemp.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Reviton with Tank-Mix Partners for Burndown Southeast Research Farm

Treatment	Rate/A	6/2/22		6/6/22		6/15/22	
		Dali	Prle	Dali	Prle	Dali	Prle
Check	—	0	0	0	0	0	0
Burndn							
Reviton + Destiny HC	2 oz + 1%	91	96	67	97	57	90
Reviton + RU Powermax + AMS + Destiny HC	1 oz + 22 oz + 1.7 lb + 1%	96	99	97	99	98	98
Reviton + Liberty + AMS + Destiny HC	1 oz + 32 oz + 1.7 lb + 1%	95	99	96	99	89	99
Reviton + RU Pmax + Rancor + AMS + Destiny HC	2 oz + 22 oz + 1 pt + 1.7 lb + 1%	96	99	94	99	96	99
Reviton + Arrow + AMS + Destiny HC	2 oz + 6 oz + 1.7 lb + 1%	95	99	88	99	77	82
Reviton + Lo-Vol 4 2,4-D + AMS + Destiny HC	1 oz + 1 pt + 1.7 lb + 1%	96	99	97	99	95	99
Reviton + RU Powermax + Lo-Vol 4 2,4-D + AMS + Destiny HC	1 oz + 22 oz + 1 pt + 1.7 lb + 1%	96	99	95	99	90	99
Reviton + RU Powermax + Helmet + Rancor + AMS + Destiny HC	1 oz + 22 oz + 1.82 pt + 13.5 oz + 1.7 lb + 1%	96	99	93	99	82	98
LSD (0.05)		1	1	5	1	7	2

RCB: 3 reps

Variety: AG 20XF1

Planting Date: 6/2/22

Burndn: 5/27/22 Dali 6-12 in; Prle 5-8 in rosette

Precipitation: (inches)

Burndn: 1st week 0.73; 2nd week 0.38

Soil: Clay; 3.0% OM; 7.8 pH

Dali=Dandelion

Prle=Prickly lettuce

Comments: The objective of the study was to evaluate combination treatments with Reviton for burndown weed control in no-till soybeans. Several treatments provided good control of dandelion and prickly lettuce.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Competitive Soybean System Comparisons Volga Research Farm

Variety	Treatment	Rate/A	7/12/22		9/22/22		9/28/22	
			Gift	Cowh	Gift	Cowh	Yield bu/A	
Xtendflex	Pre & Post & Lpost							
AG09XF0	Xtendimax + VRA + Mauler + Warrant + Intact & Xtendimax + VRA + RU Powermax 3 + Warrant + Class Act Ridion + Intact & Liberty + Amsol	22 oz + 20 oz + 8 oz + 48 oz + 0.5% & 22 oz + 20 oz + 30 oz + 48 oz + 1% + 0.5% & 32 oz + 2.5%	98	99	99	99	45	
AG12XF1	Xtendimax + VRA + Mauler + Warrant + Intact & Xtendimax + VRA + RU Powermax 3 + Warrant + Class Act Ridion + Intact & Liberty + Amsol	22 oz + 20 oz + 8 oz + 48 oz + 0.5% & 22 oz + 20 oz + 30 oz + 48 oz + 1% + 0.5% & 32 oz + 2.5%	98	99	99	99	45	
AG20XF1	Xtendimax + VRA + Mauler + Warrant + Intact & Xtendimax + VRA + RU Powermax 3 + Warrant + Class Act Ridion + Intact & Liberty + Amsol	22 oz + 20 oz + 8 oz + 48 oz + 0.5% & 22 oz + 20 oz + 30 oz + 48 oz + 1% + 0.5% & 32 oz + 2.5%	98	99	99	99	34	
Enlist	Pre & Post & Lpost							
10E125N	Enlist One + Sonic & Enlist One + Durango DMA + Dual II Mag + Amsol & Liberty + Amsol	32 oz + 4 oz & 32 oz + 36 oz + 16 oz + 2.5% & 32 oz + 2.5%	98	99	99	99	46	
NK14-W6E3	Enlist One + Sonic & Enlist One + Durango DMA + Dual II Mag + Amsol & Liberty + Amsol	32 oz + 4 oz & 32 oz + 36 oz + 16 oz + 2.5% & 32 oz + 2.5%	99	99	99	99	41	
NK S20-E3	Enlist One + Sonic & Enlist One + Durango DMA + Dual II Mag + Amsol & Liberty + Amsol	32 oz + 4 oz & 32 oz + 36 oz + 16 oz + 2.5% & 32 oz + 2.5%	99	99	99	99	39	

RCB: 1 rep

Planting Date: 5/23/22

Pre: 5/24/22

Post: 6/27/22 Soy 4 tri, 6-8 in; Gift 3-8 in; Cowh 2-7 in.

