



PERSPECTIVES: Adisseo is Fully Prepared to Bring Rumen Protected Methionine Direct to Market after Years of Thought Leadership

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07 November 2019- The amino acid and vitamin products Smartamine® M, MetaSmart®, and Microvit® A Supra Ruminant have been in use for years at dairy farms across Europe, the Middle East, and Africa (EMEA). However, the new year will mark a new era for this portfolio, as Adisseo, the manufacturer, will take over their direct distribution, an approach it currently uses in the rest of the world.

The move is a natural fit for Adisseo, who has long prided itself on its leadership within the amino acid space in particular. Whether it comes to funding research which broadens our understanding of the many roles of methionine, establishing dietary guidelines for balancing various amino acids, building awareness of the importance of amino acid use in dairy cattle via educational events, or indeed, simply setting a high bar for quality via world-class manufacturing standards, Adisseo conceives of its role not only as advancing its own commercial interests, but indeed growing the entire market. Below, Brian Sloan, director of Adisseo's ruminant business, discusses the company's commitment to amino acids and talks about what this change represents for the company.

[Feedinfo News Service] As of January 1st 2020, Adisseo will take on the distribution of its Smartamine® M, MetaSmart® and Microvit® A Supra Ruminant products in EMEA. What does this mean for Adisseo and you personally?

[Brian Sloan] It is very exciting to be able once again to deal directly with our customers in Europe, the Middle East and Africa. I hope personally to re-acquaint with old friends from when I was the technical manager for business development back in the 1990s. Obviously there have been many evolutions in the market since then. Yet Adisseo has been resolute and focused since we first launched Smartamine M in 1992 on being at the forefront of turning the concept of amino acid balancing in dairy into an actual practice employed by many formulators for the benefit of the dairy industry.



BRIAN SLOAN
DIRECTOR OF RUMINANTS BUSINESS
ADISSEO

And it is very exciting for the company, because amino acid balancing is a concept which is central to the DNA of Adisseo. Adisseo was the first to bring DL methionine to the market in the 1960s, and, through the development of the AEC Tables, was a pioneer in the development of amino acid recommendations for all poultry species. Now these recommendations are taken for granted.

Today we have much more to offer our dairy customers than the best ruminant sources of methionine and vitamin A. New products such as Selisseo® (hydroxy-selenomethionine) are leading the way to extend our dairy platform. Many new emerging products are in the pipeline.

[Feedinfo News Service] How has the commitment of Adisseo to amino acid balancing benefitted the market as a whole?

[Brian Sloan] There can be no market for rumen protected amino acids until the importance of methionine and other essential amino acids has been demonstrated and until amino acid requirements for optimal productivity, health, and reproduction have been defined. Adisseo was the first company to recognize this necessity. For over 40 years, it has heavily invested in research to illustrate the important metabolic, physiological, and nutritional roles of methionine and lysine.

Adisseo-funded research projects over the last 10 years at 14 major universities and research centers have resulted in 69 abstracts at the annual meetings of the American Dairy Science Association (ADSA) and 27 articles published in peer-reviewed journals. In parallel, the strength of this commitment to research has contributed to the body of data

and information for the development of the next generation of dairy feed formulation models and includes a robust approach to amino acid supplies and recommendations.

Major discoveries over the years include:

- the role of methionine, not only as an essential building block for milk protein synthesis but also as an important player in metabolic processes to enhance the secretion of milk fat;
- methionine's key role in liver health, by facilitating the formation of VLDLs (very low density lipoproteins)
- feeding extra methionine pre-fresh has a major positive impact on reducing post-calving metabolic disorders, reducing treatment costs and optimizing the productivity and sustainability of the dairy animal in the herd.
- methionine's role in reproduction has also been recognized. One of the major impacts is in reducing embryonic mortality between the first and second pregnancy check.

Thanks to this work, "Methionine: More than milk" is now firmly established as a reality, not just a marketing slogan.

[Feedinfo News Service] You assert that the Adisseo rumen protected methionine products are the market leaders in EMEA. Why do you believe they are the products of choice?

[Brian Sloan] Ultimately Adisseo's position as the worldwide market leader is not because Adisseo has the best "marketers" but because the products offered are second to none in terms of efficacy and cost effectiveness. The role of rumen protected amino acids is as ingredients, i.e. metabolizable amino acid sources in feed formulation. They are included in feed and ration formulations based on their price and value in terms of their contribution as metabolizable methionine or lysine. Today Adisseo has the best two methionine products available to the dairy market – Smartamine® M and MetaSmart® -- with a cost-per-unit of digestible methionine at least two times less than that of other products.

Smartamine M is the gold standard for encapsulated methionine sources. It is the only product that can guarantee more than 90% of its payload is protected from rumen degradation and more than 90% is liberated post-ruminally. This ensures a minimum methionine bioavailability to the dairy animal of greater than 80%. Smartamine is a one-of-a-kind coating technology that is unrivalled in the market to date. It lets Smartamine M be easily incorporated into all blends of complete feeds, protein and energy feeds, and mineral mixes.

