



Result Demonstration Report

2021 Multi-County Herbicide with Added Vitazyme Comparison Study for General Broadleaf Weed Control

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Summary

Herbicides have been proven to be an effective method for controlling weeds in warm season forage systems. Bitter Sneezeweed, Woolly Croton, Blackberry, Horsemint, False Ragweed, Black-eyed susan, Carolina Horse Nettle, Maypop, White Snake Root, Poorjoe, and Virginia Pepper Weed were the primary weeds inhabiting the test plots. Producers face many choices when selecting various products to be used in forage systems for adequate weed control. We compared herbicide efficacy of using ½ recommended rates of herbicides and adding vitazyme to the spray solution.

Objective

The objective of this result demonstration was to compare herbicide efficacy using ½ recommended rate and adding 13 ounces per acre rate of vitazyme on weed control in warm-season forage systems.

Materials and Methods

A randomized block design replicated 3 times was established on July 8, 2021. The sprayer was calibrated at 19 gallons of spray solution per acre. Plot size was 12 x 50 feet. All treatments used a methylated seed oil (MSO) as a surfactant. Herbicide rates were reduced by one-half with the addition of vitazyme per industry representative recommendation who is employed by Vital Earth Resources Inc. Plots were compared to labeled rate of Grazon Next HL for comparison.

Time: 12:30 p.m.- 2:30 p.m.

Air Temperature: 92°

Soil Temperature: 83°

Relative Humidity: 64%

Wind: Southeast at 4 mph

Cloud Cover: 20%

Table I. Herbicide & Rates Used in Study

Plot	Herbicide	Application Rate/Acre
1	Grazon Next HL plus Vitazyme	10 oz + 13 oz
2	Weed Master plus Vitazyme	16 oz + 13 oz
3	Grazon P+D plus Vitazyme	16 oz + 13 oz
4	Grazon Next HL plus Vitazyme	10 oz + 13 oz
5	Weed Master plus Vitazyme	16 oz + 13 oz
6	Grazon P+D plus Vitazyme	16 oz + 13 oz
7	Grazon Next HL plus Vitazyme	10 oz + 13 oz
8	Weed Master plus Vitazyme	16 oz + 13 oz
9	Grazon P+D plus Vitazyme	16 oz + 13 oz
10	Grazon Next HL	20 oz

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.

Results and Discussion

The randomized block design with 4 different treatments and sprayer was calibrated at 19 gallons per acre solution treated on July 8, 2021, using a boom sprayer. Plot size was 12 x 50 foot with a 5 feet buffer between plots. Plot ratings were evaluated at approximately 30 and 60 days after treatment (DAT). The results are in Table II. Table III shows the average percent control for the replicated plots compared to Grazon Next HL at recommended rate per acre. Table IV shows the cost of each individual treatment for one-acre rate of tank mix.

Table II. Percent Control for 30, 60, & 90 Days after Treatment (DAT)

Plot	Herbicide	Application Rate/Acre	30DAT % Control	60DAT % Control
1	Grazon Next HL plus Vitazyme	10 oz + 13 oz	80	80
2	Weed Master plus Vitazyme	16 oz + 13 oz	75	75
3	Grazon P+D plus Vitazyme	16 oz + 13 oz	65	65
4	Grazon Next HL plus Vitazyme	10 oz + 13 oz	75	80
5	Weed Master plus Vitazyme	16 oz + 13 oz	65	70
6	Grazon P+D plus Vitazyme	16 oz + 13 oz	70	70
7	Grazon Next HL plus Vitazyme	10 oz + 13 oz	65	80
8	Weed Master plus Vitazyme	16 oz + 13 oz	70	75
9	Grazon P+D plus Vitazyme	16 oz + 13 oz	75	75
10	Grazon Next HL	20 oz	95	95

Table III. Average Percent Control for 30 and 60 Days After Treatment (DAT)

Plot	Herbicide	Application Rate/Acre	30DAT % Control	60DAT % Control
1, 4, 7	Grazon Next HL plus Vitazyme	10 oz + 13 oz	73.3	80
2,5, 8	Weed Master plus Vitazyme	16 oz + 13 oz	70	73.3
3, 6, 9	Grazon P+D plus Vitazyme	16 oz + 13 oz	70	70
10	Grazon Next HL	20 oz	95	95

Table IV. 2021 Herbicide Comparison Study for Controlling Broadleaf Weeds in Warm-Season Forage Systems Cost/Acre

<u>Herbicide (s)</u>	<u>Application Rates/Acre</u>	<u>Cost (\$)/Acre</u>
Grazon Next HL + Vitazyme	10 oz + 13 oz	\$9.20
Weed Master plus Vitazyme	16 oz + 13 oz	\$8.99
Grazon P+D plus Vitazyme	16 oz + 13 oz	\$8.72
Grazon Next HL	20 oz	\$8.00

* Costs are the average retail prices from Rozell Sprayers & Manufacturing and Red River Specialties (Sept. 23, 2021) for Herbicide Only no, Surfactant

GrazonNext HL = \$102.50 per 2 gal=\$102.50/256 oz oz = \$0.400/oz x 20 oz per acre= \$8.00 per acre

GrazonNext HL = \$102.50 per 2 gal=\$102.50/256 oz oz = \$0.400/oz x 10 oz per acre= \$4.00 per acre

Weedmaster = \$75.75 per 2.5 gallons = \$75.25/320 oz = \$0.237/ oz x 16 oz per acre = \$3.79 per acre

Grazon P+D = \$70.38 per 2.5 gallon = \$70.38/320 oz= \$0.22/ oz x 16 oz per acre rate = \$3.52 per acre

Vitazyme= \$127.50 per 2.5 gallons=\$127.50/320= \$0.40/oz x 13 oz per acre rate= \$5.20 per acre

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Conclusions

This is the first year of a multi-county result demonstration comparing using ½ rate of herbicide and 13 oz/acre rate of vitazyme. These result demonstration plots demonstrated that proper weed control early in the season coupled with adequate rainfall will produce more forage. Adequate forage growth is also a mechanism for weed control due to keeping the ground covered with a dense forage. Also noted is that ½ rate of herbicides had increased weed pressure in the treated areas compared to herbicides at recommended rate but weeds were reduced in size compared to the control.

Acknowledgements

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