

Spray droplet size effects on weed control

Trial ID: NC01-21 Study Dir.: Sprague, Stiles, Powell
 Conducted: Campus, H5 Investigator: Christy Sprague

Planting Date: _____ **Row Spacing:** _____
Variety: _____ **No. of Reps:** 4
Population: _____ **% OM:** 1.9
Soil Type: L loam **pH:** 7.2
Plot Size: 10 X 25 FT **Study Design:** Randomized Complete Block (RCB)

Tillage/Previous Crops: Fall chisel plow; spring soil finish twice
Fertilizer: _____

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1	ANGR	annual grass	mainlt foxtail and barnyardgrass
2	CHEAL	common lambsquarters	Chenopodium album
3	AMAPO	Powell amaranth	Amaranthus powellii
4	AMBEL	common ragweed	Ambrosia artemisiifolia
5	ABUTH	velvetleaf	Abutilon theophrasti
Crop	Code	Common Name	
1			

Application Description

	A	B
Application Timing:	POST	+7 DAT
Date Treated:	6-16-21	7-6-21
Time Treated:	2:00 PM	11:00 AM
% Cloud Cover:	15	25
Air Temp., Unit:	74 F	83 F
% Relative Humidity:	40	68
Wind Speed/Unit/Dir:	6.5 MPH NE	5 MPH SW
Soil Temp, Unit:	70 F	80 F
Leaf Moist/Dew Presence (Y/N):	N	N
Soil Moist:	5	5

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:	2-10 " (6)	12-24 " (18)
Stage:	2L-10L (6L)	6L-18L (12L)
Weed 2 Name:	CHEAL	CHEAL
Height:	1-6 " (3)	8-16 " (12)
Stage:	4L-20L (12L)	FLOWER
Weed 3 Name:	AMAPO	AMAPO
Height:	1-3 " (2)	8-16 " (12)
Stage:	4L-8L (6L)	8L-20L (14L)
Weed 4 Name:	AMBEL	AMBEL
Height:	1-6 " (3)	6-24 " (15)
Stage:	2L-12L (8L)	6L-20L (13L)
Weed 5 Name:	ABUTH	ABUTH
Height:	2-6 " (4)	8-20 " (14)
Stage:	4L-6L (5L)	6L-10L (8L)

Weed Density

	1	2	3	4	5
Date:	6-16-21	6-16-21	6-16-21	6-16-21	6-16-21
Weed Name:	ANGR	CHEAL	AMAPO	AMBEL	ABUTH
Density:	4 FT2	2 FT2	0.5 FT2	0.5 FT2	0.5 FT2

Application Equipment

Appl	Sprayer Type	Ground Speed	Nozzle Type	Nozzle Size	Nozzle Height	Nozzle Spacing	Boom Width	Spray Volume	Carrier	Operation Pressure
A	CUB	3.8 MPH	TTF/AIXR	11003	28.0 "	20.0 "	100.0 "	19 GAL/AC	WATER	
B	CUB	3.8 MPH	AIXR	11003	28.0 "	20.0 "	100.0 "	19 GAL/AC	WATER	30 PSI

Comments: TTF = 30 PSI at 3.8 mph; AIXR Low pressure = 20 PSI at 2.4 mph; AIXR High pressure = 50 PSI at 4.5 mph. Due to excessive rain the followup 'B' application occurred later than 7 d after the first application.

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Location: Campus, H5

Investigator (Creator): Christy Sprague

Study Director: Sprague, Stiles, Powell

Pest Code	ANGR	CHEAL	AMAPO	AMBEL	ABUTH	ANGR	CHEAL	AMAPO	AMBEL	ABUTH
Rating Date	6-30-21	6-30-21	6-30-21	6-30-21	6-30-21	7-14-21	7-14-21	7-14-21	7-14-21	7-14-21
Rating Type	control	control	control	control	control	control	control	control	control	control
Rating Unit	%	%	%	%	%	%	%	%	%	%
Trt-Eval Interval	14 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A	28 DA-A	28 DA-A	28 DA-A	28 DA-A	28 DA-A

Trt No.	Treatment Name	Rate	Unit	Appl Code	14 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A	28 DA-A	28 DA-A	28 DA-A	28 DA-A	28 DA-A
12	AIXR nozzle - low pressure			A	0	54	54	56	65	73	84	59	64	100
12	Hornet	2 oz/a		A										
12	MSO	1 % v/v		A										
12	AMS	3 lb/a		A										
12	Assure II (IFN)	6 fl oz/a		B										
12	Crop oil concentrate (IFN)	1 % v/v		B										
13	AIXR nozzle - low pressure			A	69	0	0	0	0	76	66	65	68	64
13	Assure II	6 fl oz/a		A										
13	Crop oil concentrate	1 % v/v		A										
13	AMS	3 lb/a		A										
13	DiFlexx (IFN)	1 pt/a		B										
13	Surfactant (IFN)	0.25 % v/v		B										
13	AMS (IFN)	3 lb/a		B										
LSD P=.05					10.5	8.1	10.5	8.9	10.8	12.2	10.8	12.0	9.4	11.9
Standard Deviation					7.4	5.7	7.3	6.2	7.5	8.5	7.5	8.4	6.5	8.3
CV					11.56	10.58	13.56	11.81	13.72	11.59	10.03	12.64	9.3	10.54