

Comparison of dicamba and 2,4-D for weed control

Trial ID: NC02-19 Study Dir.: Sprague, Powell, Stiles
 Conducted: Campus, H6-8 Investigator: Christy Sprague

Planting Date: **Row Spacing:**
Variety: **No. of Reps:** 4
Population: **% OM:** 2.9
Soil Type: L loam **pH:** 7.0
Plot Size: 10 X 35 FT **Study Design:** Randomized Complete Block (RCB)

Tillage/Previous Crops:
Fertilizer:

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1	ANGR	mainly foxtail species	Annual grass
2	CHEAL	lambquarters, common	Chenopodium album
3	AMAPO	amaranth, Powell	Amaranthus powellii
4	AMBEL	ragweed, common	Ambrosia artemisiifolia
5	ABUTH	velvetleaf	Abutilon theophrasti
6	POROL	purslane, common	Portulaca oleracea

Crop Code Common Name
 1

Application Description

	A	B
Application Timing:	PRE	POST
Date Treated:	Jul-1-2019	Jul-31-2019
Time Treated:	5:45 PM	1:30 PM
% Cloud Cover:	30	20
Air Temp., Unit:	90 F	83 F
% Relative Humidity:	45	55
Wind Speed/Unit/Dir:	9 mph W	4 mph SE
Soil Temp, Unit:	81 F	78 F
Leaf Moist/Dew Presence (Y/N):	5	5
Soil Moist:	5	4

Crop Stage at Each Application

A B
Crop 1 Name:
Height:
Stage:

Weed Stage at Each Application

	A	B
Weed 1 Name:	ANGR	ANGR
Height:		2-8 " (5)
Stage:		2-4L
Weed 2 Name:	CHEAL	CHEAL
Height:		2-6 " (4)
Stage:		4-8L
Weed 3 Name:	AMAPO	AMAPO
Height:		4-8 " (6)
Stage:		6-12L
Weed 4 Name:	AMBEL	AMBEL
Height:		2-8 " (5)
Stage:		4-12L
Weed 5 Name:	ABUTH	ABUTH
Height:		2-6 " (4)
Stage:		2-6L
Weed 6 Name:	POROL	POROL
Height:		6-18 " (12)
Stage:		many

Weed Density

	1	2	3	4	5	6
Date:	Jul-31-2019	Jul-31-2019	Jul-31-2019	Jul-31-2019	Jul-31-2019	Jul-31-2019
Weed Name:	ANGR	CHEAL	AMAPO	AMBEL	ABUTH	POROL
Density:	63 FT2	1 FT2	1 FT2	1 FT2	1 FT2	68 FT2

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Appl	Sprayer Type	Ground Speed	Nozzle Type	Nozzle Size	Application Equipment			Spray Volume	Carrier	Operation Pressure
					Nozzle Height	Nozzle Spacing	Boom Width			
A	CUB	3.8 MPH	TTI	11003	23 "	20 "	120 "	19 GAL/AC	WATER	25 PSI
B	CUB	3.8 MPH	TTI	11003	26 "	20 "	100 "	19 GAL/AC	WATER	25 PSI

Comments: On July 6, 2019 SelectMax at 9 fl oz/A + COC at 1% v/v + AMS at 17 lb/100 gal was sprayed over the entire plot.

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Investigator: Christy Sprague

Study Director: Sprague, Powell, Stiles

Pest Code	ANGR	AMAPO	ABUTH	POROL	ANGR
Crop Type, Code					
Rating Date	Jul-15-2019	Jul-15-2019	Jul-15-2019	Jul-15-2019	Jul-22-2019
Rating Type	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent
Trt-Eval Interval	14 DA-A	14 DA-A	14 DA-A	14 DA-A	21 DA-A
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Appl Timing	Appl Code					
1	Untreated							0	0	0	0	0
2	TTI Nozzle					PRE	A	50	50	84	60	28
2	Engenia	5 L		12.8 fl oz/a		PRE	A					
3	TTI Nozzle					PRE	A	77	100	98	86	66
3	Enlist One	3.8 SL		32 fl oz/a		PRE	A					
4	TTI Nozzle					PRE	A	98	100	100	100	93
4	Engenia PRO	4.54 L		16 fl oz/a		PRE	A					
5	TTI Nozzle					POST	B	0	0	0	0	0
5	Engenia	5 L		12.8 fl oz/a		POST	B					
5	Induce	L		0.25 % v/v		POST	B					
6	TTI Nozzle					POST	B	0	0	0	0	0
6	Enlist One	3.8 SL		32 fl oz/a		POST	B					
6	Induce	L		0.25 % v/v		POST	B					
7	AI XR Nozzle					POST	B	0	0	0	0	0
7	Liberty	2.34 L		32 fl oz/a		POST	B					
7	AMS	WG		2.5 lb/a		POST	B					
8	AI XR Nozzle					POST	B	0	0	0	0	0
8	Roundup PowerMax	4.5 SL		32 fl oz/a		POST	B					
8	AMS	WG		2.5 lb/a		POST	B					
LSD	P=.05							6.2	.	5.6	4.4	7.9
Standard Deviation								4.2	0.0	3.8	3.0	5.4
CV								14.97	0.0	10.82	9.81	23.09

Missing data estimates are included in columns: Average=10,15,20,25

Could not calculate LSD (% mean diff) for columns 2 because error mean square = 0.

