



## Did you know AA balancing can significantly improve milk fat?

While it's well recognized that the primary role of balancing for amino acids (AA) in rations is to meet a dairy cow's requirement for essential AA such as methionine and lysine, it's always nice to know there is an added bonus of increased revenue through improved milk solids yield.

The recent downturn in milk protein pricing to around \$1.88 per lb, last month, has cut in half the financial return that is normally expected from improvements in milk protein yield due to AA balancing.

Over the last 20 years, 24 peer-reviewed research papers have been published whose trials comprised of 33 treatment comparisons that used the ingredients Smartamine® M or MetaSmart® as the least-cost source of metabolizable methionine (Figure 1).

The average increases in milk fat (+0.17%) is even greater than the increase in milk protein (+0.13%) across those experiments, as were the increases in milk fat (+0.184 lb) and milk protein (+0.130 lb) yield.

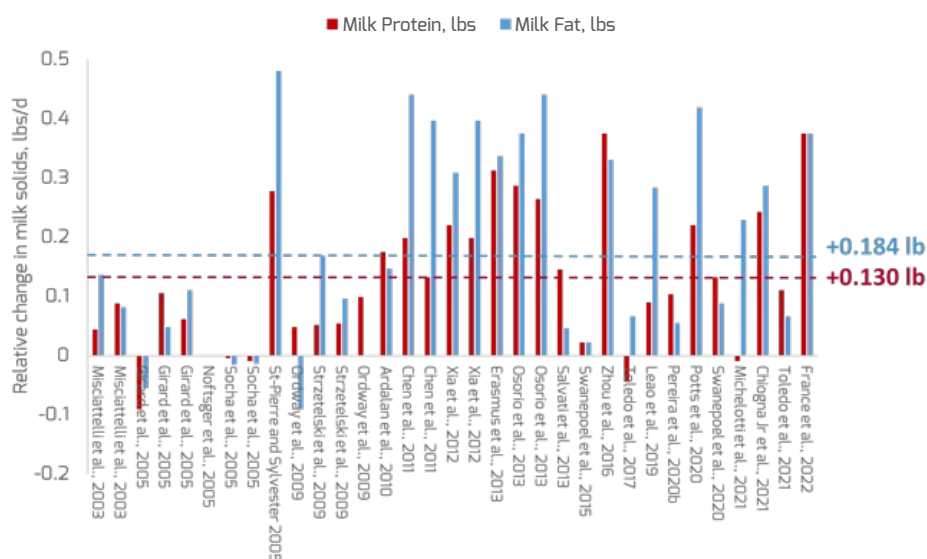


Figure 1. Responses in milk protein and fat yield in methionine-supplemented cows relative to control across 25 experiments.

## “ Saving pennies, could result in losing dollars”

If we look at the evolution of Class III fat and protein pricing over the last 9 months, while protein pricing fluctuated greatly, milk fat pricing has steadily increased in 2022 (Figure 2). That means the financial return for AA balancing is still strong remaining \$0.62 per cow per day in extra income (Figure 3). Bottomline, pulling methionine out of diets when milk markets are not favoring milk protein can backfire, reducing overall farm profitability and cow health.

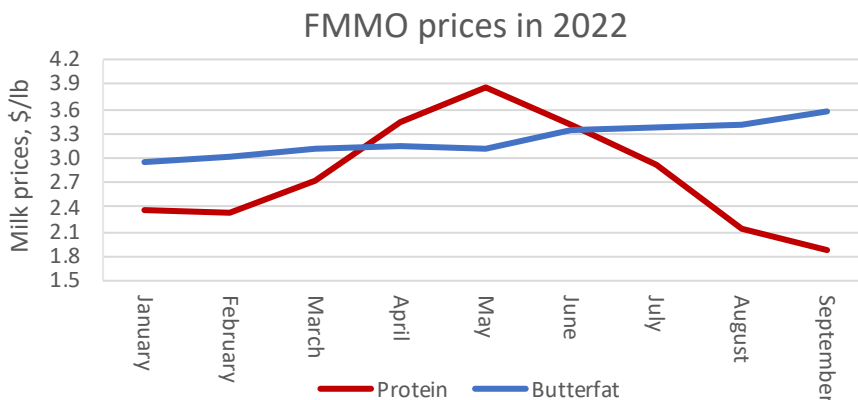
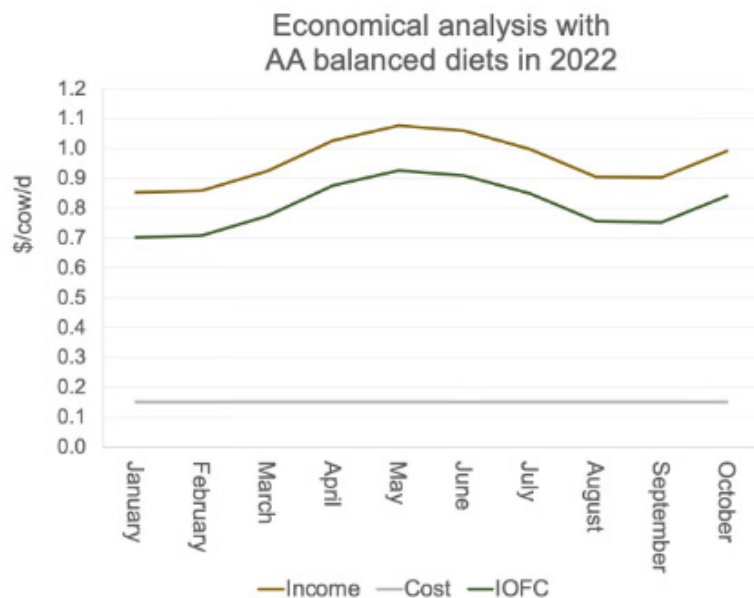


Figure 2. Milk protein and butterfat prices (FMMO) in 2022.



There's still a shine to AA balancing rations in the Federal Orders based on Class III component pricing. Not only are the methionine requirements for optimizing metabolic health and reproduction being satisfied, but the combined fat and protein revenue remains strong and profitable.

Figure 3. Income over feed cost with balancing diets for AA in 2022. Typical AA reformulation cost to achieve target MET and LYS levels in practice varies from \$0 to \$0.30 per cow per day.

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