



## 2018 – Progress Report

### Dow AgroSciences Dormant Season Broadcast Treatments on Greenbriar

**Site Locations:** Hood and Comanche Counties  
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#### Summary

Greenbriar control trials were established in the winter of 2017 and 2018 to evaluate different herbicides and rates for greenbriar control in the dormant season as broadcast treatments. This project looks to determine if labeled and experimental herbicides have any increased rate of activity when applied in the dormant season as a broadcast treatment. All sites will be evaluated for percent defoliation at 4, 15 and 25 months after treatment.

#### Objective

Greenbriar (*Smilax bona-nox* L.) is a tough, woody, high-climbing vine in the Lily family. It spreads aggressively from long, slender rhizomes and is commonly found trailing over trees, shrubs, fences and rolling woodlands in Central and East Texas. While its fruit and foliage yield some forage value for wildlife, greenbriar is more commonly a nuisance to many land managers striving to maintain brush-free fences, pastures and bottomland. Texas A&M AgriLife Extension publication “Chemical Weed and Brush Control: Suggestions for Rangeland” (RM-1466) provides specific recommendations for control of many common brush species in Texas and is in this regard, the standard resource for natural resource professionals and landowners. Currently, the only recommendations in RM-1466 for greenbriar control are stem treatments using triclopyr mixed with diesel which delivers a very high rate of control or a combination of dicamba and 2, 4-D which delivers a high rate of control. While these methods do offer control given the dense, prickly growth form of greenbriar, these applications can be physically very difficult or impossible. This project looks to evaluate herbicides that have been used on greenbriar in the past applied in a different season of growth with a different application technique.

#### Materials and Methods

Dormant season applications were made in March of 2017 by spraying broadcast treatments on fence lines in Hood and Comanche Counties. In 2018, three sites were sprayed in March through April in Johnson, Comanche and Jack Counties. All applications were made by

broadcast applications onto the fence from an ATV equipped with two Boom buster model 125 nozzles arranged in a 45-degree angle off a side boom that was positioned to spray the entire fence. (See Figure 1 and 2) Each plot was 160 feet in length with a buffer zone between treatments. Environmental conditions for the day of application on both sites are listed in Table 1 with the treatment rates for each site listed in Table 2. Evaluations for all sites will be done by visually estimating percent control at 4, 16 and 26 months after treatment.

**Table 1:** Environmental conditions on the day of application for greenbriar broadcast trials established in 2017.

Site	Date	Spray Time	Wind Speed/ Direction	Soil Temp.	Air Temp.	Soil Type/ Moisture	RH
2017 Sites							
Hood	3/8/17	9:30-11:00	5-10 South	56	65	Sandy/Mod	29
Comanche	3/14/17	9:30-11:00	8 SSE	56	54	Chaney/Mod	47
2018 Sites							
Comanche	3/29/18	10:00-12:00	9 S	62	65	Chaney/High	64
Johnson	3/30/18	10:00-11:30	8 NNE	62	65	Crosstell/High	55
Jack	4/4/18	10:00-11:30	8 NNE	52	53	Bastill/Mod	25



**Figure 1 and 2:** Nozzles set up used in application and herbicide being applied to greenbriar infested fence line.



**Figure 3.** Plot layout for Hood County dormant greenbriar broadcast trial established in March of 2017 on Nix Farms



**Figure 4.** Plot layout for Comanche County dormant greenbriar broadcast trial established in March of 2017

**Table 2:** Rates of application for herbicide applied at 2017 locations in Hood and Comanche Counties.

Treatment	Herbicide	Rate v/v	Material/Plot	Total Spray Volume
Hood and Comanche Counties 2017				
1	Remedy Ultra	1.25	69.51 mL	1.5 gal
	MSO	2.5	139.03 mL	
2	Remedy Ultra	2.5%	139.03 mL	1.5 gal
	MSO	2.5%	139.03 mL	
3	Remedy Ultra	1.25%	69.51 mL	1.5 gal
	Milestone	0.5%	27.81 mL	
	MSO	2.5%	139.03 mL	
4	Remedy Ultra	2.5%	139.03 mL	1.5 gal
	Milestone	0.5%	27.81 mL	
	MSO	2.5%	139.03 mL	
5	GF-2954	2.5%	139.03 mL	1.5 gal
	MSO	2.5%	139.03 mL	
6	GF-2954	5.0%	278.05 mL	1.5 gal
	MSO	2.5%	139.03 mL	
7	Remedy Ultra	1.25%	69.51 mL	1.5 gal
	Milestone	0.31%	17.24 mL	
	MSO	2.5%	139.03 mL	
8	Remedy Ultra	2.5%	139.03 mL	1.5 gal
	Milestone	0.62%	34.48 mL	
	MSO	2.5%	139.03 mL	
9	GF-2969	5%	278.05 mL	1.5 gal
	MSO	2.5%	139.03 mL	
Comanche, Johnson and Jack Counties 2018				

