Huma® Improves Alfalfa Quality In the Southwest

Field Report

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Huma® Products: 44 Mag®, Breakout®, Encapsalt®, Fertil Soil®, Iro-Max®, Manganese, Max Pak®, Super Nitro®, Super Phos®, X-Tend®, Vitol®

Background

All Huma® Inc. products are based on extractions of humic substances and other materials that can stimulate plant growth and improve crop quality.

Objective

The objective of this field trial was to evaluate the efficacy of applying Huma® products, specifically Encapsalt®, Super Phos®, Max Pak®, 44 Mag,® Vitol®, Super Nitro®, Breakout®, Fertil Soil®, Iro-Max®, Manganese®, and X-Tend®. The particular emphasis of this report is on assessing product effectiveness in improving the overall feed quality of alfalfa.

Materials & Methods

This trial was conducted on two different alfalfa fields at a commercial farm near Dateland, Ariz. A center-pivot sprinkler system provided irrigation water and fertilizers to both fields. The field trial spanned several months and involved multiple applications of various Huma® products through the irrigation system (Table 1). The materials were applied shortly after each cutting and/or in the mid-point of a cutting. Standardized protocols were used to analyze alfalfa quality metrics.

Table 1. Applications of Huma® products and their amounts per acre during the growing season of alfalfa in southwest Arizona.

Application #1 (January)							
Super Phos®	Max Pak®	44 Mag®	Vitol®	Breakout®	Encapsalt®	X-Tend®	
45 fl oz	34 fl oz	57 fl oz	34 fl oz	22 fl oz	51 fl oz	34 fl oz	
Application #2 (Mid-January)							
Super Phos®	Manganese	Iro-Max®	44 Mag®	Vitol®	Breakout®	Encapsalt®	X-Tend®
32 fl oz	32 fl oz	32 fl oz	96 fl oz	64 fl oz	32 fl oz	32 fl oz	32 fl oz
Application #3 (February)							
Super Phos®	Max Pak®	44 Mag®	Vitol®	Super Nitro®			
32 fl oz	32 fl oz	32 fl oz	32 fl oz	64 fl oz			
Application #4 (March)							
Encapsalt®	Super Phos®	44 Mag®	Max Pak®	Breakout®			
32 fl oz	32 fl oz	32 fl oz	32 fl oz	22 fl oz			
Application #5 (April)							
Encapsalt®	Super Phos®	44 Mag®	Max Pak®	Vitol®			
32 fl oz	32 fl oz	32 fl oz	32 fl oz	32 fl oz			
Application #6 (May)							
Super Phos®	Manganese	Vitol®	Super Nitro®	Fertil Soil®	Breakout®		
32 fl oz	32 fl oz	32 fl oz	64 fl oz	64 fl oz	32 fl oz		

Results

Table 2. Hay quality comparison between alfalfa grown with the addition of Huma products versus grower standard (GS).

Quality Parameter	Grower Standard (GS)	GS + Huma® Program	Huma vs. GS Quality Comparison
Dry Matter	89.33%	88.43%	–
Moisture	10.67%	11.57%	–
Ash	16.42%	15.62%	Lower
Neutral Detergent Fiber (NDF)	38.58%	37.08%	Better
Acid Detergent Fiber (ADF)	32.61%	30.73%	Better
Crude Protein (CP)	18.87%	19.13%	Better
Relative Feed Value (RFV)	153	163	Better
Total Digestable Nutrients (TDN)	57.88	59.29	Better
Relative Forage Quality (RFQ)	146	156	Higher
Net Energy Lactation (NEL)	0.59	0.6	Higher

Huma® products improved alfalfa quality. Notable changes were observed, such as a 5.12% decrease in ash content alongside a substantial boost in other parameters including NDF, ADF, CP, RFV, TDN, RFQ, and NEL (Table 2). ADF and TDN improved from Fair to Good, suggesting that the alfalfa quality markers are at higher levels.

Conclusions

The cost of implementing the supplementary products amounted to $386.70 per acre (MSRP 2.5s). In order to offset this cost and achieve a favorable return on investment, it would be necessary to increase alfalfa yield by an estimated 1-2 tons per acre (if quality remains the same). This suggests that while there is an initial financial investment required for the application of these products, as the quality of alfalfa improves, so does its price per ton, resulting in a higher ROI for growers who invest in enhancing crop quality.

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