



What type of synthetic methionine is used in feed for chickens?



As the management guru Peter Drucker said “Efficiency is doing better what is already being done.” Poultry Nutrition demands higher levels of efficiency. Fine tuning of nutrients allows for small changes in the diet that result in incremental improvements necessary to achieve the next level of efficiency. It is here that the synthetic methionine supplementation offers an opportunity often ignored.

There are two forms of synthetic methionine available, the hydroxy-analogue of methionine (HMTBa) in liquid form at 88% concentration and powder with 84% (MHA) and DL-methionine (DLM) available to 99% concentration. Usually nutritionists don’t know the characteristics of each source of methionine DLM or HMTBa, both molecules have different effects on diet and tissues of birds.

Chemically, DLM is an amino acid and HMTBa is an organic acid (α -keto acid methionine) very similar structurally to formic acid, lactic, etc. The α -keto acids can replace their respective amino acids except for lysine and threonine (Leeson and Summers, 2005) and therefore, HMTBa is an organic acid with many of the functional characteristics of acids such as formic, lactic, etc. That in turn is converted to methionine efficiently within cells and tissues.

Since HMTBa DLM and molecules are different, what is the best source of methionine?

Several studies (Gonzalez-Esquerria et al., 2007, Ribeiro et al. 2007; Vazquez-Anon et al, 2006ab) concluded that birds fed HMTBa can outperform the DLM birds with commercial levels.

Why may the performance of birds be better with that of HMTBa than with DLM?

- DLM produces a rapid increase in plasma levels of methionine. High levels of plasma methionine inhibit food intake in birds.
- Contrary to DLM, birds fed HMTBa maintain low levels of plasma methionine and consequently have better consumption and thus better performance.
- HMTBa is an organic acid with functional benefits of organic acid such as inhibition of bacteria and fungi in the diet and the gastrointestinal tract of birds.

Are there independent field data to confirm that a better performance of chickens is possible with HMTBa?

Data from a leading statistical reporting and benchmarking service that monitors over 97% of US broiler production supports this. This data, reports the zootechnical parameters of several U.S. companies that represent a total population of more than 700 million chickens a month. The data reported is probably the largest base of unbiased data in the field and includes the type of synthetic methionine used in the diets of birds for company.

To compare the effect of additional HMTBa or DLM in broilers in the field, a comparison was made of birds fed HMTBa against those supplemented with DLM for a period of one year (from April 2008 to April 2009). In total, more than 8 billion chickens were slaughtered, the total reported for the period were used in the comparison.

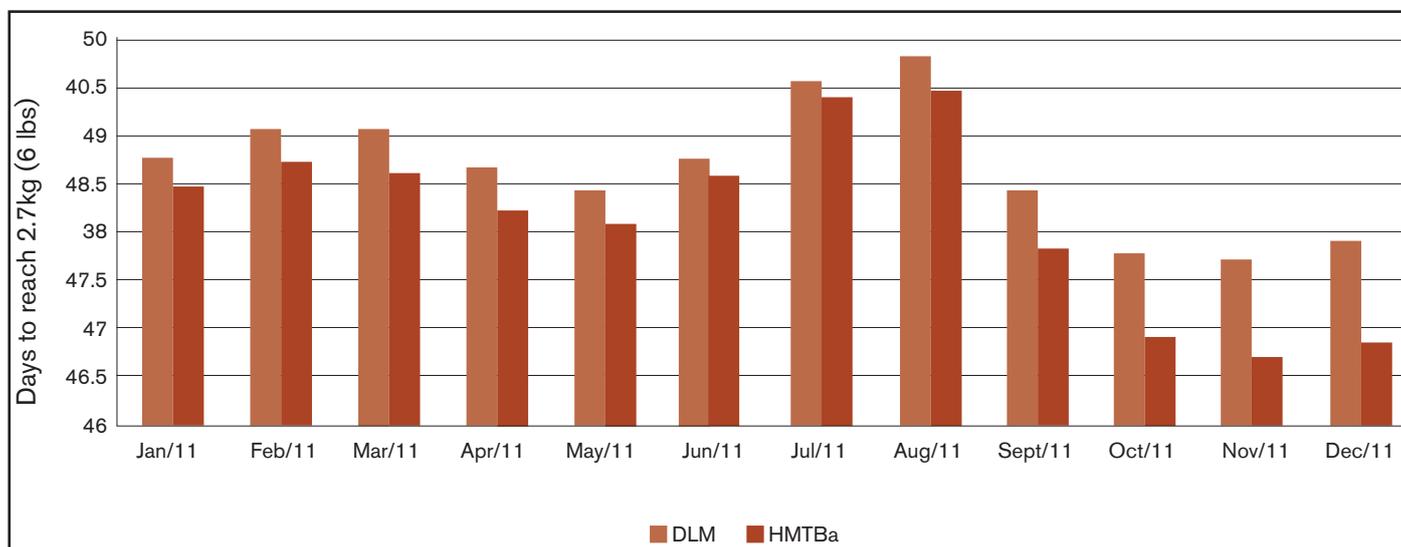
Results

Total of approximately 70% of chickens were fed HMTBa confirming the fact that HMTBa be the main source of methionine in this region

Birds with HMTBa:

- a) It took 0.5 days less to reach the 5 pounds of weight and therefore gained more weight
- b) had a better dressing percentage (1.5%)
- c) provide lower carcass condemnations

Data from 9 billion chicken show that HMTBa fed birds need less time to reach market weight



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