

EXPERIMENTAL DESIGN

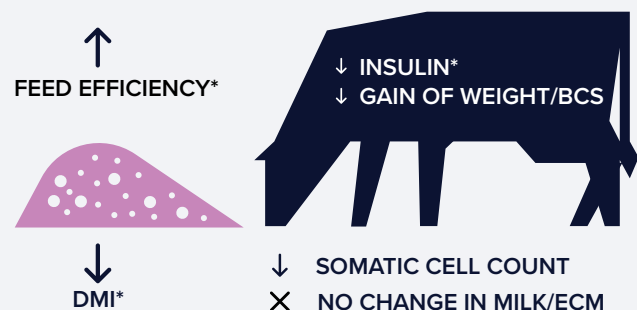
- Individual tie-stalls; milked 3X/day
- 5g dose mixed with ground corn & top-dressed daily
- 14-day baseline + 112-day treatment
- 40% primiparous, 60% multiparous
- Animals started mid-lactation (71-115 DIM)

		MICROBE DOSE (CFUS)			
EXPERIMENTAL GROUPS	n*	<i>P. kudriavzevii</i>	<i>C. beijerinckii</i>	<i>R. bovis</i>	<i>B. fibrisolvens</i>
Control	30	none	none	none	none
G2	30	1 x 10 ⁸	1 x 10 ⁷	1 x 10 ⁸	1 x 10 ⁸
G2 Plus	30	1 x 10 ⁹	7.5 x 10 ⁷	1 x 10 ⁸	1 x 10 ⁸

Cows blocked and assigned group by DIM, parity, & ECM per unit BW

*Across 2 cohorts, started 11/13/2020 (n=14/grp) & 1/29/2021 (n=16/grp)

SIGNIFICANT OR TRENDING* RESPONSE METRICS



DISCUSSION

When animals were fed Galaxis® Frontier starting mid-lactation, no change in milk weights were observed and instead animals showed a trending decrease in dry matter intake and less gain in body weight. Taken with no change in blood NEFA and a trending decrease in plasma insulin levels (putatively as a result of lower intakes), this trial suggests that energy partitioning was shifted more towards milk production. This hypothesized change in energy partitioning fits with a trending feed efficiency increase without a change in digestibility or energy capture from the feed. Overall, no differences were observed between the two doses of Galaxis® Frontier, except for blood NEFA levels of G2 versus G2P cows (p = 0.031).

DIET & NUTRIENT COMPOSITION

Ingredients	% of DM	
	Cohort 1	Cohort 2
Corn Silage	29.1	29.3
Alfalfa Silage	13.8	14.0
Ground Corn	22.4	22.6
Cottonseed, Whole	7.2	7.4
Soybean Meal	8.5	8.6
Soybean Hulls	10.2	10.5
Vitamin/Mineral Mix ¹	2.1	2.2
High Cow Supplement Mix ²	7.6	7.7
Nutrient Composition		
DM (kg)	23.9	24.6
NDF	29.2	28.9
Forage NDF	18.2	20.5
Starch	26.9	27.7
CP	16.8	16.8

¹Contained 22.0% fine ground corn grain, 20.0% calcium carbonate, 19.1% calcium phosphate 10.0% sodium chloride, 4.6% sodium sesquinate and trace minerals and vitamins to meet 2001 NRC requirements.

²Contained 39.5% Amino Plus (Ag Processing Inc., Omaha, NE), 18.4% Caledonia Pass (Caledonia Farmers Elevator, Caledonia, MI), 15.8% sodium sesquicarbonate, 12.8% calcium carbonate, 8.7% fine ground corn grain, 2.7% urea, and 1.1% Smartamine M (Adisseo, Alpharetta, GA).

KEY EXPERIMENTAL RESULTS

	CONTROL	G2	G2P	P-VALUE (CONT V G2/G2P)
DMI (kg)	29.6	29.3	28.8	0.08
Milk (kg)	43.8	44.4	44.2	0.46
ECM (kg)	46.1	45.9	45.7	0.60
SCC (x1,000 cells/ml)	20.7	13.5	16.5	0.05
Feed Efficiency (ECM/DMI)	1.54	1.57	1.58	0.06
Captured Energy/Feed Energy	0.27	0.27	0.27	0.52
BW (kg)	694	687	686	0.02
BW Gain (kg/d)	0.508	0.375	0.380	0.001
BCS	3.2	3.14	3.16	0.05
BCS Gain (d ⁻¹)	0.070	0.052	0.048	0.04
Glucose (mg/dL)	55.5	54.6	54.5	0.34
NEFA (uM)	90.4	81.2	92.4	0.41
Insulin (ug/L)	0.947	0.812	0.851	0.057
OM Digestibility (% DM)	66.1	64.8	65.6	0.06
NDF Digest. (%)	45.4	43.7	45.1	0.19
Starch Digest. (%)	98.5	98.5	98.4	0.88
CP Digest. (%)	60.8	59.8	60.6	0.49