Lpost: 7/13/22 Soy 18-20 in, bloom; Cowh 2-6 in.

Precipitation: (inches)

Pre: 1st week 0.90; 2nd week 0.08

Gift=Giant foxtail

Cowh=Common waterhemp

Comments: The purpose of the study was to evaluate different varieties and herbicide systems for weed control and yield in a strip trial. Moderate giant foxtail and common waterhemp pressure. Preemergence treatments were activated by 0.90 inches of rainfall the first week after planting with limited precipitation for the next two weeks. All programs had excellent season long weed control.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Python B Efficacy and Adjuvants in Soybeans Northeast Research Farm

Treatment	Rate/A	7/13/22			7/22/22		7/29/22		10/11/22
		Rrpw	Wimu	VCRR	Rrpw	VCRR	Rrpw	VCRR	Yield bu/A
Check	—	0	0	0	0	0	0	0	14
Post									
Python B	30.8 oz	73	98	0	60	0	50	0	28
Python B + Assist	30.8 oz + 13.7 oz	77	97	0	65	0	51	0	26
Python B + Journey HSOC	30.8 oz + 0.5%	75	95	0	61	0	49	0	27
Python B + Journey HSOC	30.8 oz + 1%	72	95	0	61	0	48	0	28
Python B + StrikeLock	30.8 oz + 0.5%	68	98	0	56	0	46	0	24
Python B + StrikeLock	30.8 oz + 1%	65	98	0	56	0	43	0	26
Python B + Superb	30.8 oz + 0.5%	61	98	0	63	0	50	0	26
Python B + Superb	30.8 oz + 1%	70	98	0	63	0	50	0	27
Python B + Class Act NG	30.8 oz + 27.4 oz	70	98	0	58	0	48	0	27
Python B + Class Act NG	30.8 oz + 2.5%	75	98	0	55	0	45	0	28
LSD (0.05)		6	1	—	11	—	9	—	5

RCB: 4 reps

Variety: AG09XF0

Planting Date: 5/26/22

Post: 6/28/22 Soy 2-3 tri, 6-8 in; Rrpw 3-7 in.

Soil: Clay Loam; 4.1% OM; 5.8 pH

Rrpw=Redroot pigweed

Wimu=Wild mustard

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

Comments: The purpose of the study was to evaluate adjuvants with Python B (bentazon) for weed control soybeans. Heavy redroot pigweed pressure. Poor late season pigweed control reduced yields.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Antler 240 + Stonewall 540 Efficacy and Adjuvants in Soybeans Northeast Research Farm

Treatment	Rate/A	7/16/22			7/22/22		7/29/22			10/11/22
		Yeft	Corw	Pesw	Pesw	VCRR	Yeft	Corw	Pesw	Yield bu/A
Check	—	0	0	0	0	0	0	0	0	11
Post										
Antler 240 + Stonewall 540	2.6 oz + 22.9 oz	97	97	80	88	0	98	99	96	36
Antler 240 + Stonewall 540 + X-Act Adjuvant	2.6 oz + 22.9 oz + 0.5%	98	97	79	84	0	99	99	95	36
Antler 240 + Stonewall 540 + Journey HSOC	2.6 oz + 22.9 oz + 0.5%	98	97	82	88	0	99	99	97	38
Antler 240 + Stonewall 540 + MasterLock	2.6 oz + 22.9 oz + 0.3%	98	97	81	86	0	99	98	97	35
Antler 240 + Stonewall 540 + MasterLock	2.6 oz + 22.9 oz + 0.5%	98	97	85	88	0	99	98	97	38
Antler 240 + Stonewall 540 + StrikeLock	2.6 oz + 22.9 oz + 0.5%	98	98	82	86	0	98	98	96	35
Antler 240 + Stonewall 540 + Superb	2.6 oz + 22.9 oz + 0.5%	98	97	83	88	0	99	99	99	38
Antler 240 + Stonewall 540 + Class Act NG	2.6 oz + 22.9 oz + 1.25%	98	97	81	90	0	99	98	98	36
Antler 240 + Stonewall 540 + Class Act NG	2.6 oz + 22.9 oz + 2.5%	98	98	85	94	0	99	98	99	38
LSD (0.05)		0.5	1	2	3	—	1	1	1	3

RCB: 4 reps

Variety: AG09XF0

Planting Date: 6/1/22

Post: 7/8/22 Soy 4 tri, 7-10 in; Yeft 5-12 in; Corw 4-20 in.