MetaSmart, on the other hand, has been specifically formulated to address the needs of the pelleted and liquid feed markets. The liquid form has 95% potency, and the easy-to-use dry version 57% potency (60% liquid MetaSmart, 40% silica). MetaSmart is the only alternative as a source of "methionine" to include in pelleted feeds. Its stability in liquid feed approaches 100%. MetaSmart has the added advantage that the proportion which is hydrolysed in the rumen to methionine hydroxy analogue contributes to stabilizing conditions in the rumen that favor the secretion of milk fat by the dairy cow.

[Feedinfo News Service] What quality expectations should customers have when balancing amino acids in dairy rations?

[Brian Sloan] Adisseo is committed to being the market leader and remaining irreproachable in the quality and nutritional value of the products it markets. It sets the bar high in terms of the standards all suppliers should minimally guarantee to their customers. Amino acid balancing gets a bad rap in some quarters because of the marketing of poor products by some companies.

Many protected amino acid products are placed on the market without registration with authorities such as the European Food Safety Authority (EFSA) and United States Food and Drug Administration (FDA). Moreover, rumen protected amino acids are not held to the same rigor and expectations one would have for corn or soybean meal. Nutritionists would never use such feedstuffs without a feed analysis from a certified lab with approved methodology.

Next, most products provide no objective third-party data to validate their claims of bioavailability. Bioavailability relates to the percentage of the amino acid that reaches the animal's blood and becomes available for use by the animal. This is a primary necessity in order to provide a real metabolizable amino acid value for the animal in which the customer can have confidence.

Adisseo has heavily invested in developing a rigorous, unbiased gold-standard methodology with the University of New Hampshire to determine the metabolizable methionine contribution of methionine and methionine hydroxy analogue products. This methodology, the plasma free-amino-acid dose-response technique, is fully detailed in the recent paper by N. Whitehouse et al., *Journal of Dairy Science* 100:9585-9601, <https://doi.org/10.3168/jds.2017-12695>.

This methodology ensures an unbiased approach to accurately and precisely measure the percent of methionine or lysine in any technology that reaches the animal's bloodstream irrespective of particle size, density, composition, or any other characteristic of the technology. For amino acid products to be taken seriously as feed ingredients, they need to be evaluated using this methodology before being launched on the market.

[Feedinfo News Service] What specific tools and support will Adisseo provide their customers and the market going forward?

[Brian Sloan] At the end of the day, all this scientific information on amino acid balancing can only be used optimally when incorporated into nutrition models and accompanying ration software. Adisseo dairy nutritionists are experts in dairy amino acid nutrition, an expertise that goes way beyond their core knowledge of amino acids. Their assistance with amino acid balancing during ration reformulation and optimization helps dairy farmers and their nutritionists fully realize the potential benefits of amino acid balancing.

Adisseo's worldwide, longstanding presence affords the company knowledge and experience in all the major nutritional systems. It can thus advise and support customers who use these systems, irrespective of geographic location.

The future is exciting. The new formulation system in France is already seeing the light of day.

Moreover, within a few years, Cornell University will introduce its new version of the Cornell Net Carbohydrate and Protein System (CNCPS). The new version will bring a paradigm shift in the way amino acid fluxes are accounted for in our models. It will allow dairy nutritionists to move completely away from considerations of crude protein and metabolizable protein. Formulation will be based on essential amino acids, nitrogen needs for the rumen, and energy. Adisseo, as always, will work hard behind the scenes to ensure these models come to market as quickly as possible and to get them in the hands of our customers so they have the most advanced tools to bring value to their dairy producers.

We have already launched our MilkSmart™ app in North America, which allows the producer and his adviser to estimate the full benefit on-farm from adopting amino acid balancing. Not only will this estimate the increase in revenues to enhancing milk and milk components, but will also account for improvements in metabolic health and reproduction, to give a more accurate view of bottom line profitability.

[Feedinfo News Service] Finally, what is the status of the Adisseo sales team in EMEA?

[Brian Sloan] We have been fortunate to attract a lot of talent for the open positions in our new organization. Under the leadership of Christophe Paulus, Adisseo ruminant sales director in the EMEA and a proven sales professional, recruitment is close to being complete.

The core team has been trained and educated on the SmartLine™ solutions approach by Robert Bennett Adisseo regional business manager in the EMEA. Robert brings 30 years of experience and a wealth of knowledge to guide and support our new team in their endeavors. SmartLine solutions refers to our well-received ability to understand a customer's situation and identify the optimal solution. The full range of Adisseo products, services and apps can be applied as needed in the process of situation discovery and solution development.

Our core objective is to work with each customer in partnership to develop customized solutions that benefit their producers. The new team is extremely motivated to start serving our existing customers and explore the opportunities to share our amino acid balancing solutions with the broader market.

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