

# **Picloram vs. Surmount for Pricklypear Control**

2003

Allan McGinty  
Extension Range Specialist  
San Angelo, Texas

## **SUMMARY**

Picloram (Tordon 22K) is the recommended herbicide for control of pricklypear on Texas rangelands. Several recent research trials have suggested that a mixture of picloram and the herbicide fluroxypyr provides equivalent and possibly quicker control. This picloram/fluroxypyr mixture is manufactured by Dow AgroSciences and called Surmount. Surmount is not currently labeled for pricklypear control in Texas, but may be available as early as the spring of 2004.

To compare Surmount to Tordon 22K for pricklypear control, trials were established during the summer of 2002 in Burnet, Callahan, Concho, Llano, Mason, San Saba and Taylor counties. Both individual plant treatment and broadcast rates were included in these trials. Pricklypear dies slowly after treatment, taking 2 to 3 years for final root kill to be obtained. One year following treatment control ranged from 9% to 24% across the various treatments. Surmount treated pricklypear showed a higher level of herbicide activity as compared to Tordon 22K treated plants. Control can be expected to significantly increase over the next year. These plots will be re-evaluated in 2004.

## **PROBLEM/INTRODUCTION**

Pricklypear is a major noxious plant on many Texas rangelands. For many years the only herbicide recommended for control of this plant has been Tordon 22K, which contains the active ingredient picloram. While this herbicide provides excellent control most of the time, control occurs slowly over a period of 1 to 3 years. The extended time to obtain control of pricklypear with Tordon 22K is considered a disadvantage by some users.

Fluroxypyr is a herbicide that is not currently labeled for use on Texas rangeland. Earlier research trials have examined this herbicide both as a broadcast spray and individual plant treatment for pricklypear. In general, these trials have shown fluroxypyr gives very similar results to Tordon 22K, showing earlier herbicide activity as compared to Tordon 22K. There has been very little work with combinations of fluroxypyr and Tordon 22K for pricklypear control. Surmount is a mixture of fluroxypyr and picloram (0.67 lbs a.e./gal, each). This herbicide is a product of Dow AgroSciences, and plans to market this mixture for pricklypear control in the near future, possibly as early as the spring of 2004. Price for Surmount is not known at this time, although it is expected to be less expensive as compared to Tordon

22K.

## OBJECTIVES

The objective of these trials is to compare Tordon 22K to Surmount when applied at various rates as a broadcast spray or individual plant treatment for control of pricklypear.

## MATERIALS/METHODS

Both broadcast and individual plant treatment (pad spray) rates were included in these trials. Table 1 lists the location, date of application and treatments applied at each site.

Broadcast rates included 1 qt/ac of Tordon 22K, 1 qt/ac of Surmount and 1.5 qts/ac of Surmount. All broadcast treatments were applied using a 4-wheel ATV, equipped with a 20 gal tank, 1.4 gpm Shurflo pump and a single KLC-9 Fieldjet nozzle. This is a boomless nozzle that produces a 15 ft swath. All herbicides were mixed with water. A non-ionic surfactant was added at a concentration of 1/4%. A total volume of 11.8 gpa was used for all applications.

**Table 1. Location, date of treatment and type of treatments applied.**

County	Ranch	Date	Broadcast			Individual Pad Spray		
			22K 1 qt/ac	Surmount 1 qt/ac	Surmount 1.5 qt/ac	22K 1%	Surmount 1/2%	Surmount 1%
Burnet	Runhaar	7/23/02	✓	✓	✓			
Callahan	Dement	9/24/02				✓		✓
Concho	Alexander	7/9/02	✓	✓	✓	✓	✓	✓
Llano	Jorgson	7/30/02	✓	✓	✓	✓	✓	✓
Mason	Jennings	8/1/02	✓	✓	✓	✓	✓	✓
San Saba	Shook	7/8/02	✓	✓	✓			
Taylor	Dodds	7/25/02	✓	✓	✓			

Individual plant treatments (pad sprays) were applied using the same 4-wheel ATV, equipped with hand wands and X-8 adjustable cone nozzles. Herbicides were mixed with water at the appropriate concentration. A non-ionic surfactant was added at a concentration of 1/4%. HiLight Blue Dye was also added to the spray mix at a concentration of 1 oz/3 gal of spray. All pads were sprayed to wet, but not to the point of dripping.

## RESULTS/DISCUSSION/ECONOMIC IMPACT

As expected control for all treatments was low one year following application (Table 2). Pricklypear dies slowly, often taking 2 to 3 years before final root kill is obtained. Prickly pear treated with Surmount showed slightly more herbicide activity as compared to Tordon22K. Control for all treatments is expected to significantly improve over the next growing season. As such, these trials will be re-evaluated in 2004.

**Table 2. Percent apparent mortality of pricklypear 1 year after treatment.**

County	Broadcast			Individual Pad Spray		
	22K 1 qt/ac	Surmount 1 qt/ac	Surmount 1.5 qt/ac	22K 1%	Surmount 1/2%	Surmount 1%
Burnet	16	11	6			
Callahan				1		0
Concho	15	10	42	13	22	14
Llano	28	9	43	0	5	4
Mason	19	14	12	2	3	11
San Saba	39	42	48			
Taylor	0	0	14			
Average	19	14	27	4	10	7

## ACKNOWLEDGMENTS

The author wishes to express appreciation to the various ranches that served as cooperators for this project and to Jeff White and the County Extension Agents who helped establish and evaluate these trials. A special thanks is extended to Dow AgroSciences for furnishing the herbicide used in the trials and for providing financial support for travel and expenses.

---

"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 Cooperative Extension or the Texas Agricultural Experiment Station is implied.