Soil: Clay Loam; 3.6% OM; 6.3 pH

Yeft=Yellow foxtail

Corw=Common ragweed

Pesw=Pennsylvania smartweed

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

Comments: The purpose of the study was to evaluate adjuvants with Antler 240 (clethodim) and Stonewall 540 (glyphosate) for weed control soybeans. Moderate yellow foxtail and Pennsylvania smartweed pressure. Some small differences in weed control.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Antler 360 + Stonewall 540 Efficacy and Adjuvants in Soybeans Northeast Research Farm

Treatment	Rate/A	7/16/22			7/22/22		7/29/22			10/11/22
		Yeft	Corw	Pesw	Pesw	VCRR	Yeft	Corw	Pesw	Yield bu/A
Check	—	0	0	0	0	0	0	0	0	15
Post										
Antler 360 + Stonewall 540	1.71 oz + 22.9 oz	98	98	82	83	0	98	99	94	37
Antler 360 + Stonewall 540 + Amigo	1.71 oz + 22.9 oz + 0.5%	98	97	78	87	0	99	98	97	37
Antler 360 + Stonewall 540 + Journey HSOC	1.71 oz + 22.9 oz + 0.5%	98	97	84	87	0	98	98	96	38
Antler 360 + Stonewall 540 + MasterLock	1.71 oz + 22.9 oz + 0.3%	98	97	82	87	0	99	98	96	36
Antler 360 + Stonewall 540 + MasterLock	1.71 oz + 22.9 oz + 0.5%	98	97	83	83	0	98	99	95	40
Antler 360 + Stonewall 540 + StrikeLock	1.71 oz + 22.9 oz + 0.5%	98	98	83	90	0	99	99	98	39
Antler 360 + Stonewall 540 + Superb	1.71 oz + 22.9 oz + 0.5%	98	97	83	82	0	99	98	97	40
Antler 360 + Stonewall 540 + Class Act NG	1.71 oz + 22.9 oz + 1.25%	98	98	83	88	0	99	99	98	38
Antler 360 + Stonewall 540 + Class Act NG	1.71 oz + 22.9 oz + 2.5%	98	98	84	90	0	98	99	98	38
LSD (0.05)		—	1	3	3	—	1	1	2	5

RCB: 4 reps

Variety: AG09XF0

Planting Date: 6/1/22

Post: 7/8/22 Soy 4 tri, 7-10 in; Yeft 5-12 in; Corw 4-20 in.

Soil: Clay Loam; 3.6% OM; 6.3 pH

Yeft=Yellow foxtail

Corw=Common ragweed

Pesw=Pennsylvania smartweed

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

Comments: The purpose of the study was to evaluate adjuvants with Antler 360 (clethodim) and Stonewall 540 (glyphosate) for weed control soybeans. Moderate yellow foxtail and Pennsylvania smartweed pressure. Some small differences in weed control.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Adjuvants with Roundup Powermax 3 Volga Research Farm

Treatment	Rate/A	7/7/22	
		Gift	Colq
Post			
RU Powermax 3 + AMS	20 oz + 3.4 lb	92	92
RU Powermax 3 + Loadout	20 oz + 0.25%	93	95
RU Powermax 3 + Full Load Complete	20 oz + 0.38%	93	92
RU Powermax 3 + Glyload	20 oz + 0.13%	88	87
RU Powermax 3 + Glyload	20 oz + 0.25%	95	90
RU Powermax 3 + Surfload	20 oz + 0.25%	96	92
RU Powermax 3 + Full Load	20 oz + 0.25%	92	90
Check	—	0	0
LSD (0.05)		2	3

RCB: 4 reps

Variety: AG12XF1

Planting Date: 5/23/22

Post: 6/30/22 Soy 4 tri, 12-14 in; Gift 6-16 in; Colq 4-18 in.

