Blood plasma validation of AjiPro®-L

Blood plasma evaluation confirmed the high level of lysine bioavailability in AjiPro-L, a rumen protected lysine. AjiPro-L offers flexibility in ration formulation and encourages the balancing of amino acids for higher milk production, higher income over feed costs, and reduced nitrogen excretion.

BACKGROUND
A long-term investigation into the use of plasma lysine to quantify the lysine level absorbed from a rumen protected lysine (RP-Lysine) was led by Dr. Charles Schwab, professor emeritus, University of New Hampshire.

Earlier infusion studies indicated that a regression equation could be used to identify the bioavailability of products using “a slope-ratio” technique. Verification, though, required a well-characterized RP-Lysine product.

SLOPE RED / SLOPE BLUE = RELATIVE BIOAVAILABILITY

For verification, a well-characterized RP-Lysine product is necessary.

BIOAVAILABILITY OF AJIPRO-L, FIRST GENERATION, SLOPE-RATIO TECHNIQUE

Plasma Lysine (%TAA on g/m basis)

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<thead>
<tr>
<th>Infusion Cows</th>
<th>AjiPro-L Cows</th>
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<tr>
<td>Plasma Lysine, %TAA</td>
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Regression for L-Lysine infusion (100% bioavailable)

Regression for L-Lysine fed in a form of RP-Lysine

Relative bioavailability: 0.0068 / 0.0183 = 37.2%
Close to the AJICO value of 40%

COMPARATIVE BIOAVAILABILITY OF AJIPRO-L TO OTHER RP-LYSINE PRODUCTS

Practical application

Experiment 1 (2 set of 4 x 4 Latin)

L-Lysine dosage (grams infused or fed)

Regression for L-Lysine %TAA on µg/ml basis

Relative bioavailability
AjiPro-L: A = 1:0.42

AjiPro-L third generation product is now available. Third gen continues the trend of lowering cost per metabolizable Lysine while maintaining the same high level of protection and consistency Ajinomoto puts behind all of its products.

www.AjiPro-L.com
8430 W Bryn Mawr #65 • Chicago, IL, USA 60631-3421 • 1-833-AJIPROL • AANASales@ajiusa.com