

Straight to the Bottom Line 7/1/13

By: Steve Martin

### “Growing Feed and Producing Milk with Less Water”

My column this month will most likely offer more questions than answers. Our industry looks into an uncertain future in relation to water. Additionally, there probably aren't many sure answers available. I would guess that every key uncertainty will have experts with differing opinions for the best path forward. In fact, the correct answer to these questions may not be known for a whole generation. It could, however, be that understanding what some of the questions are is a good start for an individual dairy producer.

We will discuss an issue on this subject that relates to feeding. We can leave the questions of population centers, environmental concerns, milk processing plants, transportation costs, and the likes to experts in those fields. But, how will we feed and manage cows in a future with less water? Today, let's think about a feeding issue. This question is actually more related to the farming efforts that support the dairy, but also has implications on where one might build a new dairy. It will be necessary to change several things about the way we grow feed for dairy cows. The key question is what should we grow with less water at our disposal. Is the current trend towards sorghum silage and away from corn silage truly occurring? Is that change enough to solve the problem? In the areas where we travel, corn is still king. Perhaps the sacrifice of double cropping winter annuals like wheat or triticale was the first pressure relief valve. What will be the next move? Some say low population corn is a better choice than seemingly less valuable sorghum forages. This could be, and probably like many other issues, it depends on the price of corn.

It's all about options and the resulting economics. If we plan to continue producing milk in a part of the country with diminishing water resources, we must explore these options. To produce maximum milk, starch is probably necessary as a major ingredient in our rations. Up to this point, corn has supplied the vast majority of this starch. Can that continue? Sorghums and wheat do offer some relief for our addiction to starch, but can we produce maximum milk with these starch sources?

It could be that the best plan in a diminishing water situation is to grow the forage close to the cows and bring the starch from afar as needed. It probably makes the most sense to spend the transportation cost on the dry, least bulky and most concentrated ingredients. In other words, one could grow hay or forage type silages close to the dairy and bring the corn from far away. But, what if corn is \$8/bushel and diesel is high? Will that force us back into corn again, across the fence from the dairy even if it takes more acres to get it done?

Sorghum species do seem to be an intriguing solution. It is possible to build an equivalent ration with sorghum silage that will support the same milk as the high corn diet. But for sure, the feeling in the industry is that this approach will leave you with an inferior ration. We are not convinced that this is true. With the help of improved genetics like BMR hybrids, perhaps we can make up for some of the loss on the starch side by improving the digestibility of the fiber. At the end of the day, that would most likely be a safer ration anyway. The problem is though, that folks growing feed and milking cows are still somewhat skeptical about the agronomic factors related to BMR sorghum; no matter if the concern is deserved.

Now what about the grain in that sorghum silage? Farmers are often so proud of the big grain heads on the very tall sorghum crop they are soon to harvest. And at times, the yields are surprisingly good, and with less water as well. Ok, but what about the grain? We are not certain of its digestibility in a lactating dairy diet. More research needs to be completed to answer that question. We hear rumblings of a harvest time solution similar to a KP unit on a corn silage chopper. But, these are yet to be seen in any large scale production and use in the field. So, we have a problem. The well-known variety tests from the Texas A&M Station at Bushland show promising results in milk per ton and milk per acre. However, the problem is that these analytical procedures

at the lab are all completed with a fine grind and a high percentage of the starch is available in the assay. We know this is not true when we take a peek at some manure from a sorghum silage diet. Or at least we think we do!

One solution to this problem is to grow the higher fiber digestion BMR varieties that are 100% forage. In such a case, the dairy purchases the starch from whatever source makes sense at the time. Many growers are worried about these "no grain" varieties due to lower yields. If such a problem exists, the math needs to be done to price it correctly to the farmer. I bet it will be worth more than you think with alfalfa hay north of \$300 in most places.

So, what is the perfect plan? Well, it is probably a different answer for every operation. To be sure, many factors need to be considered to make the correct decision. Perhaps an economic model could be built to include all of the factors from cost per ton of forage grown, the replacement cost for alfalfa hay and grain corn and fully consider the value of the milk. Perhaps, corn won't be king forever. Or, maybe it will.