Soil: Clay Loam; 4.2% OM; 5.8 pH

Gift=Giant foxtail

Colq=Common lambsquarters

Comments: The purpose of the study was to evaluate adjuvants with glyphosate for weed control soybeans. Heavy green foxtail and common lambsquarter pressure. Some small differences in weed control were noted.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Dicamba Simulated Drift in Soybeans Volga Research Farm

Treatment	Cobra timing	7/22/22	7/28/22	8/12/22	8/26/22	9/2/22	9/29/22
		VCRR	VCRR	VCRR	VCRR	VCRR	Yield bu/A
Check		0	0	0	0	0	42
Post: Xtendimax Rate	Cobra 12.8 oz + COC 1 qt						
—	Epost	8	3	0	0	0	41
—	Post	11	4	6	1	0	39
—	Lpost	15	8	8	4	0	37
0.0022 oz	—	1	1	0	0	0	43
0.0022 oz	Epost	13	9	4	0	0	41
0.0022 oz	Post	15	14	8	0	0	39
0.0022 oz	Lpost	14	14	9	4	0	39
0.22 oz	—	23	29	33	35	34	36
0.22 oz	Epost	39	39	33	31	30	36
0.22 oz	Post	50	58	53	53	50	23
0.22 oz	Lpost	31	43	50	50	54	24
0.44 oz	—	31	38	38	41	41	28
0.44 oz	Epost	41	50	45	48	45	28
0.44 oz	Post	48	56	64	64	63	15
0.44 oz	Lpost	33	43	54	56	58	19
2.2 oz	—	60	69	59	59	56	14
2.2 oz	Epost	74	79	73	68	64	12
2.2 oz	Post	68	78	80	78	75	5
2.2 oz	Lpost	60	69	69	74	71	8
LSD (0.05)		5	5	6	4	3	3

RCB: 4 reps

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

Variety: NK14-W6E3

Planting Date: 5/23/22

Epost: 6/27/22 Soy 3-4 tri, 7-9 in.

Post: 7/6/22 Soy ebloom, 14-16 in.

Lpost: 7/13/22 Soy bloom, 18-20 in.

Comments: The objective of the study was to evaluate simulated dicamba drift on non-dicamba tolerant soybeans for crop injury and yield. The study was in a low weed pressure area and plots were kept weed free. Cobra treatments were applied one week before, the same day or one week after dicamba application. The post and late post Cobra applications with dicamba drift had increased injury and lower yield than the dicamba drift treatments alone. The lowest rate of Xtendimax (0.0022oz/A) had no crop injury and no yield loss. All the other dicamba rates resulted in season long injury and significantly reduced yields.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Roundup & Liberty Tankmixes in Soybeans Northeast Research Farm

Treatment	Rate/A	7/14/22		7/29/22		10/11/22
		Yeft	Cowh	Yeft	Cowh	Yield bu/A
Check	—	0	0	0	0	5
Post						
RU Powermax + AMS	22 oz + 2.5 lb	92	89	99	88	31
Liberty + AMS	29 oz + 2.5 lb	85	96	89	90	27
RU Powermax + Liberty + AMS	12 oz + 22 oz + 2.5 lb	88	97	99	89	29
RU Powermax + Liberty + AMS	12 oz + 29 oz + 2.5 lb	88	95	99	89	28
RU Powermax + Liberty + AMS	12 oz + 36 oz + 2.5 lb	89	98	99	93	33
RU Powermax + Liberty + AMS	22 oz + 22 oz + 2.5 lb	90	97	99	91	31
RU Powermax + Liberty + AMS	22 oz + 29 oz + 2.5 lb	90	97	99	92	30
RU Powermax + Liberty + AMS	22 oz + 36 oz + 2.5 lb	91	98	99	90	33
RU Powermax + Liberty + AMS	32 oz + 22 oz + 2.5 lb	92	97	99	91	32
RU Powermax + Liberty + AMS	32 oz + 29 oz + 2.5 lb	91	99	99	95	34
RU Powermax + Liberty + AMS	32 oz + 36 oz + 2.5 lb	89	98	99	96	33
RU Powermax + Liberty + AMS	44 oz + 22 oz + 2.5 lb	90	98	99	91	32
RU Powermax + Liberty + AMS	44 oz + 29 oz + 2.5 lb	91	98	99	94	35
RU Powermax + Liberty + AMS	44 oz + 36 oz + 2.5 lb	92	98	99	92	31
Epost & Lpost						
Liberty + AMS & RU Powermax + AMS	29 oz + 2.5 lb & 12 oz + 2.5 lb	95	93	99	94	39
Liberty + AMS & RU Powermax + AMS	29 oz + 2.5 lb & 22 oz + 2.5 lb	94	92	99	94	45
Liberty + AMS & RU Powermax + AMS	29 oz + 2.5 lb & 32 oz + 2.5 lb	92	93	99	93	42
Liberty + AMS & RU Powermax + AMS	29 oz + 2.5 lb & 44 oz + 2.5 lb	92	89	99	98	46
LSD (0.05)		3	2	1	6	6

