



Result Demonstration Report

2017 Restricted Use VS Non-Restricted Use Herbicide Efficacy Study

Scott Williams, Woodland Ranch

Cooperator

Clint Perkins, Stephen Gowin, and Tommy Phillips,

Texas A&M AgriLife Extension Service County Agents for Wood, Rains, and Van Zandt Counties

Summary

Herbicides have been proven to be an effective method for controlling weeds in forage systems for many years. There are several newer products on the market that are not restricted or State limited use products. Producers face many choices when selecting various products to be used in either forage systems to control weeds.

Objective

The objective of this result demonstration was to compare the herbicide effectiveness on weeds control and cost per acre with non-restricted herbicides verses restricted use herbicides on weed control in forage systems.

Materials and Methods

Material and rates of herbicides used for this experiment is shown in Table 1. The trial was a strip trial that was not replicated. Plots were treated on June 29, 2017 using boom spray rig calibrated to apply 16 gallons of solution per acre. The test plots were 15 x 50 feet with a buffer (control) between each plot. Spray swath was 12 x 50 feet.

Time: 1:15-3:45

Air Temperature: 88°

Soil Temperature: 88°

Relative Humidity: 75%

Wind: South at 10 MPH

Cloud Cover: 15%



Table I. Herbicide, Rates, and Surfactant Used In Study

Plot	Herbicide	Rate per Acre	Surfactant per Acre
1	PastureGard HL	1.2 pints/acre	1 pint
2	Remedy Ultra + Metsulfuron Methyl	8 ounces/acre + 0.2 ounces/acre	1 pint
3	Chaparral	2 ounces/acre	1 pint
4	Grazon Next HL	1.5 pints/acre	1 pint
5	Surmount	1.5 pints/acre	1 pint
6	Grazon Next HL + Remedy + Metsulfuron Methyl	1.2 pints/acre + 8 ounces/acre + 0.1 ounce per/acre	1 pint
7	Grazon P+D	1 quart/acre	1 pint
8	2, 4-D	1 quart/acre	1 pint

Results and Discussion

Plots were treated on June 27, 2017 using a boom spray rig calibrated to apply 16 gallons of spray solution per acre. *The result demonstration consisted of species such as woolly croton (goat weed), ironweed, carolina horsenettle, white snakeroot, and false ragweed.* Ratings were taken after treatment at approximately 30 and 90 Days. The results are in Table II. Table III shows the cost of each individual treatment on a per acre basis.

Table II. Percent Control for 30 and 90 Days after Treatment

Plot	Herbicides	Weed Species Controlled	30 Days After Treatment	90 Days After Treatment
1	PastureGard HL	Mixed Species	98%	80%
2	Remedy Ultra + Metsulfuron Methyl	Mixed Species	98%	0%
3	Chaparral	Mixed Species	98%	70% No Bahia
4	Grazon Next HL	Mixed Species	100%	70%
5	Surmount	Mixed Species	100%	70%
6	Grazon Next HL + Remedy + Metsulfuron Methyl	Mixed Species	100%	90%
7	Grazon P+D	Mixed Species	95%	70%
8	2, 4-D	Mixed Species	40%	0%

Table III. Result Demonstration Cost/Acre

<u>Chemical (s) and Application Rates</u>	<u>Cost (\$) Per Container*</u>	<u>Cost Per Acre</u>
PastureGard HL (1.2 pts./acre)	\$120/gal	\$18.80
Remedy Ultra + Metsulfuron Methyl (8 oz./acre + 0.2 oz./acre)	\$78.15/gal + \$0.45/ 0.1 oz.	\$5.78
Chaparral (2 oz./acre)	\$126/1.25 lbs.	\$12.60
Grazon Next HL (1.5 pts/acre)	\$92/2gal	\$8.62
Surmount (1.5 pts/acre)	\$134/2.5gal	\$10.05
Grazon Next HL + Remedy + Metsulfuron Methyl (1.2 pts./acre + 8 oz./acre + 0.1 oz./acre)	\$92/gal + \$78.15/gal \$0.45/0.1 oz.	\$12.53
Grazon P+D (1 qt./acre)	\$84.50/2.5 gallon	\$8.45
2, 4-D (1 qt./acre)	\$32.50/2.5 gallon	\$3.25

*** Costs from Rozell Sprayers (September 25, 2017) for Herbicide Only no Surfactant**

PastureGard = \$120/gal = \$120/128 oz. = \$0.94/oz. x 20 oz. (1.2 pints) = \$18.80

Chaparral = \$126/1.25 pounds = \$126/20oz = \$6.3/oz. x 2 oz. /acre = \$12.60

Surmount = \$134/ 2.5 gal = \$134/320 oz. = \$0.42/oz x 24 oz. = \$10.05

Grazon Next HL = \$92.00/ 2 gal. = \$92.00 / 256oz = \$0.42/oz. x 24 ounces (1.5 pints) = \$8.62

Grazon Next HL = \$92.00/2 gal. = \$92.00 / 256oz = \$0.36/oz. x 20 ounces (1.2 pints) = \$7.20

Grazon P+D = \$84.50/ 2.5 gal. = \$84.50/ 320 oz. = \$0.26/oz. x 32 oz./acre (1 qt.) = \$8.45

Remedy Ultra = \$78.15 per gallon = \$78.15/128oz = \$0.61/ounce x 8 oz./acre = \$4.88

Metsulfuron Methyl = \$0.45/0.1 oz.

2,4-D = \$32.50/2.5 gal = \$32.50/320 oz. = \$0.102/oz. x 32 oz (1 qt/acre) = \$3.25

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.

Conclusions

This is the third year of a three year multi-county research trail. Very positive results have occurred. Herbicides have proven to be an effective way of controlling weeds in forage systems. The 2017 result demonstration test plots received an abundant amount of rainfall. The 30 day after treatment weed control ratings were 98%-100% control for all treatments except Plot 8 (2,4-D) which had 30% control. 90 days after treatment test plot evaluation indicated that the herbicides with no residual control had 0% control (plots 1,2, and 8) and plots that had residual activity had 70%-90% control respectively (plots 3, 4, 5, 6, and 7).

Acknowledgements

A special thanks to Scott Williams with Woodland Ranch in Alba for assisting with and allowing the result demonstration to be conducted on the property and to Mr. Darren Rozell (Rozell Sprayers) for donating the herbicides and new spray rig that was used in the result demonstration.