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Method studied for HMTBa relative bioavailability

Research focused on encapsulated, rumen-protected amino acid supplements for lactating dairy cows

Research presented during the 2018 annual meeting of the American Dairy Science Assn. (ADSA) confirms that the plasma-free amino acid dose-response method can be used to determine the relative methionine bioavailability of methionine analogs fed to lactating dairy cows, according to Adisseo.

The company said the research confirms that this is a preferred method for use with 2-hydroxy 4-(methylthio) butanoic acid (HMTBa), the hydroxy analog of methionine.

The dose-response method used included the refinements and improvement reported in a 2017 Journal of Dairy Science article by Nancy Whitehouse, a research scientist at the University of New Hampshire, Adisseo said.

According to Adisseo, in the research presented at the 2018 ADSA meeting, increasing amounts of HMTBa resulted in linear increases in plasma concentrations of HMTBa, methionine, cystathionine/allocystathionine, total sulfur amino acids plus HMTBa ($P < 0.001$) and total sulfur amino acids ($P = 0.009$).

The plasma-free amino acid dose-response method has been used to determine the relative bioavailability of amino acids in encapsulated, rumen-protected amino acid supplements, Adisseo said.

The research was conducted by Nancy L. Whitehouse, supervisor laboratory research at the University of New Hampshire Dairy Nutrition Research Center; Charles Schwab, University of New Hampshire professor emeritus and owner of Schwab Consulting LLC, and Shane M. Fredin, Adisseo ruminant technical manager. ■

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