RCB: 4 reps

Variety: AG09XF0

Planting Date: 5/26/22

Epost: 6/28/22 Soy 1-2 tri, 5-9 in; Yeft 3-7 in.

Post: 7/8/22 Soy 4 tri, 9-12 in; Yeft 8-16 in.

Lpost: 7/21/22 Soy 18-20 in bloom; Yeft 5-12 in.

Soil: Clay Loam; 4.1% OM; 5.8 pH

Yeft=Yellow foxtail

Cowh=Common waterhemp

Comments: The objective of the study was to evaluate Roundup and Liberty tankmixes for weed control in soybeans. Heavy yellow foxtail and moderate common waterhemp pressure. Weed control was generally better with increasing Liberty rates. No significant yield differences were noted for the tankmix treatments. Early post Liberty followed by Roundup had the best yields.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Roundup & Liberty Tankmixes in Soybeans Volga Research Farm

Treatment	Rate/A	7/22/22	8/3/22	10/10/22
		Cowh	Cowh	Yield bu/A
Check	—	0	0	13
Post				
RU Powermax + AMS	22 oz + 2.5 lb	25	20	24
Liberty + AMS	29 oz + 2.5 lb	38	30	30
RU Powermax + Liberty + AMS	12 oz + 22 oz + 2.5 lb	35	28	29
RU Powermax + Liberty + AMS	12 oz + 29 oz + 2.5 lb	47	38	31
RU Powermax + Liberty + AMS	12 oz + 36 oz + 2.5 lb	55	49	32
RU Powermax + Liberty + AMS	22 oz + 22 oz + 2.5 lb	45	34	30
RU Powermax + Liberty + AMS	22 oz + 29 oz + 2.5 lb	54	41	31
RU Powermax + Liberty + AMS	22 oz + 36 oz + 2.5 lb	55	43	32
RU Powermax + Liberty + AMS	32 oz + 22 oz + 2.5 lb	44	40	28
RU Powermax + Liberty + AMS	32 oz + 29 oz + 2.5 lb	51	43	31
RU Powermax + Liberty + AMS	32 oz + 36 oz + 2.5 lb	59	44	30
RU Powermax + Liberty + AMS	44 oz + 22 oz + 2.5 lb	45	33	29
RU Powermax + Liberty + AMS	44 oz + 29 oz + 2.5 lb	60	46	33
RU Powermax + Liberty + AMS	44 oz + 36 oz + 2.5 lb	64	56	35
Epost & Lpost				
Liberty + AMS & RU Powermax + AMS	29 oz + 2.5 lb & 12 oz + 2.5 lb	79	77	40
Liberty + AMS & RU Powermax + AMS	29 oz + 2.5 lb & 22 oz + 2.5 lb	88	87	41
Liberty + AMS & RU Powermax + AMS	29 oz + 2.5 lb & 32 oz + 2.5 lb	85	86	40
Liberty + AMS & RU Powermax + AMS	29 oz + 2.5 lb & 44 oz + 2.5 lb	89	90	42
LSD (0.05)		7	7	3

RCB: 4 reps

Variety: AG12XF1

Planting Date: 5/23/22

Epost: 6/22/22 Soy 2-3 tri, 5-6 in; Cowh 1-5 in.

Post: 7/1/22 Soy 4 tri, 8-10 in; Cowh 3-14 in.

Lpost: 7/6/22 Soy 14-16 in ebloom; Cowh 2-8 in.

