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Yield and Quality Gains with Soltellus™

Montana Alfalfa Case Study


PHOTO BY: DEBORAH SAMAC, USDA GOV

Soltellus™ is an innovative, biodegradable polymer designed to enhance nutrient retention, soil health, water quality and crop performance. As a multifunctional, water-soluble chelating agent, Soltellus™ helps retain and release nutrients to growing plants, and fosters a thriving soil microbiome. Soltellus™ is a practical and sustainable solution for improving soil health and crop yields.

Performance Proven on Montana Alfalfa

Yield and Quality Gains

At Waterloo, MT, Soltellus was tested vs. an untreated check on ¼ pivot per treatment (approximately ~18A each).

Soltellus was applied at 0.5 gal/A on 5/6/25 after winter dormancy and alfalfa regrowth was 3-5" in height. Carrier was 9 gal/A of water, for a total volume delivered of 9.5 gal/A. Soltellus cost = $10/A.

Alfalfa from the first in-season cutting was cut on 6/25/25, and baled on 7/2/25. Bale weights recorded on 7/3/25. Hay samples from 30 random bales per treatment were collected and sent to Dairyland Labs, Jerome, ID for quality analyses. Results reported back on 7/14/25.

A second cutting was made on 8/1/25 and baled on 8/6/25. Hay samples were again collected and sent to Dairyland Labs, with results received on 8/26/25.

Yield (first and second cuttings) and quality differences (first cutting only) in favor of Soltellus are shown in the chart and graphs below.

> "The yield gains we saw in alfalfa from a single application of **Soltellus** caught our attention, **but the gains in quality measurements like RFQ were quite amazing.** Those are real important metrics to the livestock producer."
>
> JOHN HOSTETLER
> HOSTETLER ANGUS LLC
> TWIN BRIDGES, MT

Measurement	Untreated	Soltellus-Treated	Soltellus Advantage	Untreated	Soltellus-Treated	Soltellus Advantage
	First Cutting			Second Cutting		
Bales Harvested / A	6.82	7.07	**0.25**	4.13	4.34	**0.21**
Average Bale Weight (lb)	862	930	**7.9%**	887	946	**6.7%**
Ton / A	2.94*	3.29	**0.35**	1.83	2.05	**0.22+**
$ Profit / A^	$470.40	$516.40	**$46.00**	$292.80	$328.00	**$35.20**

*First cutting: Bale weight corrected to Soltellus treated moisture of 10.74%. Untreated alfalfa = 13.09%. Weight differences also thought to be due to more leaf biomass present in the lower ½ of canopy in Soltellus treatment (grower communication).

+Second cutting was not adjusted for moisture content as both treatments were ~10%. Crude protein, TDN, RFQ and RFV also did not differ among treatments so data are not shown.

^Assuming hay is sold at $160/ton. First cutting only profit subtracted $10/A for Soltellus cost in that treatment.

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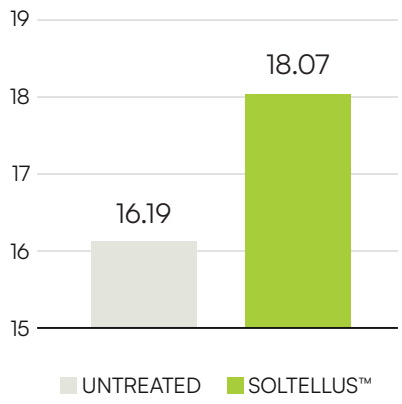
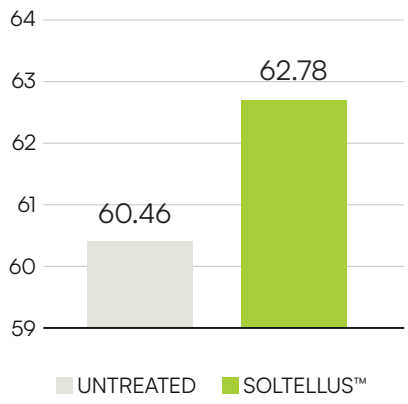
First Cutting Hay Quality Metrics

(source: Dairyland Labs)

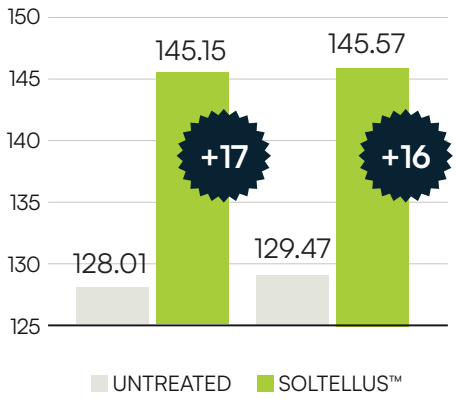
Crude Protein
(% OF DRY MATTER)



Total Digestible Nutrients
(MLK 2013)

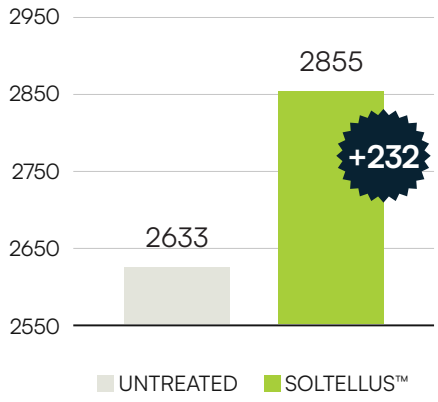


Relative Feed
VALUE (L) AND QUALITY (R)



RFQ score is indicative of profitability and is thought to contribute $1.00 profit per acre per ton produced (grower communication).

Milk/Ton
(LB)



Extra profitability from Soltellus treatment for the dairy producer: +232 lb of milk per ton / 8.7 lb per gallon of milk x grower obtained milk price.