MetaSmart®

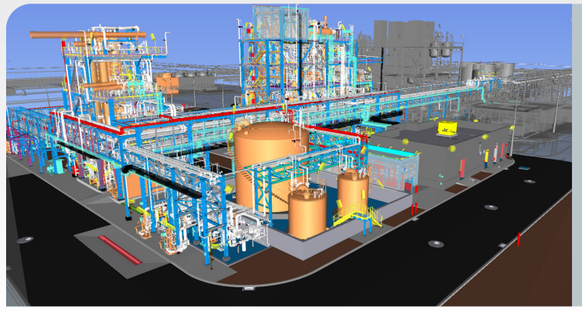
- Source of metabolizable methionine, a required nutrient for **dairy cows**
- **To Maximize** milk fat, total components and herd profitability.

AVAILABLE IN TWO FORMS

Liquid Dry

SOLUTION FOR ANY TYPE OF FEED

Pelleted feed Mineral feed Liquid feeds



SUSTAINABLE EUROPEAN PRODUCTION

MetaSmart® state of the art plant in Spain (EU) fully integrated with Rhodimet® AT88 production

References:

Chen, ZH, GA Broderick, D Luchini, BK Sloan, and E Devillard. 2011. Effect of feeding different sources of rumen-protected methionine on milk production and N-utilization in lactating dairy cows. Journal of Dairy Science 94: 1978-1988. https://doi.org/10.3168/jds.2010-3578.
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Zhou, Z, M Vailati-Riboni, E Trevisi, JK Drackley, D Luchini, and JJ Loor. 2016. Better postpartal performance in dairy cows supplemented with rumen-protected methionine compared with choline during the peripartal period. Journal of Dairy Science 99: 8716-8732. https://doi.org/10.3168/jds.2015-10525.

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MetaSmart®

MetaSmart®

1 Product 2 Actions for maximum performance

ADISSEO
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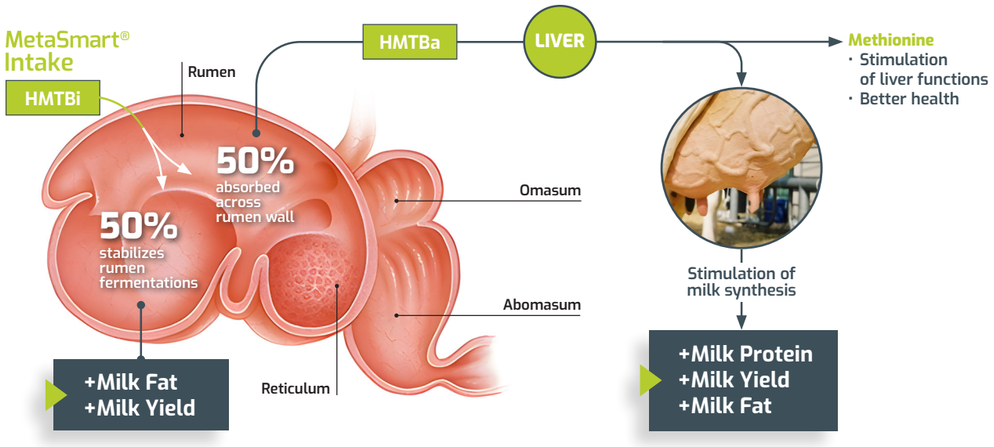
1 PRODUCT, 2 ACTIONS