Soil: Clay Loam; 5.1% OM; 5.6 pH

Cowh=Common waterhemp

Comments: The objective of the study was to evaluate Roundup and Liberty tankmixes for weed control in soybeans. Heavy common waterhemp pressure. A large percentage of the waterhemp was glyphosate resistant. For the post timing, waterhemp was larger than recommended to help detect tankmix differences. Weed control and yield were generally better with increasing Liberty and Roundup PowerMax rates. Early post Liberty followed by Roundup had the best weed control and yield.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Varro FX + Tank Mix Partners for Grass Northeast Research Farm

Treatment	Rate/A	6/23/22		6/29/22		8/1/22		8/17/22
		Yeft	Colq	Yeft	Colq	Yeft	Colq	Yield bu/A
Check	—	0	0	0	0	0	0	50
Post								
Varro	6.84 oz	50	50	73	43	83	43	62
Varro FX	13.69 oz	55	55	72	43	82	57	62
Varro + Huskie FX	6.84 oz + 15.5 oz	57	97	73	98	79	98	60
Varro FX + Huskie	13.69 oz + 12.8 oz	57	97	75	98	76	98	62
Varro FX + Bronate	13.69 oz + 16 oz	57	97	72	98	77	98	60
Varro FX + 2,4-D ester	13.69 oz + 0.5 pt	55	82	75	96	76	98	56
Varro FX + Quelex + NIS	13.69 oz + 0.75 oz + 0.25%	57	80	73	95	77	98	60
Varro FX + Affinity Br-Spec + MCPA ester	13.69 oz + 0.4 oz + 8 oz	57	80	75	94	74	98	57
PerfectMatch + 2,4-D ester + AMS	1 pt + 0.5 pt + 1.5 lb	48	80	75	95	73	98	58
Everest 3.0 + Huskie FX	1 oz + 15.5 oz	57	97	74	98	76	98	59
LSD (0.05)		3	4	5	6	6	4	5

RCB: 3 reps

Variety: Prevail

Planting Date: 5/6/22

Post: 6/16/22 Sp Wht 4-5 lf tiller, 11-13 in; Yeft 3-4 lf, 4-7 in; Colq 2-6 in.

Soil: Clay Loam; 5.3% OM; 5.5 pH

Yeft=Yellow foxtail

Colq=Common lambsquarters

Comments: The objective of the study was to evaluate Varro FX tankmixes for weed control in spring wheat. Heavy yellow foxtail and moderate redroot pigweed pressure. June was very dry with limited precipitation 2 weeks before application. Most treatments provided excellent broadleaf control. Yellow foxtail control was similar for tankmix treatments with Varro FX.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Maestro EXT Comparison for Grass Control Northeast Research Farm

Treatment	Rate/A	6/28/22			7/13/22		8/1/22		
		Yeft	Rrpw	VCRR	Yeft	Rrpw	Yeft	Rrpw	Colq
Check	—	0	0	0	0	0	0	0	0
Post									
Maestro EXT + NIS	20 oz + 0.25%	0	88	10	0	98	0	98	98
Huskie + NIS	15 oz + 0.25%	37	88	0	20	98	30	98	98
Widematch + NIS	16 oz + 0.25%	30	65	0	0	97	0	98	98
Maestro EXT + Everest 3.0 AG + NIS + AMS	20 oz + 2 oz + 0.25% + 1 lb	77	85	0	74	95	74	98	98
Maestro EXT + Everest 3.0 AG + Victory + NIS + AMS	20 oz + 2 oz + 0.25 oz + 0.25% + 1 lb	77	85	0	77	98	77	98	98
PerfectMatch + NIS + AMS	16 oz + 0.25% + 1 lb	75	77	0	70	87	81	97	98
Huskie Complete + AMS	13.7 oz + 1 lb	78	85	0	80	98	75	98	98
LSD (0.05)		4	6	—	1	4	7	1	—

RCB: 3 reps

Variety: Prevail

Planting Date: 5/6/22

Post: 6/16/22 Sp Wht 4-5 lf tiller, 11-13 in; Rrpw 2-8 in; Colq 2-6 in.