Treatment	Herbicide	Rate v/v	Material/Plot	Total Spray Volume
1	Remedy Ultra	1.25	69.51 mL	1.5 gal
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	Milestone	0.5%	27.81 mL	
	MSO	2.5%	139.03 mL	
5	GF-2954	2.5%	139.03 mL	1.5 gal
	MSO	2.5%	139.03 mL	
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9	GF-2969	5%	278.05 mL	1.5 gal
	MSO	2.5%	139.03 mL	

### **Results and Discussion**

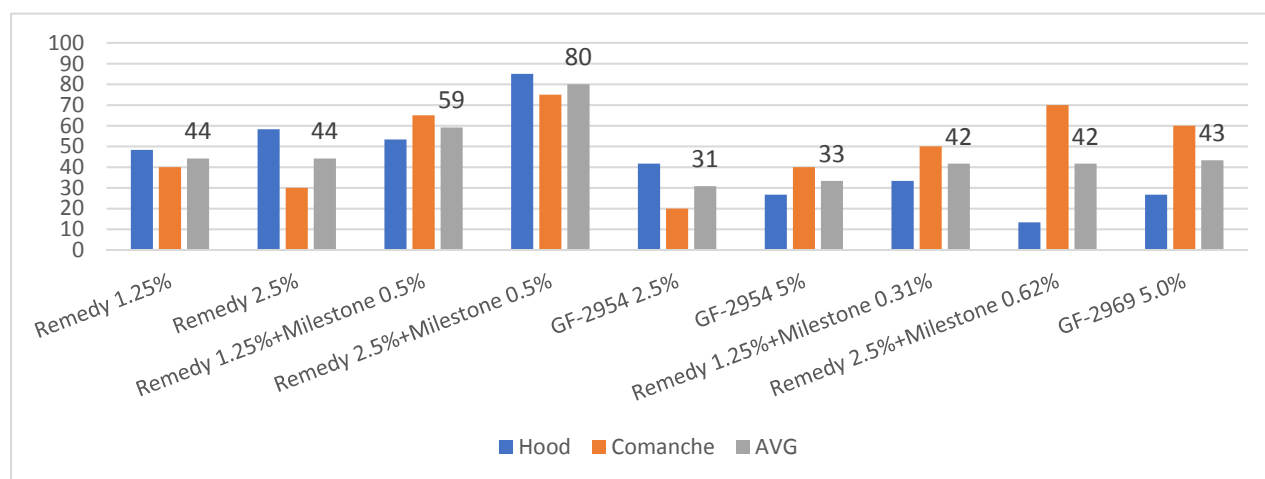
Evaluations were made by estimating percent apparent mortality at 3, 6 and 15 months after treatment on the 2017 trials. For the 2018 trials, evaluations have been conducted at 4 months after treatment and will continue to 15 and 25 months after treatment. Data from all evaluations is listed in Table 3 and Figures 5 and 6 represent the data from the 2017 trials at one year after treatment and 2018 trials at 4 months after treatment.

**Table 3:** Results per treatment at 3, 6 and 15 months after treatment for trials established in Comanche and Hood Counties in 2017.

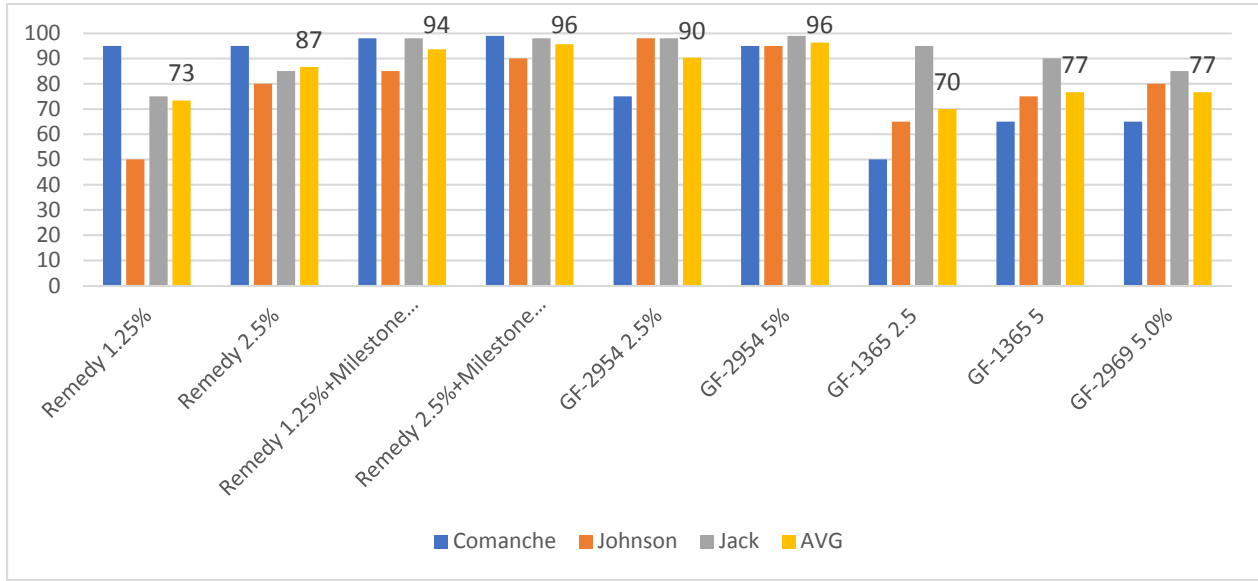
Plot No.	Herbicide	Rate %v/v	% Apparent Mortality		% Apparent Mortality
			Comanche	Hood	AVG.
<b>2017 3 MAT</b>					
1	Remedy Ultra	1.25	65	85	75
	MSO	2.5			
2	Remedy Ultra	2.5%	75	90	82.5
	MSO	2.5%			
3	Remedy Ultra	1.25%	90	85	87.5
	Milestone	0.5%			
	MSO	2.5%			
4	Remedy Ultra	2.5%	98	95	96.5
	Milestone	0.5%			
	MSO	2.5%			
5	GF-2954	2.5%	80	80	80
	MSO	2.5%			

