

Result Demonstration Report

Pecan Orchard Floor Spray Treatments

Texas A&M AgriLife Extension

Comanche County

Cooperator: Will Culler Orchard

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Summary

Controlling weeds in pecan orchards is a very important part of pecan management. Orchard floors that are overgrown in undesirable vegetation will compete with the pecan tree for water and nutrients. This competition is costly due to both increased production cost and lower quality and quantity of nuts. When using herbicides to manage vegetation on pecan floors, care must be taken to avoid potential injury or death to trees. Glyphosate has been the go-to tool producers have used for many years to help control unwanted orchard floor vegetation. Unfortunately, this continual use of glyphosate has caused resistance issues in some weedy species. In this study we were focusing on Marestalk which has become highly resistant to glyphosate in most Comanche County pecan orchards.

Objective

The objective is to identify herbicides that are labeled for pecan orchards that provide the most effective control of unwanted vegetation on orchard floors. Most importantly, in this study is the control of Marestalk.

Materials and Methods

We worked with the Comanche County Pecan Committee to identify herbicide that are labeled for pecan orchards, that they felt safe using. We also established a protocol that would mimic their treatments. This included spraying a 5-foot strip down the side of each row of trees. The trials were not duplicated but were 1500' in length. A mule scooter with a boom sprayer was used to apply all treatments. The Cullers orchard where the trials were conducted are managed and irrigated with drip irrigation similar to all managed orchards in the county. Plots were evaluated at 1, 2 and 4 months after treatment, at 5 months the producer shredded the orchard in preparation for harvest. Seven total treatments were utilized and were applied at the label recommended rates.

Results and Discussion

Research Data Sheet				Texas AgriLife Extension Service				
	4-Apr-18					Will Culler Orchard	Comanche	
	Date Started			Date Evaluated		Location	County	
	1:00 p.m. - 5:00 p.m.			4.40 Gal		8 miles/hr out of SE		
	Spray Time			Spray Volume/Plot		Wind Speed and Direction		
	ATV Boom	16				60 Degrees F	67 Degrees F	
	Application Method	GPA				Soil Temperature	Air Temperature	
				50%		0-6 inches Broadleaf Weeds		
	Soil Type			Relative Humidity		Stage of Growth		
Plot No.	Herbicide and Formulation	Oz/A	Material/Plot	Total Spray Volume	1 MAT %Control 22 May 2018	2 MAT %Control 15 June 2018	4 MAT %Control July 2018	24
1	RoundUp	16	4.37 Oz	4.40 Gal	MT-0	MT-0	MT -	
					GW-100	GW-95	GW-100	
					BL-85	BL-85	BL -	
2	Rely 280	56	11.48 Oz	4.40 Gal	MT-98	MT-98	MT -	
					GW-98	GW-95	GW-98	
					BL-98	BL-98	BL -	
3	RoundUp PowerMax	16	4.37 Oz	4.40 Gal	MT-50	MT-50	MT -	
	Pindar GT	48	13.12 Oz		GW-100	GW-100	GW-100	
					BL-95	BL-90	BL -	
4	Pindar GT	48	13.12 Oz	4.40 Gal	MT-55	MT-50	MT -	
					GW-75	GW-75	GW-60	
					BL-90	BL-90	BL -	
5	Simazine 4L	96	26.19 Oz	4.40 Gal	MT-10	MT-10	MT -	
					GW-50	GW-40	GW-30	
					BL-80	BL-80	BL -	
6	Venue	4	1.10 Oz	4.40 Gal	MT-0	MT-0	MT -	
					GW-30	GW-30	GW-30	
					BL-20	BL-20	BL -	
7	Simazine 4L	96	26.19 Oz	4.40 Gal	MT-0	MT-0	MT -	
	RoundUp PowerMax	16	4.37 Oz		GW-100	GW-100	GW-95	
					BL-95	BL-90	BL -	**
	MT= Marestail							
	GW= grassy weeds							
	BL= all other broadleaf weeds							
	**= Shredded; No data on MT & BL							
	Notes: Had trouble with roundup/Pindar mix stopping up nozzles, may be some skips in coverage.							

Conclusions

As indicated in chart, Rely 280 (Glufosinate) provided the best all-around control of not only Marestail, but also other broadleaf weeds and grassy weeds. Roundup (glyphosate) still did an acceptable job of controlling most species except for Marestail. The effectiveness of some of the other chemistries was disappointing. Timing of application could be part of the issue with some of these products? More test will need to be completed in the future to provide complete and accurate data.

Effective economical orchard floor weed management is vital for pecan producers to be able to produce the quantity and quality of pecans required for today's market. Identifying products that are both safe and effective on Marestail and other problem weeds will provide producers with important options for orchard floor weed management.



Strip sprayed with Roundup Power Max, good control of everything except Marestail.

Acknowledgements

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