



The Rebellion of the Queen: Alfalfa as the Optimum Forage for Climate-Smart Dairy Systems

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Alfalfa Project Overview



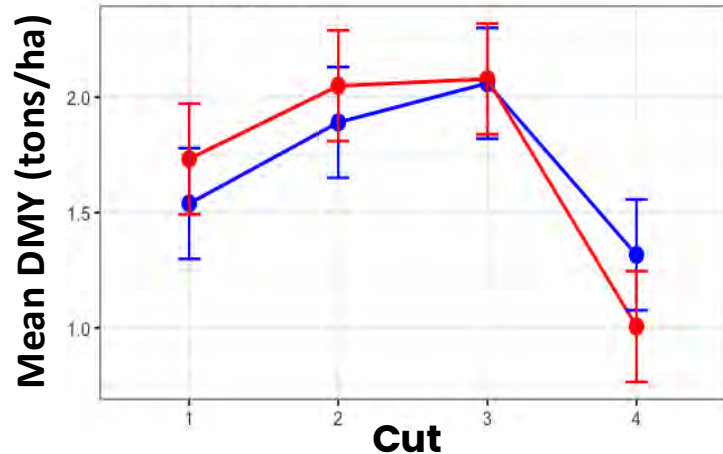
- Plot Study
- Alfalfa Field for Animal Studies
- Animal Study
- Additional Findings



Plot Study

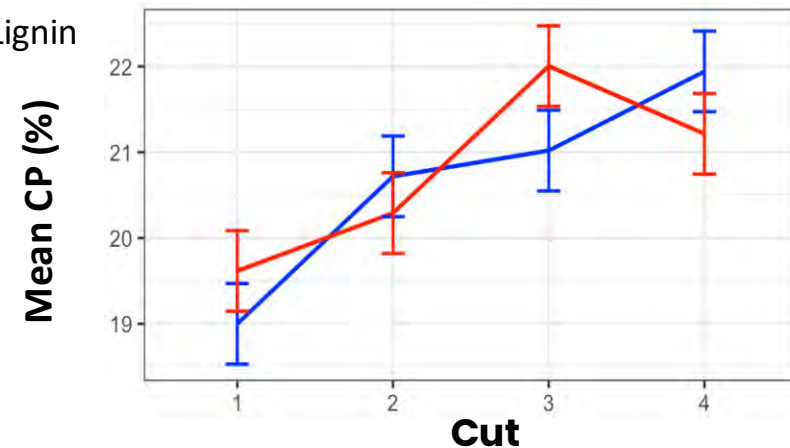
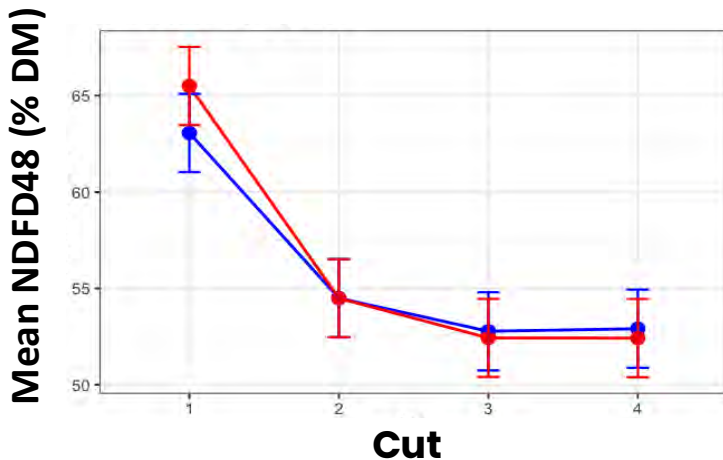
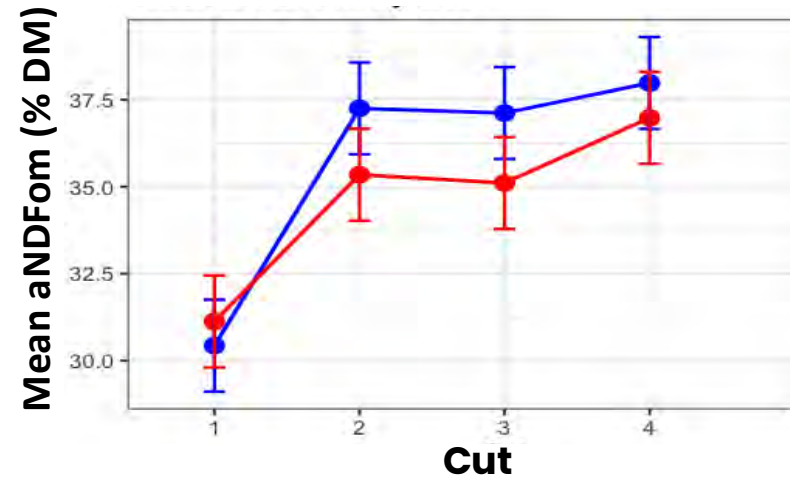


