



Foliar Fertilizer Effect on Grass + Alfalfa Forage Yield

Butler, PA 2021

Experiment Info:

Planted:	5/8/2019
Harvest:	6/12/2021
Yield Goal:	
Target Fert.:	
Variety:	
Population:	
Row Width:	7"
Prev. Crop:	
Plot Size:	2 acres
Replications:	1

Soil Test Values (ppm):

pH:	6.2
CEC:	9.8
%OM:	4.2
Bray P1:	80
Bicarb P:	
K:	115
S:	7
%K:	3.0
%Mg:	15.9
%Ca:	68.8
%H:	12.5
Zn:	1.6
Mn:	7
B:	0.2

Objective:

Evaluate the effect of foliar applied fertilizer on yield and forage quality of a grass + alfalfa mixed forage field.

AgroLiquid has conducted many trials evaluating fertilizer programs in alfalfa, but little research has been conducted on grass or grass + alfalfa mixed stands.

Control treatment was 200 lb/acre dry potash 0-0-60 broadcast after first harvest.

AgroLiquid treatment was 200 lb/acre dry potash 0-0-60 broadcast after first harvest followed by fertiRain applied foliar at 3 gallons/acre on the same day. A second application of fertiRain at 3 gallons/acre was made after second harvest.

Plots were harvested and dry matter yield was determined. Forage samples from each plot were analyzed for forage quality parameters and that information was used to estimate milk production per ton of forage and milk production per acre. Milk production was estimated using the "Milk 2006" model developed by the University of Wisconsin.

Parameter	AgroLiquid	Control treatment	AgroLiquid	Control treatment	AgroLiquid	Control treatment	
	2nd Harvest		3rd Harvest		Average or Total		
Crude Protein	17.50	18.50	17.65	20.40	17.58	19.45	Average for 2 harvests
ADF	35.00	35.70	33.60	32.50	34.30	34.10	Average for 2 harvests
aNDF	52.50	50.65	54.10	53.60	53.30	52.13	Average for 2 harvests
RFQ	136	129	107	96	121.25	112.00	Average for 2 harvests
NDFD 48hr	33.55	29.70	34.70	34.70	34.13	32.20	Average for 2 harvests
Milk/ton	2270	2236	2240	2280	2254.75	2258.00	Average for 2 harvests
Tons/acre dry	0.84	0.80	0.75	0.63	1.59	1.43	Total for 2 harvests
Milk/acre	1899	1799	1678	1427	3576	3230	Total for 2 harvests

AgroLiquid Treatment: 200 lb/a Dry Potash after 1st harvest
fertiRain 3 gal/acre after 1st and 2nd harvest

Control Treatment: 200 lb/a Dry Potash after 1st harvest

Conclusions:

- Forage yield in the AgroLiquid treated plot was higher than the yield in the control plot. This trial demonstrates the value of a foliar crop nutrition program in a mixed grass + alfalfa stand for yield improvement compared to a dry fertilizer program. These results are consistent with trials conducted on alfalfa.
- Forage quality was similar for both the control and AgroLiquid treatments. The similar quality and higher forage yield provided a higher estimated milk production per acre than the control treatment.