

Mesquite Control Using Leaf-Spray Individual Plant Treatments

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BOTTOM LINE

Leaf-spray individual plant treatments produced an average of 92% apparent plant kill at an average cost of \$0.12 per plant.

Summary

- Mesquite trees were treated using the leaf-spray individual plant treatment method for control.
- In 1996, result demonstrations average apparent plant-kill 1 yr following treatment was 92%, with a range of 76 to 98%.
- Average treatment cost including labor and chemicals was \$0.12 per plant, with a range of \$0.07 to 0.18.
- Lower costs occurred when most plants were less than 3 ft tall.
- Most mesquite in these counties are multi-stemmed which suggests that the leaf-spray method is the best choice in most situations.
- Before choosing the individual plant treatment method, care must be taken to determine whether plants are suitable for these treatments.

Introduction

Individual plant treatments offer ranchers a viable tool for brush maintenance. These demonstrations were established to determine the effectiveness of the leaf-spray individual plant treatment method for mesquite management.

For basal treatments, plants should be smooth barked. For basal treatments, there are two additional considerations. First, plants should have no more than two stems. Multiple-stemmed plants increase both spray and labor costs. Second, plants should not be in dense grass. Basal treatments should be applied all the way to the ground line and dense grass makes this application difficult to impossible. Leaf-sprays are preferred if either of these requirements are not met.

Even though leaf-spray treatments are preferred for multi-stem mesquite plants and plants in dense grass, care must be used in judging whether the mesquite is suitable for foliar spraying. For leaf-sprays, plants should be under 6-8 ft in height and it is best if plants are under 3 ft in height. Taller plants require more herbicide and plant coverage is more difficult. For successful leaf-sprays, mesquite must have a good leaf crop with uniform dark green color.

Experimental Approach

In the summers of 1996 and 1997, leaf-spray treatment plots were established in eight counties throughout Extension District 10. This treatment was applied by 2 to 3-person crews using an ATV equipped with spray tanks and three spray-guns

equipped with 5500-X8 adjustable conjet nozzles. Plants were treated with a mixture of 0.5% Reclaim + 0.5% Remedy + 0.25% surfactant + 0.5% HiLite Blue Dye in water. Demonstrations were established in four counties in 1996 and four counties in 1997 for a total of 8 different locations and counties.

Results

In the four counties where leaf-spray treatments were used in 1996, apparent plant-kill 1 yr following treatment averaged 92% with a range of 76 to 98% (Figure 1). Spray costs over all eight counties (Figure 1) ranged from about 0.05 to 0.12 cents per plant, while labor costs ranged from 0.02 to 0.05 cents per plant. The lowest spray and labor costs were in demonstrations with smaller plants, mostly less than 3 ft tall. Total costs ranged from 0.07 to 0.18 cents per plant.

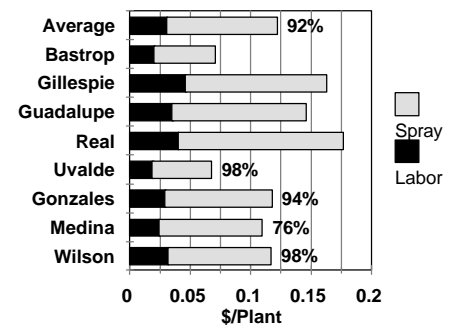


Figure 1. Mesquite spray and labor costs in eight counties and apparent plant-kill 1 yr following individual plant treatments in demonstrations established in 1996.