50% BIOAVAILABLE, 50% RUMEN AVAILABLE

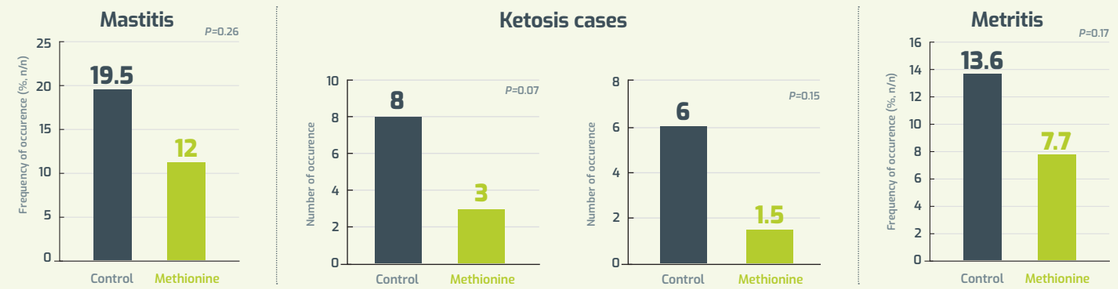
50% of MetaSmart® is absorbed through the rumen wall, hydrolyzed to HMTBa, and is available as a metabolizable methionine source to the cow. The other 50% is available as HMTBa for utilization in the rumen.



ENHANCE HEALTH STATUS

Increasing dietary metabolizable methionine during transition period improves cow health by:

- Reducing inflammation
- Improving liver function
- Boosts antioxidant levels (glutathione and taurine)
- Enhances immune function.



Osario et al 2013, Zhou et al 2016 , Stangaferro et al., 2017

Decreasing the occurrence of post-calving disorders like mastitis, ketosis and metritis.

MILK YIELD AND COMPONENTS IMPROVED AT ALL STAGES OF LACTATION

Average values of milk production increase on full lactation

+1.73kg Milk Yield (kg)

+0.34 Milk Fat (%)

+0.18 Milk True Protein (%)

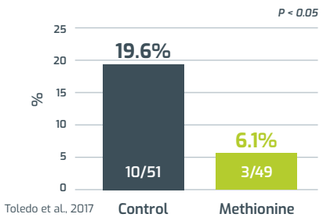
Osario et al. 2013, St-Pierre et al. 2005, Chen et al. 2011

INCREASING REPRODUCTIVE PERFORMANCE AND REDUCING INVOLUNTARY CULLING

Metabolized methionine plays a role in several key factors directly related to reproduction success:

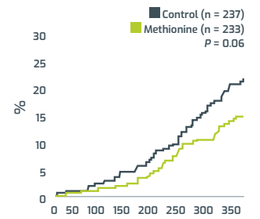
- Improved follicle quality
- Better uterine environment (less inflammation)
- Improved embryo composition (more lipids)
- Improved pregnancy recognition (embryo size).

Pregnancy losses between 28 and 61 d after TAI (%) - Multiparious cows



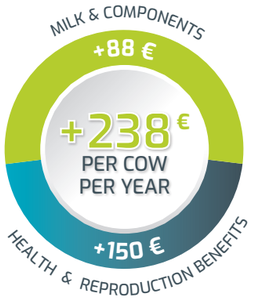
Toledo et al., 2017

Proportion of cows culled (%)



Increased pregnancy rate | Decreased pregnancy loss | Decreased involuntary culling rate.

THE PROFITABLE SUSTAINABLE SOLUTION TO MEETING DAIRY COW REQUIREMENTS FOR LIFETIME PERFORMANCE



Amino acid balancing can improve net income per cow per year

- Higher milk performance
- Health benefits (saving money): fewer health disorders
- Reproductive benefits: lower pregnancy losses, reduced calving Interval
- Lower involuntary culling
- Greater lifetime performance.

Milk$MART by Adisseo

Ask your Adisseo representative to calculate the full economic impact of Amino acid balancing with your own data.

IMPROVEMENT OF NITROGEN EFFICIENCY FOR SUSTAINABLE DAIRYING

-8%	35%	7.5%
Up to -8% Nitrogen inputs	Nitrogen efficiency over 35%	Decrease Nitrogen excretion 7.5%

without compromising milk performance.*

*Chen et al 2011, by Amino acid balancing formulation

The days of overfeeding protein as an acceptable practice are finished.

-1% reduction in ration Crude Protein content through AA balancing **=** **-10%** carbon footprint of the diet