



Accounting for Rumen Protected Methionine Products

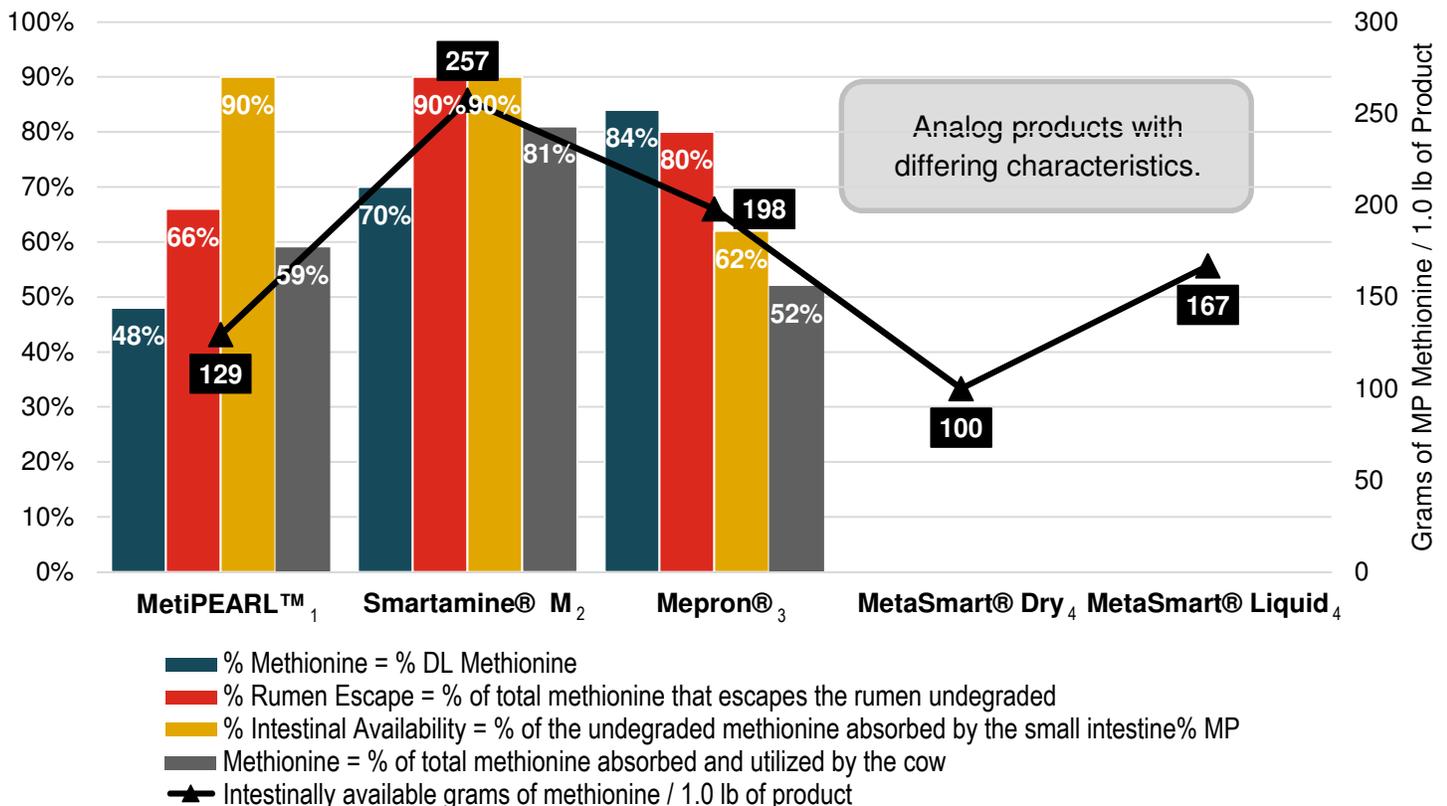
Making a purchase in today's economic climate requires an in-depth examination of the product's features and benefits. From functionality to price, focusing on just one or two characteristics doesn't provide the complete picture and this is especially true when comparing rumen protected methionine products. While some products may have advantages in certain areas (e.g. % rumen escape or price per pound), it is important to gauge a product's efficacy on the sum of all of the product's characteristics.

The four product characteristics necessary to effectively evaluate rumen protected methionine are:

- **Methionine concentration** = Percent (by weight) of the product that is methionine.
- **Rumen Escape** = Percent of the methionine contained by the product that is undegraded in the rumen.
- **Intestinal Availability** = Percent of the undegraded methionine in a form available for absorption in the intestine of the animal.
- **Metabolizable Methionine (MP Methionine)** = Percent of the total methionine contained in the product that is available and utilized by the animal (100% x Rumen Escape % x Intestinal Availability % = Metabolizable Methionine %).

Comparisons of the rumen protected methionine products on the market are shown in Figure 1.

Figure 1. Rumen Protected Methionine Product Characteristics





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The combination of methionine concentration, rumen escape, and intestinal availability determine which rumen protected methionine product is the most efficient at delivering MP methionine to the cow. When examining methionine analog products, the predicted grams of MP methionine provided are utilized to calculate the cost per gram of MP methionine. To determine which product is the most cost effective source of MP methionine, a final comparison highlighting sales prices is shown in Table 1.

Table 1: Price Comparison of Rumen Protected Methionine Products

	Grams of MP Methionine/lb of Product	Product Cost (\$/lb)	MP Methionine Cost (\$/gram of MP methionine)
	$(454 \text{ grams of product}) \times (\% \text{ methionine}) \times (\% \text{ MP methionine})$		$(\$/\text{lb of product}) / (\text{grams of MP methionine})$
MetiPEARL™	129	\$3.00	\$0.023
Smartamine® M	257	\$7.00	\$0.027
Mepron®	198	\$4.90	\$0.025
MetaSmart® Dry	100	\$2.77	\$0.028
MetaSmart® Liquid	167	\$3.98	\$0.023

CONCLUSION

High rumen escape alone will not deliver an adequate volume of available methionine to the cow. Each characteristic of a rumen protected methionine product must be taken into account when determining which product provides the most cost effective supply of MP methionine. When taking all of these characteristics into account, MetiPEARL is a cost effective source of MP methionine.

REFERENCES

1. Kemin Internal Document, 15-00010.
2. Smartamine® M Spec Sheet.
3. Mepron® Spec Sheet.
4. MetaSmart® Technical Information Sheet.

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