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The cheapest sources of bypass amino acids found

"You gotta take that expensive blood meal out of my mix. That stuff is costing me a fortune" I have heard this before. I knew the reasoning behind it. If it costs a bunch, it cannot be good. So I jumped up on my soapbox and told him that sure I could pull the blood, that heavy-laden bypass lysine source feed, out of his diet but then I'd have to raise the crude protein to maintain milk production and we would be overfeeding some amino acids which was just going to lower his nitrogen efficiency, raise his MUN's and for the cows to get rid of that excess, they would have to burn more energy, converting it to urea and I would have to add more corn or fat to make up for that lost energy—and all that would probably cost him \$.30 to .40 per head per day. "Is there a cheaper source of bypass lysine?" I have to admit, he got me thinking. So I sat down and started to calculate. Just what was the cheapest source of each bypass amino acid available to my customers? It took some work, Prices change. Qualities vary. The value given to the rumen undegraded protein (RUP) must also change when the rate of passage changes in the cow. But here is what I figured out and why.

There are 10 essential amino acids that cows (and humans) cannot make and must be consumed in the diet. Most dairy nutritionists agree that lysine and methionine are the two most limiting amino acids in today's diets. Research shows good milk production, milk protein and butterfat responses when supplemental lysine and methionine are added to the diets to meet the cow's requirement. There is huge debate in the industry regarding which amino acid is the next limiting. Some say arginine, others histidine—and I frequently see isoleucine being deficient in my diets. I think the third-most limiting amino acid is very forage-feeding program dependent: small-grain forage diets seem to need histidine; high corn silage diets are short in isoleucine, while diets with legume appear to need arginine. Since these seem to be the most likely five limiting amino acids, I looked at them.

The amino acid as a percentage of RUP was taken directly from the CPM feedbank: For example, if blood meal cost is \$1,100 per tonne and is 92 percent dry matter, then that is 1,840 lbs of dry matter x 92 percent crude protein or 1,693 lbs of protein x the RUP percentage predicted by CPM as 85 percent or 1,439 lbs of bypass protein, of which 9.3 percent lysine; you will end up with 134 lbs of bypass lysine per tonne of blood meal. This results in a RUP lysine valued at \$8.20 per lb (\$1,100 per 134 lbs.) for blood meal. The lower the value, the cheaper it is to meet the amino acid requirement.

I recently ran into a breeder in a pen of cows and he grinned to me and asked why I had quit feeding blood meal on this farm. I was a bit curious and asked him how he knew I had quit. He simply pulled his glove out and spread his fingers and said he did not see the blood meal on his gloves anymore. Poordigesting stuff to say the least. Ironically, I had noticed the blood meal in the manure screen a month earlier and had a discussion with the local feed mill about their blood meal quality and they had changed suppliers. The cows responded with three pounds of milk with the increased available RUP lysine and the blood meal disappeared from the manure and the glove. So changing either your crude protein or your RUP percentage will change the final numbers.

Just because a certain feed ingredient is expensive should not be the deciding factor to remove it from the cow's diet. Ask why we are feeding this ingredient and how cheaply does it meet our nutritional goals. Finding the least-cost price or best value for any nutrient may give you insight into why an ingredient should stay in the diet. Blood meal at \$1,100 per tonne may seem expensive per cow per day, but blood meal is currently one of the better buys we have for bypass lysine. In fact, blood meal works out to be a great buy for seven of the 10 essential amino acids, ,making it even more valuable to the cows, the banker and the dairyman. (Steve Massie for Progressive Dairyman)

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Area crops in jeopardy as dry summer hits farmers

Corn and other crops in Ontario are in extreme jeopardy, as farmers across North America face "one of the worst growing seasons in 25 years" according to a University of Guelph researcher. "It's looking worse and worse by the day", said Evan Fraser, an associate professor of geography whose work involves the study of social and economic impacts of agriculture on a global scale. South of the border, the time when a good rainfall could still save the crops has "come and gone," in many areas, said Fraser. However, because of the later growing season, some southwestern Ontario farmers may still be able to salvage their crops, if significant rainfall occurs right away. Fraser spoke to The Wellington advertiser by phone from the Bruce Peninsula on Monday. "Here, the corn still hasn't all tasseled," he said, while most of the corn in the region around Guelph has pretty well all reached the critical tassel stage. Once the corn tassels, Fraser explained, there is about a two week period when rainfall is required to allow the pollen to get from the tassel to the silk of the corn plant, to allow for germination required to form cobs.

Any hope of a reasonable corn crop will be gone if the area experiences "another 10 days of this hot, dry weather," Fraser said. And a few scattered showers won't do the trick, either. Area farmers will need significant rainfall. "I think what the farmers are looking for is two or three days of pretty good rainfall. That would help the corn crop a lot". With a drought this widespread, Fraser pointed out, "the global food security implication are really pretty awful." "We've got extremely high corn prices as a result of this drought. Prices have risen by about 30 per cent in the last three weeks," he said.

Henry Van Ankum, District 10 (Bruce, Grey and Wellington) director for the Grain Farmers of Ontario (GFO) agrees this year's drought is historic in proportion. He has to think back to 1988 for a comparably dry year". It's very concerning because in recent times, I don't remember a summer this dry," he said. While conceding "we are very nearly at the point," where rainfall is critical, Van Ankum is optimistic the crop won't be a total loss. Crops did get off to a good start this spring, he notes, adding that modern crop strains and hybrids have a "higher stress tolerance," than was typical in the past. Still, he points out, "There is no doubt crops are in real need of moisture". Van Ankum says corn in this area entered the critical tassel stage about two weeks earlier than normal "and that's not a good time to be in a drought situation." Wheat growers will fair better than corn producers this year, Van Ankum expects. "Most of the cereal crops are getting to the end of the growing season," he noted, adding winter yields have been about average. "It's the corn and soybeans that are really suffering." Ironically, Van Ankum said a risk management plan made permanent by the provincial government in 2011 budget after a four-year pilot program, won't help farmers much if the crops fail. "Risk management probably helps more on the price side," he explained, adding low yields will actually mean better prices for corn. "Crop insurance will be more the tool we will need this year. (Farms.com)"

Manure—The mirror of the Cow's Efficiency

There are many tools that a nutritionist may use to evaluate and monitor the nutritional status of high producing dairy cows. Evaluating the faeces or manure can provide information about general health, rumen fermentation and digestive function of cows.

To evaluate manure particle size, walk through the barn and casually observe the manure of the whole pen or barn. Look at manure that has been passed very recently. Collect at least five manure samples that appear to be representative of the group of animals and place in a sieve. Using a hose, wash a gentle, steady stream of water over the sieve, passing across the sample continuously until the water running from the bottom of the sieve is clear. Then gently use running water to roll or float the particles to one corner of the sieve and remove all material from the sieve. Place the washed sample on a flat, dark surface and examine it for the following aspects:

- 1) Presence of undigested corn or cereal grains—a high proportion of these indicates insufficient digestion at rumen level or too high a concentration of the diet.
- 2) Presence of mucin— this is a lucid and viscous substance that is frequently present in faeces. Mucin in faeces occurs when undigested substrates pass from rumen to the abomasums and then to gut. In the abomasums, these substrates absorb acid. To protect the gut lining from this acid the gut cells produce mucin, which is then expelled in the faeces.
- Measure the amount of undigested material in the sieve after washing.



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