Soil: Clay Loam; 5.3% OM; 5.5 pH

Yeft=Yellow foxtail

Rrpw=Redroot pigweed

Colq=Common lambsquarters

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

Comments: The objective of the study was to evaluate treatments for weed control in spring wheat. Heavy yellow foxtail and moderate redroot pigweed pressure. All treatments provided excellent broadleaf control.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Maestro EXT Comparison for Kochia and Broadleaf Weeds Tripp County

Treatment	Rate/A	6/7/22	6/14/22	7/19/22
		Kocz	Kocz	Kocz
Check	—	0	0	0
Post				
Maestro EXT + NIS	20 oz + 0.25%	74	97	98
Maestro EXT + Rapport Broadspec + NIS	20 oz + 0.6 oz + 0.25%	78	98	98
Maestro EXT + NIS	30 oz + 0.25%	83	98	98
Maestro EXT + Rapport Broadspec + NIS	30 oz + 0.6 oz + 0.25%	80	98	98
Huskie + NIS	15 oz + 0.25%	74	97	98
Huskie FX + NIS	18 oz + 0.25%	78	97	98
WideMatch + NIS	16 oz + 0.25%	71	85	98
Maestro MA + NIS	24 oz + 0.25%	79	83	98
LSD (0.05)		4	2	—

RCB: 3 reps

Kocz=Kochia

Variety: Prevail

Planting Date: 4/21/22

Post: 6/1/22 Sp Wht 4 lf tiller, 8 in; Kocz 2-8 in.

Comments: The objective of the study was to evaluate Maestro Ext for weed control in spring wheat. Kochia pressure was moderate and uniform. There were some differences in early season kochia control.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Huskie FX for Broadleaves Tripp County

Treatment	Rate/A	6/7/22	6/14/22	7/19/22
		Kocz	Kocz	Kocz
Check	—	0	0	0
Post				
Huskie FX	15.5 oz	78	98	96
Huskie FX	18 oz	83	98	96
Talinor + CoAct+	13.7 oz + 2.75 oz	74	92	88
Bison	16 oz	78	98	96
WideARmatch + MCPA ester	14 oz + 8 oz	70	86	97
Huskie FX + Varro FX	15.5 oz + 13.69 oz	74	98	95
Axial Bold + Huskie FX	15 oz + 15.5 oz	76	97	93
Axial Star Huskie FX	16.4 oz + 15.5 oz	77	98	97
LSD (0.05)		5	2	4

RCB: 3 reps

Kocz=Kochia

Variety: Prevail

Planting Date: 4/21/22

Post: 6/1/22 Sp Wht 4 lf tiller, 8 in; Kocz 2-8 in.

Comments: The objective of the study was to evaluate Huskie FX for weed control in spring wheat. Kochia pressure was moderate and uniform. Most treatments provided good kochia control.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Evaluation of Adjuvants with Flucarbazone for Wild Oat Control Volga Research Farm

Treatment	Rate/A	6/16/22	6/28/22	8/13/22
		Wioa	Wioa	Yield bu/A
Post				
Everest 3.0	1.5 oz	30	68	34
Everest 3.0 + Preference	1.5 oz + 0.25%	41	71	35
Everest 3.0 + Agrasyst 90	1.5 oz + 0.25%	50	79	34
Everest 3.0 + Sure Up	1.5 oz + 0.25%	45	80	36
Everest 3.0 + Surfload	1.5 oz + 0.25%	83	73	35
Check	—	0	0	33
LSD (0.05)		8	3	6

RCB: 4 reps

Variety: Surpass

Planting Date: 4/26/22

Post: 6/7/22 Sp Wht 5 lf tiller, 10-12 in; Wioa 5 lf tiller, 10-14 in.

Soil: Clay Loam; 5.1% OM; 5.6 pH

Wioa=Wild oat

Comments: The purpose of the study was to evaluate adjuvants with Everest 3.0 for weed control spring wheat. Moderate wild oat pressure. All additives increased control compared to Everest alone. Differences between treatments were also noted.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Imiflex Herbicide Programs for IGrowth Forage Sorghum Northeast Research Farm

