

# Redeem Leaf Spray for Mesquite Control

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## SUMMARY

The most effective individual plant leaf spray for mesquite is a herbicide mixture containing 1/2% Remedy plus 1/2% Reclaim (also called the Brush Busters leaf spray). These two herbicides are purchased separately and combined in the spray tank to obtain the proper mixture and concentration. There is a "pre-mix" of these two herbicides marketed by Dow AgroSciences under the trade name Redeem. Normally used as a weed control herbicide, this product has some potential as a leaf spray herbicide for mesquite, especially if Remedy or Reclaim were no longer available in their present formulations.

To evaluate the effectiveness of Redeem for mesquite control when applied as a leaf spray, trials were established in Brown, Coleman, Lampasas, Mills and Shackelford counties during the summer of 2003. Each trial included 1%, 2% and 3% concentrations of Redeem as compared to the recommended 1/2% Reclaim plus 1/2% Remedy mixture.

One year following application, all treatments provided excellent control with the exception of Brown county. At the time of application, mesquite at this location was severely defoliated by grasshoppers. Control at this site ranged from 10% to 35%. Control at the other four locations varied from 79% to 100%, with no clear advantage to increasing the Redeem concentration over 1%. Remedy + Reclaim provided only slightly better control as compared to Redeem alone.

Control at this time is only apparent mortality. Plants that appear dead at this time may resprout over the next year. As such this data should be considered preliminary. These plots will be re-evaluated in 2004.

## PROBLEM/INTRODUCTION

Mesquite is a major noxious plant across most Texas rangelands. One of the most effective control methods is an individual plant leaf spray using a mixture of the herbicides Reclaim and Remedy. The recommended concentration is 1/2% each, mixed with water, with the addition of surfactant (1/4%) and dye (1/4% to 1/2%). The active ingredient in Reclaim is "clopyralid" and the active ingredient in Remedy is "triclopyr."

Redeem is a herbicide marketed by Dow AgroSciences primarily for weed control. This herbicide contains

a mixture of the same active ingredients included in Remedy and Reclaim. As such, this herbicide does have potential when used as a leaf spray for control of mesquite. Unfortunately the ratio of triclopyr to clopyralid is not the same as when a mixture containing 1/2% Reclaim plus 1/2% Remedy is used. For comparison, a 2% concentration of Redeem contains about the same amount of triclopyr and only 1/2 the amount of clopyralid as the standard Reclaim plus Remedy mixture. The lesser quantity of clopyralid is expected to reduce control, but it is unknown how much.

The herbicide Redeem would be an important substitute if either Remedy or Reclaim were no longer available for the Texas rangeland mesquite control market.

## **OBJECTIVES**

The objective of these trials is to compare Redeem to the Brush Busters leaf spray (1/2% Reclaim plus 1/2% Remedy) for control of mesquite.

## **MATERIALS/METHODS**

A total of 5 sites were included in these herbicide trials. Table 1 lists the location and date of application for each. Every site included the same treatments, those being 1%, 2% and 3% concentrations of Redeem applied as a leaf spray to mesquite, and the recommended 1/2% Remedy plus 1/2% Reclaim mixture applied in same manner.

All treatments were applied using a 4-wheel ATV sprayer, equipped with 10 gal tanks and a 1.4 gpm Shurflo pump. Hand wands were tipped with X-8 adjustable cone nozzles. Herbicides were mixed with water. A non-ionic surfactant and Hi-Light Blue Dye were added to the spray mixture at a concentration of 1/4% each. Mesquite trees were sprayed to wet, but not to the point of dripping.

**Table 1. Location and date of application for treatments.**

<b>County</b>	<b>Ranch</b>	<b>Date of Treatment</b>
Brown	Perkins	8/2/02
Coleman	Huston	6/5/02
Lampasas	Wittenburg	7/24/02
Mills	Head	6/13/02
Shackelford	Leech	6/4/02

## RESULTS/DISCUSSION/ECONOMIC IMPACT

One year following application all treatments provided excellent control of mesquite, with the exception of Brown County where the mesquite was severely defoliated by grasshoppers at time of treatment. This first year data shows no advantage to increasing the concentration of Redeem in the spray mix above 1%. There was only a slight advantage to using the combination of Reclaim and Remedy as compared to Redeem alone.

Control at this time can be considered only apparent mortality. Plants that appear dead at this time may resprout over the next year. As such this data should be considered preliminary. These plots will be re-evaluated in 2004.

**Table 2. Percent apparent mortality of mesquite one year following treatment with various leaf sprays.**

County	Redeem			1/2% Remedy + 1/2% Reclaim
	1%	2%	3%	
Brown**	10	18	21	35
Coleman	88	100	98	100
Lampasas	89	95	100	98
Mills	95	90	79	96
Shackelford	86	91	80	93
Average	74	79	76	84
Average (Excluding Brown Co.)	89	94	89	97

\* Mesquite in Brown County was severely defoliated by grasshoppers at time of treatment.

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