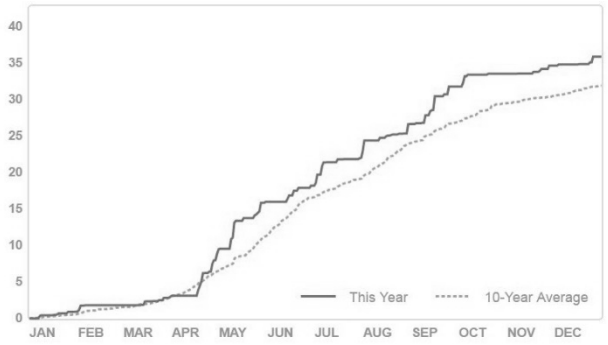
EXTENSION
On-Farm Research

Alfalfa Response to Foliar Fertilizers

Study ID: 613023201601
County: Butler
Soil Type: Hastings silt loam 0-1% slope
Planting Date: August 2011
Harvest Date: 7/7/16
Hybrid: NexGro 6497R Genuity RR
Reps: 4

Irrigation: Pivot
Rainfall (in):



Soil Sample Results:

ID	Soil pH 1:1	WDRF Buffer pH	Soluble Salts 1:1 mmho/cm	Excess Lime Rating	Organic Matter LOI %	Nitrate – N ppm N	Nitrate lbs N/A	Mehlich P-III ppm P	Sulfate-S ppm S	Boron-ppm B	Ammonium Acetate (ppm)				CEC me/100g	% Base Saturation				
											K	Ca	Mg	Na		H	K	Ca	Mg	Na
1	6.3	6.8	0.30	NONE	3.5	11.4	27	69	14	0.90	296	2565	336	15	19.0	13	4	68	15	0

Introduction: Several foliar fertilizer products were applied to alfalfa: Aspen Brix®, Aspen Ceres K®, and Aspen Engergizer®. The product active ingredients are below. Treatments were applied on June 18 (8 days after previous cutting), with 4-6" of regrowth. It had rained approximately 1 inch before dawn that day, and also had been irrigated in the previous 48 hours. Products were applied in a 28 gpa solution. This was a small plot study conducted on-farm. Plots were 25 foot long.

Aspen Brix®

GUARANTEED ANALYSIS:
Total Nitrogen (N) 6.00%, Phosphorous (P) 4.0%, Potassium (K) 2.0%, Sulfur (S) 2.0%
Derived From: Urea, orthophosphate, potassium hydroxide, and sulfuric acid.

Aspen Ceres K®

GUARANTEED ANALYSIS:

0-0-15
Total Nitrogen (N) 0.00%, Available Phosphoric Acid (P_2O_5), Soluble Potash (K_2O) Derived From: Potassium Chloride, Chlorine (CL) not more than 10%
Also Contains Nonplant Food Ingredient: Organic Acids

Aspen Energizer®

GUARANTEED ANALYSIS:
Total Nitrogen (N) 5.00% (1.20% Ammoniacal Nitrogen, 3.80% Urea Nitrate, Available Phosphoric Acid (P_2O_5) 4.00%, Soluble Potash (K_2O) 2.00%, Manganese (Mn) 2.00% (2.00% Chelated Manganese

Product Information from: *http://www.aspenveterinaryresources.com/Products/Product-items*

Results:

	Yield (lb hay/ac)	Relative Feed Value	Relative Feed Quality	Total Digestible Nutrients	Marginal Net Return‡ ($/ac)
Check	2,772 A*	130 B	148 A	51.3 AB	$117.32
Aspen Ceres K (1 gal/ac)	2,798 A	143 A	164 A	52.2 A	$109.41
Aspen Brix (1 gal/ac)	2,918 A	135 AB	150 A	50.8 B	$110.49
Aspen Energizer (1 qt/ac)	2,888 A	141 AB	165 A	51.8 AB	$116.98
Aspen Brix (1 gal/ac) + Aspen Energizer (1 qt/ac)	2,822 A	140 AB	161 A	51.8 AB	$101.16
P-Value	0.178	0.054	0.120	0.036	N/A

*Values with the same letter are not significantly different at a 90% confidence level.
‡Marginal net return based on $84.64/ton alfalfa hay,$9/gal Aspen Ceres K, $13/gal Aspen Brix, and $5.25/qt Aspen Energizer. No application cost was added as producers would likely apply these products through a center pivot system.

Summary: There was no difference in yield or relative feed quality between the check and the foliar fertilizer treatments tested. Aspen Ceres K resulted in higher relative feed value than the check. None of the fertilizers tested resulted in greater total digestible nutrients than the check. Due to no yield difference and the cost of products applied, the highest marginal net return was realized for the untreated check. It should be noted that the marginal net return was calculated using a price per ton ($84.64/ton) and does not take into account alfalfa quality; price used may be adjusted to make this applicable to individual situations.

Sponsored by: University of Nebraska Lincoln; Nebraska Corn Board

In Partnership with: Nebraska Soybean Checkoff; Nebraska Corn Growers Association; Nebraska Dry Bean Commission