Treatment	Rate/A	6/28/22	7/22/22			8/5/22				8/17/22	
		Rrpw	Yeft	Voco	Rrpw	Yeft	Voco	Rrpw	VCRR	Yeft	Voco
Check	—	0	0	0	0	0	0	0	0	0	0
Pre & Post											
Moccasin II Plus & Atrazine + COC	1.33 pt & 2.4 pt + 1%	40	45	0	98	40	0	98	0	44	0
Moccasin II Plus + ImiFlex & Atrazine + COC	1.33 pt + 9 oz & 2.4 pt + 1%	55	65	0	98	56	0	98	0	60	0
Moccasin II Plus + Imiflex + Atrazine + COC + 28% N	1.33 pt & 6 oz + 2.4 pt + 1% + 2.5%	50	88	98	98	82	98	98	0	88	93
Moccasin II Plus + Atrazine + ImiFlex & Atrazine + COC + 28% N	1.33 pt + 1 qt + 9 oz & 1 qt + 1% + 2.5%	94	65	0	98	53	0	98	0	49	0
Moccasin II Plus + Atrazine & ImiFlex + Atrazine + COC + 28% N	1.33 pt + 1 qt & 6 oz + 1 qt + 1% + 2.5%	94	91	98	98	86	98	98	0	89	94
Moccasin II Plus + ImiFlex & Clarity + Atrazine + NIS + 28% N	1.33 pt + 9 oz & 6 oz + 2.4 pt + 0.25% + 2.5%	55	48	0	98	45	0	98	0	55	0
Moccasin II Plus + Atrazine & ImiFlex + Clarity + NIS + 28% N	1.33 pt + 2.4 pt & 6 oz + 6 oz + 0.25% + 2.5%	94	88	96	98	84	97	98	0	86	91
LSD (0.05)		5	9	0.5	—	9	1	—	—	7	2

RCB: 4 reps

Variety: ADV 8484IG

Planting Date: 6/8/22

Pre: 6/8/22

Post: 6/28/22 Sorghum V4, 6-7 in; Rrpw 2-5 in; Yeft 2-5 in; Voco 7-10 in.

Soil: Clay Loam; 4.1% OM; 5.8 pH

Precipitation: (inches)

Pre: 1st week 0.17; 2nd week 0.18

Rrpw=Redroot pigweed

Yeft=Yellow foxtail

Voco=Volunteer corn

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

Comments: The objective of the study was to evaluate combination treatments with ImiFlex for weed control in IGrowth forage sorghum. Heavy yellow foxtail and moderate redroot pigweed pressure. For 12 days after planting, preemergence treatments only received 0.17 inches of precipitation. Postemergence ImiFlex treatments had good yellow foxtail and volunteer corn control.



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

2022 Double Team Weed Control Programs Volga Research Farm

Treatment	Rate/A	6/28/22		7/12/22			8/3/22					10/25/22
		Gift	Cowh	Gift	Cowh	VCRR	Gift	Cowh	Colq	Voco	VCRR	Yield bu/A
Check	—	0	0	0	0	0	0	0	0	0	0	41
Pre												
Parallel Plus	1 qt	92	92	89	85	0	87	85	98	0	0	88
Pre & Post1 & Post2												
Parallel Plus & Clarity & FirstAct + COC	1 qt & 0.5 pt & 10 oz + 1%	92	92	93	94	15	95	92	95	99	17	90
Parallel Plus & Bromoxynil + Atrazine & FirstAct + COC	1 qt & 1 pt + 1 qt & 10 oz + 1%	92	92	92	94	0	96	91	99	99	0	112
Parallel Plus & Huskie + Aatrex & FirstAct + COC	1 qt & 1 pt + 1 qt & 10 oz + 1%	92	92	94	97	0	98	98	99	99	0	117
Parallel Plus & Kochiavore & FirstAct + COC	1 qt & 1.5 pt & 10 oz + 1%	92	92	92	95	0	94	92	99	99	0	111
LSD (0.05)		1	0.5	2	3	—	5	4	1	—	2	17

RCB: 3 reps

Variety: SP 30A30 DT

Planting Date: 6/2/22

Pre: 6/3/22

Post1: Sorghum V4 8-11 in; Gift 3-6 in; Cowh 1-5 in.

Post2: Sorghum 15-18 in; Gift 2-10 in; Voco 14-32 in.

Soil: Clay Loam; 4.4% OM; 5.5 pH

Precipitation: (inches)

Pre: 1st week 0.08; 2nd week 1.01

Gift=Giant foxtail

Cowh=Common waterhemp

Colq=Common lambsquarters

Voco=Volunteer corn

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

Comments: The purpose of the study was to evaluate herbicide programs with FirstAct for weed control in Double Team sorghum. Double Team sorghum has tolerance to FirstAct (quizalofop) for postemergence grass control. Moderate giant foxtail and common waterhemp pressure and light common lambsquarters, volunteer corn density. Good weed control was observed with pre followed by postemergence treatments.