



Herbicide IPT Leaf Spray Trials for Woody Plant Control

2010 - 2012

Brent Drennan, County Extension Agent, Mason Jerry Kidd, County Extension Agent, Menard Steve Sturtz, County Extension Agent, San Angelo Jamie Osbourn, County Extension Agent, Llano Heath Lusty, County Extension Agent, Lampasas Garrett Gilliam, County Extension Agent, Robert Lee Tom Guthrie, County Extension Agent, Goldthwaite Wade Hibler, County Extension Agent, Burnet Michael Palmer, County Extension Agent, Paint Rock

Summary

This project is designed to screen rates and combination of herbicides using the experimental herbicide MAT28, as a leaf spray option for "hard to kill" rangeland woody plants. Specifically, these herbicide trials target greenbriar, catclaw, whitebrush, agarito, lotebush, and Texas persimmon.

One year after treatment, the herbicide MAT applied alone provided over 90% apparent mortality of agarito, Texas persimmon, lotebush, whitebrush, greenbriar and catclaw at one or more of the rates used. When applied as Concept 1 (mixed with another herbicide) maximum apparent mortality of lotebush was 80%, Texas persimmon 60%, and greenbriar 10%. Agarito and catclaw were more sensitive to the mixture with 90% or greater control

This data should be considered preliminary. Final control data will not be available until 2012. This herbicide will not be available to the general public until 2013.

Problem/Introduction

There are several species of woody plants on rangeland that are particularly difficult to control with herbicides, especially with leaf sprays. Examples include greenbriar, whitebrush, lotebush, agarito and persimmon. Although these species can be desirable under certain circumstances, they represent a management problem when they become too dense or grow within fence lines.

MAT28 is a new Dupont herbicide that may provide a control option when applied as a leaf spray to rangeland woody plants. The active ingredient is aminocyclopyrachlor, which can be formulated as a dry flowable powder or a liquid. The liquid formulation (2 lbs. a.i./gal.) was used in these trials. This herbicide is not labeled for use by the general public at this time.

Objectives

The objective of these herbicide trials is to evaluate various rates and herbicide combinations of the herbicide MAT28 when applied as an individual plant leaf spray to persimmon, agarito and lotebush.

Materials/Methods

The herbicide trials were established at 12 locations during the summer of 2010 (Table 1). All treatments were applied as an individual plant leaf spray using a Gator UTV mounted sprayer and spray wand tipped with an X-12 adjustable conejet nozzle. All herbicide treatments were mixed with water and included 4 rates of MAT28 by itself, 3 rates mixed with an additional herbicide and a 2% rate of the herbicide Surmount as a standard. Surfactant was added to all treatments at a concentration of ¼%. Hi-Light Blue Dye was added at a rate of 1/3 oz/gal of spray mix. Leaves of the target plants were sprayed to wet but not to the point of dripping.

Trade names of commercial products used in this report is included only for better understanding and clarity. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by Texas AgriLife Extension Service and the Texas A&M University System is implied. Readers should realize that results from one experiment do not represent conclusive evidence that the same response would occur where conditions vary.

Table 1. Location and date established for each replication.

County	Date	Ranch	Species
Coke	6/1/2010	Cervenka	Agarito/catclaw
Concho	6/29/2010	Willberg	Agarito
Burnet	7/16/2010	D + Duncan	Agarito
Llano	7/9/2010	McGinty	Greenbriar
Llano	7/9/2010	McGinty	Greenbriar
Lampasas	6/22/2010	Jackson	Whitebrush
Mills	7/22/2010	Meaney/Strickler	Whitebrush
Mason	6/3/2010	Geistweidt	Tx. Persimmon
Menard	5/28/2010	Wright	Tx. Persimmon
Burnet	7/16/2010	Jones	Tx. Persimmon
Mills	7/22/2010	Lawson	Lotebush
Tom Green	7/26/2010	Tex. A&M Ctr.	Lotebush

Results/Discussion/Economic Impact

One year after treatment, the herbicide MAT applied alone provided over 90% apparent mortality of agarito, Texas persimmon, lotebush, whitebrush, greenbriar and catclaw at one or more of the rates used (Table 2). When applied as Concept 1 (mixed with another herbicide) maximum apparent mortality of lotebush was 80%, Texas persimmon 60%, and greenbriar 10%. Agarito and catclaw were more sensitive to the mixture with 90% or greater control. The Lampasas County whitebrush site was not evaluated due to defoliation of plants from severe drought.

This data should be considered preliminary. Final control data will not be available until 2012. This herbicide will not be available to the general public until 2013.

Table 2. Apparent mortality 1 year after treatment using IPT leaf spray.

