



Controlling Volunteer Cotton (cotyledon & two true leaf) in Grain Sorghum Trials 2022

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Hidalgo County, TX, Texas AgriScience, LLC. In Lyford, TX

Crop: DP 2020, cotyledon & two true leaf stages, irrigated

Location: Lyford, TX , Plot Size: 20 ft. x 2 rows

Experimental Design: Randomized Complete Block; 3 Replications.

Information:

- Cotton Variety DP 2020 was planted on March 18, 2022, to be used for this study were cotyledon & two true leaf cotton was evaluated after sorghum herbicides used.
- Both Cotyledon & Two true leaf stages were sprayed with the same 7 herbicide treatment list provided below and put out at the same rates. Each trial had a non-treated control as well totaling 8 treatments evaluated after spray applications were made.
- The same list of Herbicide treatments was used for both trials, and from looking at the two trials as a whole in general it showed that spraying at two true leaf stage had a better kill and residual control of the cotton plants than at the cotyledon stage just from observations made. Perhaps the two true leaf stage can uptake more chemical and hence the better kill.
- Treatment 2 (Aim), showed in the data a better kill to the two true leaf stage study than to the cotyledon stage study. Treatment 2 (Aim), also was the most affordable treatment at about \$3.47/acre.
- Treatments 3 (Peak), 4 (Callisto Xtra), 5 (Starane NXT), & 6 (Huskie FX), all showed great control/kill of both stages of cotton. Of the 4 herbicide treatments Callisto Xtra was by far the cheapest at \$9/acre. With Starane NXT and Huskie FX at about \$16/acre and then Peak at \$18.52/acre.
- Treatment 1 (Atrazine 4L) gave good control (\approx 90% kill) in the cotyledon stage, as compared to the two true leaf stage where it only gave about 50% kill, still leaving many hostable cotton plants alive. If growers were to use Atrazine 4L as a control method for volunteer cotton they would need to spray at the cotyledon stage and its cost is fair at \$6.41/acre.
- The grain sorghum herbicide that had the least kill/control of volunteer cotton in both cotyledon and two true leaf stages was Treatment 7 , Imiflex. Either way that treatment was the most expensive.
- The information gathered from these trials will help all cotton growers who have volunteer cotton come up after they have failed acres and plant grain sorghum and they get a few rouge/volunteer cotton plants come up that they need to control.



Volunteer Cotyledon cotton sprayed with Sorghum herbicides trial 2022/ Sponsor Name: Cotton Incorporated
 PI: Danielle Sekula – Texas A&M AgriLife Extension/ Co pi: Josh Mcginty– Texas A&M AgriLife Extension
 Hidalgo County, TX/Texas AgriScience, LLC. In Lyford, TX

Volunteer Cotyledon cotton sprayed with Sorghum herbicides trial 2022

Volunteer Cotyledon cotton sprayed with sorghum herbicides trial								
	Treatment	Mean # of cotyledon seedlings still alive						
	Sprayed on April 8th on DP2020	15-Apr	22-Apr	29-Apr	10-May	16-May	24-Aug	
		7 DAT	14 DAT	21 DAT	32 DAT	38 DAT	138 DAT (4 1/2 months)	Prices trt/acre
1	Atrazine 4L @ 2pt/a + COC @ 1%	20.33	12.33	11.67	11.33	11.33 cd	11 cd	\$6.41
2	Aim @ 0.5 fl oz + NIS @ 0.25%	23.67	27.33	25.67	34.33	34.33 c	33 b	\$3.47
3	Peak @ 1 oz + NIS @ 0.25%	104.00	87.00	25.67	1.00	0.33 d	0 d	\$18.52
4	Callisto Xtra @ 24 fl oz + COC @ 1%	4.67	3.33	3.00	3.00	3 d	3 d	\$9.06
5	Starane NXT @ 21 fl oz + NIS @ 0.25%	16.67	14.00	12.33	18.67	15 cd	15.67 bcd	\$16.23
6	Huskie FX @ 19 fl oz + NIS @ 0.25%	7.33	5.33	5.33	4.33	4.33 d	3.67 d	\$16.00
7	Imiflex @ 6 fl oz + COC @ 1%	101.33	91.33	94.67	83.00	69.67 b	21.67 bc	\$18 - \$20
8	Nontreated Control	98.00	98.00	98.00	96.67	95 a	95 a	
* After May 16th Liberty Link & Round up were sprayed								

Means within a column followed by the same letter are not significantly different (P>0.05; PROC ANOVA; Mean comparison by LSD [SAS 9.4])

*NIS stands for Non-Ionic Surfactant

*COC stands for Crop Oil Concentrate



Volunteer Two true leaf cotton sprayed with Sorghum Herbicides trial 2022/ Sponsor Name: Cotton Incorporated
 PI: Danielle Sekula – Texas A&M AgriLife Extension/ Co pi: Josh McGinty– Texas A&M AgriLife Extension
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Volunteer Two true leaf cotton sprayed with Sorghum Herbicides trial 2022

Volunteer Two true leaf cotton sprayed with sorghum herbicides trial							
	Treatment	Mean # of two true leaf cotton plants still alive					
	Sprayed on April 18th on DP2020	25-Apr	2-May	10-May	16-May	24-Aug	
		7 DAT	14 DAT	22 DAT	28 DAT	128 DAT (4 months)	Prices trt/acre
1	Atrazine 4L @ 2pt/a + COC @ 1%	86.00	77.00	64.00	59.67 b	40.67 b	\$6.41
2	Aim @ 0.5 fl oz + NIS @ 0.25%	4.33	4.67	3.67	3.67 c	3 c	\$3.47
3	Peak @ 1 oz + NIS @ 0.25%	88.00	74.67	4.33	0 c	0 c	\$18.52
4	Callisto Xtra @ 24 fl oz + COC @ 1%	28.67	5.33	1.33	1.33 c	1.33 c	\$9.06
5	Starane NXT @ 21 fl oz + NIS @ 0.25%	0.00	1.33	0.33	0.33 c	0.33 c	\$16.23
6	Huskie FX @ 19 fl oz + NIS @ 0.25%	0.00	0.00	0.33	0 c	0 c	\$16.00
7	Imiflex @ 6 fl oz + COC @ 1%	99.33	98.33	86.67	78 a	39.33 b	\$18 - \$20
8	Nontreated Control	90.33	90.33	86.00	86 a	86 a	
* After May 16th Liberty Link & Round up were sprayed							

Means within a column followed by the same letter are not significantly different (P>0.05; PROC ANOVA; Mean comparison by LSD [SAS 9.4])

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