Plot No.	Herbicide	Rate %v/v	% Apparent Mortality	% Apparent Mortality	% Apparent Mortality
6	GF-2954	5.0%	95	87	91
	MSO	2.5%			
7	Remedy Ultra	1.25%	80	92	86
	Milestone	0.31%			
8	MSO	2.5%	90	80	85
	Remedy Ultra	2.5%			
9	Milestone	0.62%	40	77	58.5
	MSO	2.5%			
<b>2017 6 MAT</b>			<b>Comanche</b>	<b>Hood</b>	<b>AVG.</b>
1	Remedy Ultra	1.25	65	80	72.5
	MSO	2.5			
2	Remedy Ultra	2.5%	75	85	80
	MSO	2.5%			
3	Remedy Ultra	1.25%	90	75	82.5
	Milestone	0.5%			
4	MSO	2.5%	98	80	89
	Remedy Ultra	2.5%			
5	Milestone	0.5%	80	60	70
	MSO	2.5%			
6	GF-2954	2.5%	95	75	85
	MSO	2.5%			
7	GF-2954	5.0%	80	70	75
	MSO	2.5%			
8	Remedy Ultra	1.25%	90	70	80
	Milestone	0.31%			
9	MSO	2.5%	40	80	60
	Remedy Ultra	2.5%			
<b>2017 15 MAT</b>			<b>Comanche</b>	<b>Hood</b>	<b>Average</b>
1	Remedy Ultra	1.25	40	48	44
	MSO	2.5			
2	Remedy Ultra	2.5%	30	58	44
	MSO	2.5%			
3	Remedy Ultra	1.25%	65	53	59
	Milestone	0.5%			
4	MSO	2.5%	75	85	80
	Remedy Ultra	2.5%			
5	Milestone	0.5%	20	42	31
	MSO	2.5%			
6	GF-2954	2.5%	40	27	33
	MSO	2.5%			

Plot No.	Herbicide	Rate %v/v	% Apparent Mortality	% Apparent Mortality	% Apparent Mortality	
7	Remedy Ultra	1.25%	50	33	42	
	Milestone	0.31%				
	MSO	2.5%				
8	Remedy Ultra	2.5%	70	13	42	
	Milestone	0.62%				
	MSO	2.5%				
9	GF-2969	5%	60	27	43	
	MSO	2.5%				
2018 4 MAT			Comanche	Johnson	Jack	Average
1	Remedy Ultra	1.25	95	50	75	73
	MSO	2.5				
2	Remedy Ultra	2.5%	95	80	85	87
	MSO	2.5%				
3	Remedy Ultra	1.25%	98	85	98	94
	Milestone	0.5%				
4	MSO	2.5%	99	90	98	96
	Remedy Ultra	2.5%				
5	Milestone	0.5%	75	98	98	90
	MSO	2.5%				
6	GF-2954	2.5%	95	95	99	96
	MSO	2.5%				
7	GF-2954	5.0%	95	95	99	96
	MSO	2.5%				
8	Remedy Ultra	1.25%	50	65	95	70
	Milestone	0.31%				
9	MSO	2.5%	65	80	85	77
	Remedy Ultra	2.5%				
8	Milestone	0.62%	65	75	90	77
	MSO	2.5%				
9	GF-2969	5%	65	80	85	77
	MSO	2.5%				



**Figure 5.** Data from 2017 dormant season broadcast greenbriar trials in Hood and Comanche County.



**Figure 6.** Data from 2018 dormant season broadcast greenbriar trials in Comanche, Johnson and Jack Counties.

### **Acknowledgements**

This project was supported by Corteva AgroSciences, Comanche, Hood, Johnson, and Jack Counties and the cooperating landowners.

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