

AJINOMOTO®

AJINOMOTO HEARTLAND, INC.



**AjiPro<sup>TM</sup>-L**  
Rumen Protected Lysine

# ▶ AjiPro™-L Improves Ruminant Ration Utilization

**Precise ration formulation is necessary for optimizing a cow's potential for higher milk production.**

Dairy cows require lysine (an essential amino acid) for milk production. Because the dairy cow does not synthesize Lysine, a variety of feed ingredients are fed to try and meet the Lysine requirement of the high-producing dairy cow. Unfortunately, Lysine in these feed ingredients is broken down by rumen bacteria and other microorganisms, allowing only unpredictable amounts of Lysine to reach the small intestine for absorption. As a result, the lysine available to the cow, and thus the amount of Lysine that the cow can effectively

utilize for milk production, are often at levels below the cow's requirement.

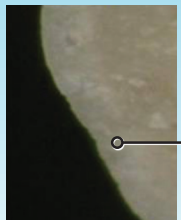
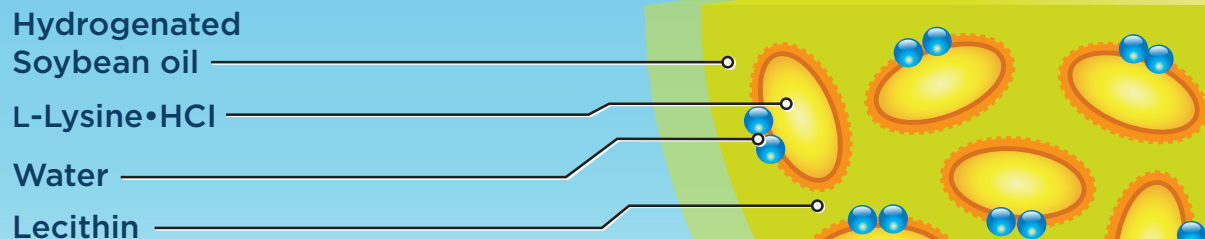
AjiPro™-L is a highly bypassable, digestible and available source of L-Lysine for the high-producing dairy cow. At the heart of AjiPro™-L is a matrix of L-Lysine-HCl and vegetable oil that resists physical and microbial breakdown as it passes through the rumen.

Whether AjiPro™-L is formulated in to a ration or added on-top, AjiPro™-L improves the overall

balance of amino acids in the diet and delivers a more predictable amount of lysine for absorption and utilization by the high-producing dairy cow. Not only can milk production be optimized, but nutritionists are also able to reduce diet costs through the use of less expensive, high-protein ingredients. This will often equate to less nitrogen excretion by the dairy cow.

## ▶ Novel Technology

**A Stable Complex in a Matrix Form**



Hydrophobic Layer

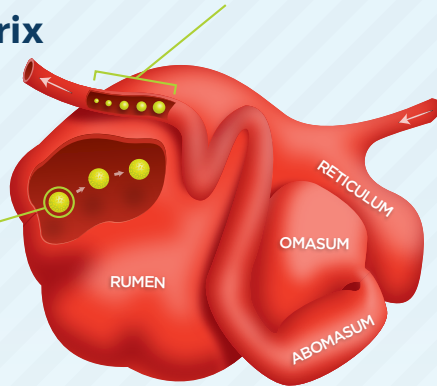
*Resists physical and microbial breakdown as it passes through the rumen*

# AjiPro™-L

Rumen Protected Lysine

L-Lysine is absorbed in the small intestine

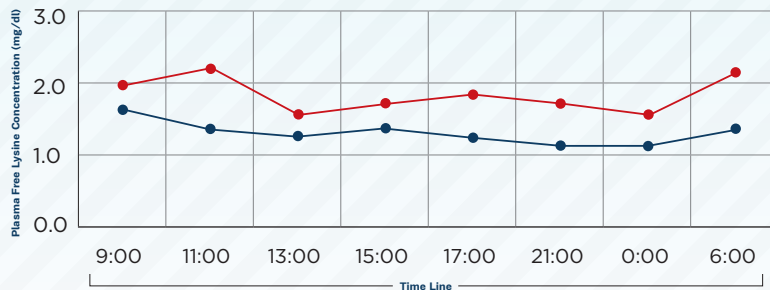
## A Protective Matrix that Bypasses the Rumen



