

MetaSmart®: A Unique Alternative to Traditional Metabolizable Methionine Sources

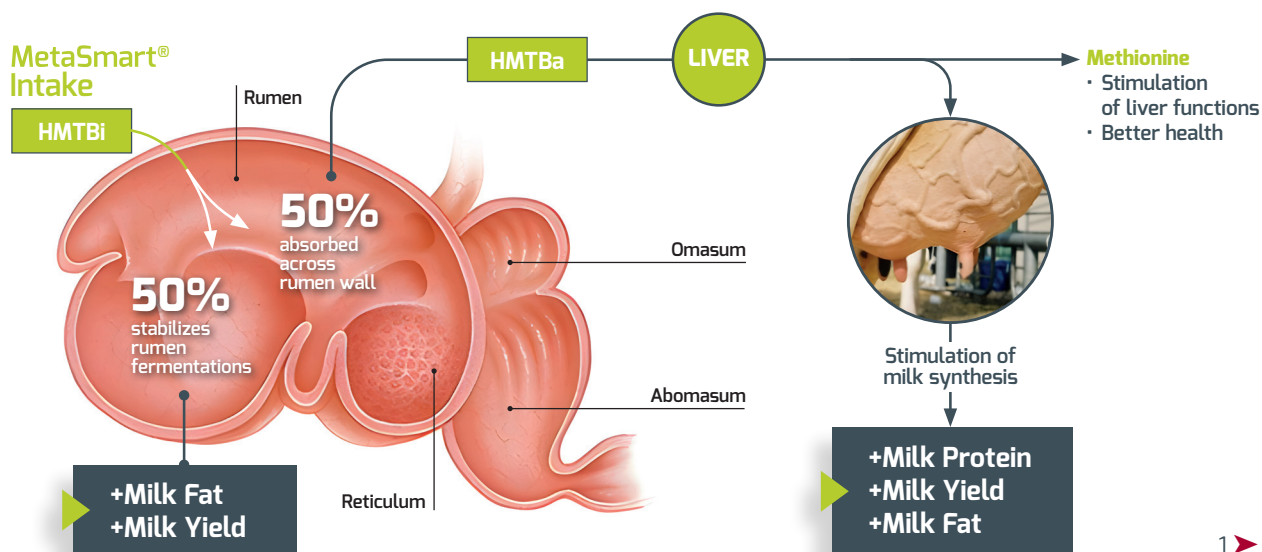
What is MetaSmart?

MetaSmart: the hydroxyl analogue of methionine (HMTBa) with an added isopropyl alcohol group (HMBi).

The addition of the alcohol molecule makes it possible for MetaSmart to be absorbed across the rumen wall and enter the bloodstream to be converted to Methionine (Met). MetaSmart is a liquid product that is 74% Met equivalent. Approximately 50% of the Met analogue in MetaSmart may be considered metabolizable methionine (mMet). The other 50% is rumen available (HMTBa). It can be dried on a carrier to make a less dense product called MetaSmart Dry. MetaSmart Dry has a lower concentration of Met due to the presence of the carrier. MetaSmart Dry is 44% Met equivalent vs. 74% Met equivalent in the liquid product.

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.



AVAILABLE IN TWO FORMS



Liquid



Dry

Why use MetaSmart® liquid or dry?

Versatility

One key advantage of MetaSmart is that this product is **resistant to damage by mechanical abrasion** such as pelleting or mixes with high levels of mineral components. Additionally, MetaSmart can be successfully incorporated in liquid feeds.

SOLUTION FOR ANY TYPE OF FEED



Pelleted feed



Mineral feed



Liquid feeds

An established track record for improving milk and milk component yield

Balancing dairy diets for limiting amino acids has been shown to **increase milk and component yields** while decreasing the level of overall protein fed in many University studies resulting in a positive return on investment throughout lactation.

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Milk yield and components improved throughout lactation

Milk yield, lbs (kg)	Milk fat, %	Milk protein, %	ECM, lbs (kg)	DMI, lbs (kg)
2.97 (1.35)	0.14	0.10	5.38 (2.44)	1.20 (0.54)

\$\$ Formulation Savings Opportunity \$\$

MetaSmart® can reduce the feeding rate of HMTBa by 1/3. When feeding MetaSmart and an HMTBa source, the amount of HMTBa can often be reduced by 30 percent due to the contribution of HMTBa from MetaSmart. This can result in a savings of ~ 5 cents/cow/d.

How much MetaSmart should I feed?

That depends on the other components of the diet. It is highly recommended that nutritionists use a modeling program like the CNCPS when amino acid balancing. That said, **most high cow dairy diets across the northern US and Canada will require between 8 and 12 grams of mMet which translates to 21 to 32 grams of MetaSmart liquid or 36 to 54 grams of MetaSmart dry.** Feeding this range of MetaSmart allows you to decrease supplemental HMTBa to about two-thirds of what you would normally feed to reach the recommended 30 grams. Adisseo can also provide ration balancing input to help optimize the diet.

Are there inclusion rate and pH considerations when formulating with MetaSmart?

Yes. Generally, do not include more than 60 pounds/Ton of liquid MetaSmart in a dry formula to make sure that mixes will flow through delivery trucks and farm equipment. **In colder months** (December, January and February) it is recommended that you formulate with no more than 20 pounds/Ton and make up the rest of mMet with Smartamine M or dry MetaSmart. When formulating dry and liquid mixes with MetaSmart it is important to make sure the formula stays in the pH range of 4.0 to 9.0. Most liquid feed manufacturers are aware of this and can formulate within these parameters. Mixes containing a high level of buffer or alkalizing agents like MagOx can be easily tested to determine pH.

Where can I get more information on formulation?

MetaSmart User Guide from milkpay.com

<https://milkpay.com/wp-content/uploads/2024/06/MetaSmart-Users-Guide-082023.pdf>

Contact your **Adisseo** representative to learn more!



<https://adisseomilksmart.com/login>



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