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Pest Code	AMAPO	ABUTH	POROL	CHEAL	AMAPO
Crop Type, Code					
Rating Date	Jul-22-2019	Jul-22-2019	Jul-22-2019	Aug-7-2019	Aug-7-2019
Rating Type	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent
Trt-Eval Interval	21 DA-A	21 DA-A	21 DA-A	7 DA-B	7 DA-B
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Appl Timing	Appl Code					
1	Untreated							0	0	0	0	0
2	TTI Nozzle					PRE	A	33	70	58	96	8
2	Engenia	5 L		12.8 fl oz/a		PRE	A					
3	TTI Nozzle					PRE	A	89	96	75	36	7
3	Enlist One	3.8 SL		32 fl oz/a		PRE	A					
4	TTI Nozzle					PRE	A	100	100	100	99	100
4	Engenia PRO	4.54 L		16 fl oz/a		PRE	A					
5	TTI Nozzle					POST	B	0	0	0	100	68
5	Engenia	5 L		12.8 fl oz/a		POST	B					
5	Induce	L		0.25 % v/v		POST	B					
6	TTI Nozzle					POST	B	0	0	0	100	70
6	Enlist One	3.8 SL		32 fl oz/a		POST	B					
6	Induce	L		0.25 % v/v		POST	B					
7	AI XR Nozzle					POST	B	0	0	0	100	100
7	Liberty	2.34 L		32 fl oz/a		POST	B					
7	AMS	WG		2.5 lb/a		POST	B					
8	AI XR Nozzle					POST	B	0	0	0	100	100
8	Roundup PowerMax	4.5 SL		32 fl oz/a		POST	B					
8	AMS	WG		2.5 lb/a		POST	B					
LSD P=.05								9.8	8.3	6.1	12.1	10.4
Standard Deviation								6.7	5.7	4.2	8.2	7.1
CV								24.21	17.01	14.36	10.41	12.54

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Comparison of dicamba and 2,4-D for weed control

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Pest Code	AMBEL	ABUTH	POROL	CHEAL	AMAPO
Crop Type, Code					
Rating Date	Aug-7-2019	Aug-7-2019	Aug-7-2019	Aug-14-2019	Aug-14-2019
Rating Type	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent
Trt-Eval Interval	7 DA-B	7 DA-B	7 DA-B	14 DA-B	14 DA-B
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Appl Timing	Appl Code	AMBEL	ABUTH	POROL	CHEAL	AMAPO
1	Untreated							0	0	0	0	0
2	TTI Nozzle					PRE	A	60	25	71	94	10
2	Engenia	5 L		12.8 fl oz/a		PRE	A					
3	TTI Nozzle					PRE	A	90	91	84	25	7
3	Enlist One	3.8 SL		32 fl oz/a		PRE	A					
4	TTI Nozzle					PRE	A	100	100	100	88	100
4	Engenia PRO	4.54 L		16 fl oz/a		PRE	A					
5	TTI Nozzle					POST	B	75	65	56	100	73
5	Engenia	5 L		12.8 fl oz/a		POST	B					
5	Induce	L		0.25 % v/v		POST	B					
6	TTI Nozzle					POST	B	80	86	53	100	74
6	Enlist One	3.8 SL		32 fl oz/a		POST	B					
6	Induce	L		0.25 % v/v		POST	B					
7	AI XR Nozzle					POST	B	100	100	85	100	100
7	Liberty	2.34 L		32 fl oz/a		POST	B					
7	AMS	WG		2.5 lb/a		POST	B					
8	AI XR Nozzle					POST	B	91	91	79	100	100
8	Roundup PowerMax	4.5 SL		32 fl oz/a		POST	B					
8	AMS	WG		2.5 lb/a		POST	B					
	LSD P=.05							11.2	14.6	9.6	10.8	9.5
	Standard Deviation							7.6	9.9	6.5	7.3	6.4
	CV							10.19	14.2	9.88	9.68	11.08