			County			
			Coke	Concho	Burnet	
Species	Herbicide(s)	Rate(s)	6/1/2010	6/29/2010	7/16/2010	Average
		Rate 1	100	89	13	67
	MAT28	Rate 2	100	77	50	76
		Rate 3	100	100	75	92
Agarito		Rate 4	100	92	100	97
	Concept 1	Rate 1	100	100	91	97
		Rate 2		83	13	48
	Surmount	2.00%	30	15	95	47
				County		
			Menard	Mason	Burnet	
Species	Herbicide(s)	Rate(s)	5/28/2010	6/3/2010	7/16/2010	Average
	MAT28	Rate 1	11	10	33	18
		Rate 2	0	64	50	38
Ta		Rate 3	75	87	100	87
۱x. Persimmon		Rate 4	100	100	100	100
	Concept 1	Rate 1	41	50	88	60
		Rate 2			0	0
	Surmount	2.00%	50	67	90	69
				County		
			Mills	Tom Green		
Species	Herbicide(s)	Rate(s)	7/22/2010	7/26/2010		Average
Lotebush	MAT28	Rate 1	48	40		44
Lotebush	IVIA I Zð	Rate 2	100	93		97

Trade names of commercial products used in this report is included only for better understanding and clarity. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by Texas AgriLife Extension Service and the Texas A&M University System is implied. Readers should realize that results from one experiment do not represent conclusive evidence that the same response would occur where conditions vary.

		Rate 3	100	95	98
		Rate 4	100	100	100
	Concept 1	Rate 1	77	83	80
	•	Rate 2	11	71	41
	Surmount	2.00%	69	78	74
				County	
			Lampasas	Mills	
Species	Herbicide(s)	Rate(s)	6/22/2010	7/22/2010	Average
		Rate 1	NE	100	
	MAT28	Rate 2	NE	100	
		Rate 3	NE	100	
Whitebrush		Rate 4	NE	100	
	Concept 1	Rate 1	NE	100	
		Rate 2	NE	100	
	Surmount	2.00%	NE	48	

Table 2. Continued.

			County			
			Llano	Llano		
Species	Herbicide(s)	Rate(s)	7/9/2010	7/9/2010	Ave	erage
		Rate 1	30	5		18
Greenbriar	MAT28	Rate 2	35	40	:	38
		Rate 3	90	75		83
		Rate 4	100	99	1	00
	Concept 1	Rate 1	10	10		10
		Rate 2	*	*		*
	Surmount	2.00%	10	30		20

			С		
			Coke		
Species	Herbicide(s)	Rate(s)	6/1/2010		Average
Catclaw	MAT28	Rate 1	100		
		Rate 2	100		
		Rate 3	100		
Acacia (Acacia gregii)		Rate 4	100		
(Acacia gregil)	Concept 1	Rate 1	100		
	Concept	Rate 2	*		
	Surmount	2.00%	0		
			County		
			C	ounty	
			C Coke	ounty	
Species	Herbicide(s)	Rate(s)	Coke 6/1/2011	ounty	Average
Species	Herbicide(s)	Rate(s) Rate 1	Coke 6/1/2011 100	ounty	Average
Species	Herbicide(s)	Rate(s) Rate 1 Rate 2	Coke 6/1/2011 100 100	ounty	Average
Species	Herbicide(s) MAT28	Rate(s) Rate 1 Rate 2 Rate 3	Coke 6/1/2011 100 100 100	ounty	Average
Species Catclaw (Mimosa lindheimeri)	Herbicide(s) MAT28	Rate(s) Rate 1 Rate 2 Rate 3 Rate 4	Coke 6/1/2011 100 100 100 100	ounty	Average
Species Catclaw (Mimosa lindheimeri)	Herbicide(s) MAT28	Rate(s) Rate 1 Rate 2 Rate 3 Rate 4 Rate 1	Coke 6/1/2011 100 100 100 100 100	ounty	Average
Species Catclaw (Mimosa lindheimeri)	Herbicide(s) MAT28 Concept 1	Rate(s) Rate 1 Rate 2 Rate 3 Rate 4 Rate 1 Rate 2	Coke 6/1/2011 100 100 100 100 *	ounty	Average

Acknowledgements

The authors wish to express appreciation to the ranches which served as cooperators for these herbicide trials. Special thanks are extended to Dupont and Dow AgroSciences which provided the herbicides used.

"The information given herein is for educational purposes only. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by the Texas AgriLife Extension Service is implied.

Trade names of commercial products used in this report is included only for better understanding and clarity. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by Texas AgriLife Extension Service and the Texas A&M University System is implied. Readers should realize that results from one experiment do not represent conclusive evidence that the same response would occur where conditions vary.