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EVALUATION OF A LIQUID RUMEN PROTECTED METHIONINE SOURCE USING DIFFERENT TECHNIQUES

By

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SUMMARY

Evaluation of a Liquid Rumen Protected Source through Different Techniques

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RPMet have been used in an effort to improve the AA composition of MP since the early 1960's. The positive response in dairy cows in terms of milk production especially during early lactation and milk protein composition has been well documented. RPMet supplementation improves the protein efficiency of the dairy cow which improves the overall productivity of the dairy operation. Recently a locally based company has developed a liquid rumen protected methionine prototype. The Lrpmnet was evaluated through a series of experiments in conjunction with two standard, well known Met sources, Smartamine M and the unprotected DL-methionine



that provided a reference for the relative bioavailability of the Lrpmet. The effect on milk yield, milk composition as well as milk protein composition was evaluated. The ability of the Lrpmet to elevate blood plasma Met levels was also evaluated after oral dosing and post ruminal infusion. The last evaluation step involved measuring the ammonia and methionine levels during in vitro incubation of the Lrpmet. The Lrpmet did not manage to influence milk yield and or composition, nor did it elevate the blood Met levels. During in vitro incubation it expressed ammonia release and methionine disappearance levels in-between that of Dl-met and Smm, closer resembling Dl-met. This suggests that the Lrpmet source might have a minuscule level of protection against ruminal degradation. The level of protection is however insufficient to allow the product to pass to the abomasum. The inability to elevate blood plasma Met after postruminal infusion further proved that the product is not available for absorption at this site either. In the event that the product's mode of function resembled that of a HMBi an effect on milk yield would have been expected which was not the case. The product thus has a very low relative bioavailability in comparison to the well known Smartamine M.