alpha*joule*™

Key Benefits

- Crop-by-crop and seasonal yield enhancement
- Harvest flexibility and potential forage quality improvements
- Root growth and root reserve recharge
- Stand life & rotation implications

alpha*joule* On-Farm Results–Fed On-Farm to Dairy

Location: Klondike, WI
Oconto County

Soil Type: Sandy loam

Established: Spring 2018 with oats as nurse crop

Harvest Dates: June 4, 2020; June 29, 2020; July 28, 2020; and September 2, 2020

Comments: alpha*joule* applied to each crop starting at spring green-up. Orchardgrass was included in the drill box at planting.

Applying alpha*joule* *to alfalfa/legume mixtures has a positive effect on both species. Follow best management practices to maintain desired balance of alfalfa/grass.*

	Crop	Crude Protein	TTNDFD	Milk per Ton	Yield at 15% Moisture	Milk per Acre at 15% Moisture
Without Treatment	First	24.6%	49.31%	2,956 lbs	2.25 T/A	6,636 lbs/A
With alpha*joule*	First	23.9%	45.28%	3,090 lbs	2.34 T/A	7,237 lbs/A
alpha*joule* **% Advantage**		-2.8%	-8.2%	+4.5%	+4.0%	+9.1%
Without Treatment	Second	24.4%	44.20%	2,997 lbs	1.30 T/A	3,566 lbs/A
With alpha*joule*	Second	22.9%	42.00%	2,881 lbs	1.43 T/A	4,120 lbs/A
alpha*joule* **% Advantage**		-6.2%%	-5.0%	-3.9%%	+10.0%	+15.5%
Without Treatment	Third	24.2%	37.06%	2,804 lbs	1.19 T/A	3,337 lbs/A
With alpha*joule*	Third	25.7%	38.87%	2,846 lbs	1.32 T/A	3,757 lbs/A
alpha*joule* **% Advantage**		-6.2%	+4.9%	-3.9%%	+10.9%	+12.6%
Without Treatment	Fourth	24.6%	40.30%	2,885 lbs	1.13 T/A	3,341 lbs/A
With alpha*joule*	Fourth	24.5%	39.21%	2,951 lbs	1.49 T/A	4,397 lbs/A
alpha*joule* **% Advantage**		=	-2.7%	+2.3%	+31.9%	+31.6.6%
Without Treatment	Total	24.5%	42.72%	2,911 lbs	5.87 T/A	16,880 lbs/A
With alpha*joule*	Total	24.3%	41.34%	2,942 lbs	6.58 T/A	19,511 lbs/A
alpha*joule* **% Advantage**		=	**-3.2%**	**+1.1%**	**+12.1%**	**+15.6%**

BOTTOM LINE:

Note the increasing effect of alpha*joule* through the season: +4% on first, +10% on second, +11% on third, and +32% on fourth crop. On a milk per acre basis, an acre of alpha*joule* treated alfalfa produced over $420 more at $16/cwt milk during the season.

alphajoule™ Technical Description

alpha$_{joule}$ from Agrovive, Inc. is an in-plant biostimulant for alfalfa comprised of proprietary strains of Pseudomonas flouresense and Bacillus megatarium bacteria. These non-GMO, patent pending bacteria strains were selected from the natural environment and screened for their ability to recycle nutrients, impact water use efficiency, and reduce the effects of abiotic and biotic stressors on alfalfa growth at the cellular level.

In the alfalfa plant, the alpha$_{joule}$ endophytic bacteria live in the inner cellular spaces and the cell walls of the roots, crown, stems and leaves where metabolism and cell division are regulated. Here, the bacteria and the host cells have a symbiotic relationship that promotes plant health, photosynthesis, carbohydrate production, and performance efficiencies.

When stresses begin to adversely affect cell functions in any part of the alfalfa plant, the production of ethylene is triggered within those cells. Ethylene is an anti-growth hormone that slows vital cell functions such as photosynthesis and promotes early maturity and leaf drop if not alleviated. Alpha$_{joule}$'s multi-strains of bacteria mediate ethylene production within the stressed plant at the sub-clinical stage to reduce potential effects on yield, maturity, quality, or persistence.

To learn more, visit yieldmastersolutions.com

Application

alpha$_{joule}$™ management suggestions for ease of application & best results.

- Liquid product that can be sprayed, fertigated with an irrigation system, or air applied.
- Can be applied to all alfalfa varieties and technologies at spring green-up and following each harvest during the growing season
- A case of alpha$_{joule}$ covers 20 acres of established alfalfa
- Each case contains two 2.5-gallon jugs. One jug is alpha$_{joule}$ and the second jug is PRYMER™ for Alfalfa, a bacteria and micronutrient activator
- Apply with a minimum of 10 gallons of clean water per acre
- Use larger sized nozzles for best crop coverage
- Apply alpha$_{joule}$ when the majority of crown buds have released and at least three weeks before the next harvest. This recommendation usually provides a 5-7 day application window after the previous crop's cut date.
- alpha$_{joule}$ and PRYMER for alfalfa are tank mix compatible with other products applied to alfalfa at the green-up stage of growth. This would include micronutrients (except copper), insecticides, herbicides (except glyphosate), and most fungicides.

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