Considering the typical environment and bypass characteristics of the high-producing dairy cow's rumen, AjiPro™-L hits on an optimal balance between rumen protection and providing a highly-available source of L-Lysine. At the heart of AjiPro™-L is a matrix of L-Lysine-HCl and vegetable oil that resists breakdown as it passes through the rumen. When AjiPro™-L reaches the small intestine, L-Lysine is made available for absorption and utilization by the dairy cow as bile salts and lipase digest away the vegetable oil.

## Plasma Free Lysine Concentration (mg/dl)

AjiPro™-L is not only resistant to rumen degradation, but is also a readily digestible and available source of L-Lysine over time.



● Diet without AjiPro™-L ● Diet with AjiPro™-L

# Increase Profit with AjiPro™-L

Field and controlled research trials demonstrate that when the Lys/AP balance is improved with AjiPro™-L, milk<sup>A</sup> volume and protein<sup>B</sup> are increased.

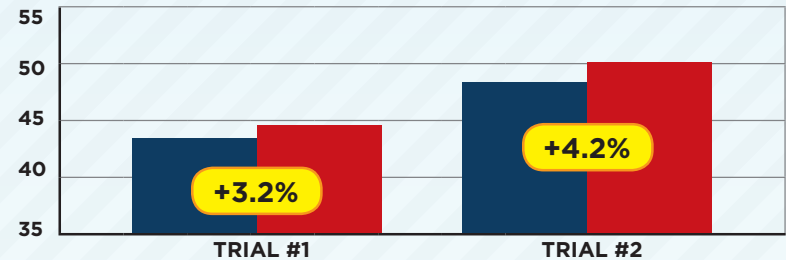
	TRIAL #1 <sup>1)</sup>		TRIAL #2 <sup>2)</sup>	
	Control	AjiPro™-L	Control	AjiPro™-L
Lys/AP <sup>3)</sup> , %	5.80	6.20	5.53	6.04
Experimental Period	DIM 28 to 56		8 weeks from avg. DIM 79	
Supplementation Dosage, g AjiPro™-L/cow/day	0	75	0	95
Milk, kg/day	43.2	44.6	47.99	50.02
Milk protein, kg/day	1.18	1.22	1.35	1.43
Milk fat, kg/day	1.66	1.84	1.72	1.82

1) Abstract #215, 2010 JAM of ADSA-PSA-AMPA-CSAS-WSASAS-ASAS

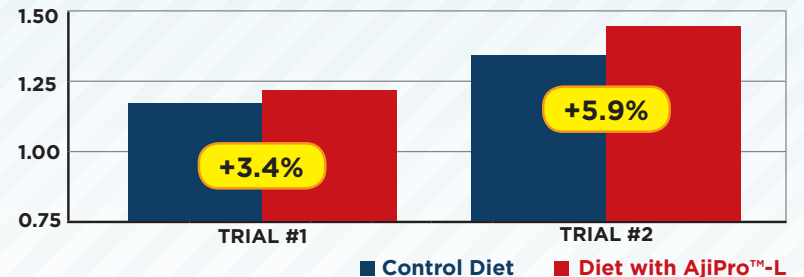
2) Abstract #1051, 2010 JAM of ADSA-PSA-AMPA-CSAS-WSASAS-ASAS

3) Lys as a percentage of total Absorbable Protein, calculated with SHIELD 2007, UC Davis

## A.) Milk Volume, kg/day



## B.) Protein, kg/day



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**Contact us for trial details and more information:**

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www.lysine.com • 773.380.7000

ISO 9001:2008 ISO 14001:2004

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