- Year 1- 192 samples harvested from across 4 cuts
- Year 2- 120 samples harvested from 3 cuts so far



Red = Reduced Lignin

Blue = Conventional Lignin



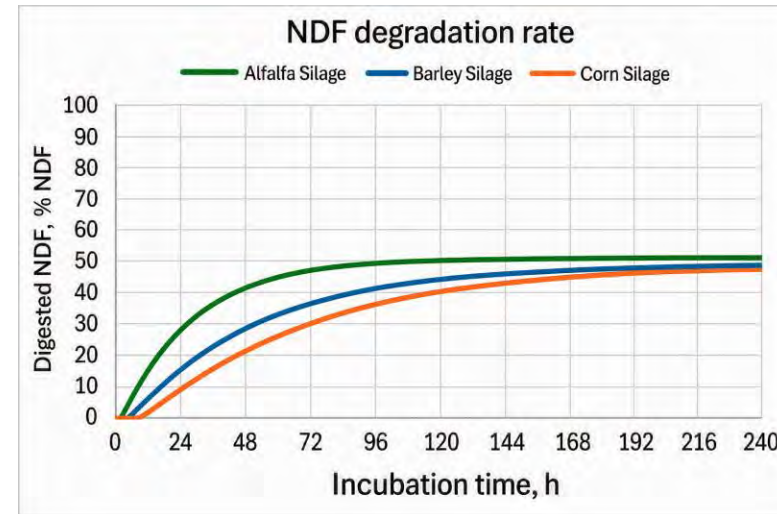
Animal Study



Table 2. Performance, methane emissions, and ruminal metabolism.

	Corn Silage	Alfalfa Silage	SEM	P value
Milk yield, kg/d	39.3	38.2	0.73	0.29
Dry matter intake, kg/d	21.3	19.9	0.47	0.06
Milk fat, %	3.64	3.80	0.24	0.43
Milk protein, %	3.14	3.09	0.02	0.18
Milk lactose, %	4.89	4.90	0.01	0.80
Milk fat yield, kg/d	1.42	1.44	0.11	0.84
Milk protein yield, kg/d	1.23	1.18	0.02	0.14
Milk lactose yield, kg/d	1.92	1.87	0.04	0.30
ECM yield, kg/d	40.7	40.2	1.58	0.71
Feed efficiency, kg ECM/kg DMI	1.91	2.01	0.07	0.12
MUN, mg/dL	13.6	12.9	0.41	0.24
Methane production, g/d	270	272	17	0.93
Methane yield, g/kg DMI	12.6	13.5	0.91	0.47
Methane intensity, g/kg ECM	6.5	6.7	0.41	0.77
Passage rate of uNDF, %/h	5.85	5.50	0.68	0.67
Pool size of uNDF, kg	3.6	3.2	0.26	0.07

ECM: Energy-Corrected milk



Alfalfa Project

Additional Findings & Acknowledgements



DAIRY FORAGE
RESEARCH LABORATORY



WE HELP DAIRY FARMERS,
NUTRITIONISTS, AND CONSUMERS