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Pest Code	AMBEL	ABUTH	POROL	CHEAL	AMAPO
Crop Type, Code					
Rating Date	Aug-14-2019	Aug-14-2019	Aug-14-2019	Aug-21-2019	Aug-21-2019
Rating Type	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent
Trt-Eval Interval	14 DA-B	14 DA-B	14 DA-B	21 DA-B	21 DA-B
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Appl Timing	Appl Code					
1	Untreated							0	0	0	0	0
2	TTI Nozzle					PRE	A	60	33	73	96	5
2	Engenia	5 L		12.8 fl oz/a		PRE	A					
3	TTI Nozzle					PRE	A	100	88	81	0	7
3	Enlist One	3.8 SL		32 fl oz/a		PRE	A					
4	TTI Nozzle					PRE	A	95	93	100	84	100
4	Engenia PRO	4.54 L		16 fl oz/a		PRE	A					
5	TTI Nozzle					POST	B	90	53	59	100	76
5	Engenia	5 L		12.8 fl oz/a		POST	B					
5	Induce	L		0.25 % v/v		POST	B					
6	TTI Nozzle					POST	B	85	88	66	98	86
6	Enlist One	3.8 SL		32 fl oz/a		POST	B					
6	Induce	L		0.25 % v/v		POST	B					
7	AI XR Nozzle					POST	B	100	100	74	100	96
7	Liberty	2.34 L		32 fl oz/a		POST	B					
7	AMS	WG		2.5 lb/a		POST	B					
8	AI XR Nozzle					POST	B	98	100	80	100	100
8	Roundup PowerMax	4.5 SL		32 fl oz/a		POST	B					
8	AMS	WG		2.5 lb/a		POST	B					
	LSD P=.05							11.5	14.1	11.9	7.5	10.8
	Standard Deviation							7.8	9.6	8.1	5.1	7.3
	CV							9.97	13.92	12.14	7.07	12.44

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Pest Code		AMBEL	ABUTH	POROL	CHEAL	AMAPO					
Crop Type, Code											
Rating Date		Aug-21-2019	Aug-21-2019	Aug-21-2019	Aug-28-2019	Aug-28-2019					
Rating Type		control	control	control	control	control					
Rating Unit		percent	percent	percent	percent	percent					
Trt-Eval Interval		21 DA-B	21 DA-B	21 DA-B	28 DA-B	28 DA-B					
Number of Decimals		0	0	0	0	0					
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Appl Timing	Appl Code					
1	Untreated						0	0	0	0	0
2	TTI Nozzle				PRE	A	69	20	75	91	0
2	Engenia	5 L		12.8 fl oz/a	PRE	A					
3	TTI Nozzle				PRE	A	100	90	85	0	7
3	Enlist One	3.8 SL		32 fl oz/a	PRE	A					
4	TTI Nozzle				PRE	A	95	100	100	84	100
4	Engenia PRO	4.54 L		16 fl oz/a	PRE	A					
5	TTI Nozzle				POST	B	98	79	70	100	80
5	Engenia	5 L		12.8 fl oz/a	POST	B					
5	Induce	L		0.25 % v/v	POST	B					
6	TTI Nozzle				POST	B	95	96	69	99	90
6	Enlist One	3.8 SL		32 fl oz/a	POST	B					
6	Induce	L		0.25 % v/v	POST	B					
7	AI XR Nozzle				POST	B	100	100	78	100	95
7	Liberty	2.34 L		32 fl oz/a	POST	B					
7	AMS	WG		2.5 lb/a	POST	B					
8	AI XR Nozzle				POST	B	97	100	84	100	100
8	Roundup PowerMax	4.5 SL		32 fl oz/a	POST	B					
8	AMS	WG		2.5 lb/a	POST	B					
LSD P=.05							8.6	13.3	11.8	8.8	8.4
Standard Deviation							5.8	9.0	8.1	6.0	5.7
CV							7.13	12.33	11.51	8.35	9.63

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Pest Code	AMBEL	ABUTH	POROL
Crop Type, Code			
Rating Date	Aug-28-2019	Aug-28-2019	Aug-28-2019
Rating Type	control	control	control
Rating Unit	percent	percent	percent
Trt-Eval Interval	28 DA-B	28 DA-B	28 DA-B
Number of Decimals	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Appl Timing	Appl Code			
1	Untreated							0	0	0
2	TTI Nozzle					PRE	A	80	20	70
2	Engenia	5 L		12.8 fl oz/a		PRE	A			
3	TTI Nozzle					PRE	A	96	95	83
3	Enlist One	3.8 SL		32 fl oz/a		PRE	A			
4	TTI Nozzle					PRE	A	94	94	100
4	Engenia PRO	4.54 L		16 fl oz/a		PRE	A			
5	TTI Nozzle					POST	B	100	85	80
5	Engenia	5 L		12.8 fl oz/a		POST	B			
5	Induce	L		0.25 % v/v		POST	B			
6	TTI Nozzle					POST	B	93	97	65
6	Enlist One	3.8 SL		32 fl oz/a		POST	B			
6	Induce	L		0.25 % v/v		POST	B			
7	AI XR Nozzle					POST	B	100	100	75
7	Liberty	2.34 L		32 fl oz/a		POST	B			
7	AMS	WG		2.5 lb/a		POST	B			
8	AI XR Nozzle					POST	B	95	100	76
8	Roundup PowerMax	4.5 SL		32 fl oz/a		POST	B			
8	AMS	WG		2.5 lb/a		POST	B			
	LSD P=.05							11.7	10.1	12.2
	Standard Deviation							7.9	6.9	8.3
	CV							9.65	9.32	12.09

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