



The Return of Cool Season Grasses by Larry Hawkins, PAS

Grasses in the upper Midwest have been making a comeback on conventional dairies for the last 8 or 9 years, largely through the efforts of Byron Seeds and their original mission to find better grasses for grazing dairies. Grasses were especially absent from Wisconsin due to an almost tunnel-visioned opinion that pure alfalfa (and by this I mean that little corn silage or grass were fed through the 1980s and early 90s. However, it is still a mystery to some nutrition consultants of how grass can be as good as Alfalfa. Vegetative cool season grasses have the potential to be the most digestible forages on any farm.

Let's examine the strengths and weaknesses of modern, European genetic, cool season grasses and today's alfalfa. It is obvious from the amount of genetic engineering on alfalfa that there are weaknesses in alfalfa's armor. Genetic engineers are attempting to solve establishment problems (Roundup Ready®), digestibility problems (Low Lignin alfalfa) and improve its poor protein quality (Condensed Tannin alfalfa). One can only imagine the cost of triple-stacked alfalfa when double-stacked is \$600/bag!

The point is that there are weaknesses in alfalfa that dull its luster. To make a list:

- Slow to establish making early spring weeds a problem.
- Although high in protein, the protein quality is poor, i.e., low bypass or very degradable
- NDFD or its fiber digestibility is low compared to corn silage (good) and vegetative grasses (great)
- Yield in the upper Midwest is typically 4 to 5 tons of dry matter (DM) per acre or less.

Obviously, there are advantages:

- Alfalfa grabs nitrogen from the atmosphere and produces protein
- Although it produces more undigestible fiber (uNDF), what is digested is digested more rapidly than grass fiber. The measurement is the Kd.

So, what about grass?

- Vegetative grass is the most completely digested forage any of the commonly fed forages in the Midwest, however the fiber is typically more slowly digested than alfalfa. The average Kd (rate of digestion, % per hr.) from Rock River Labs for grass is 5.04% (with a std. dev. of 1.33) and for alfalfa is 9.4% (std. dev. is 3.64).
- This brings us to the question of what is most important - more complete digestion or more rapid digestion? In a presentation on this very subject at the



The Return of Cool Season Grasses by Larry Hawkins, PAS

2016 World dairy Expo, Dr. David Combs answered the question (somewhat politically) as BOTH! Which is a great reason to combine alfalfa and grass!

- One other great reason to combine grass and alfalfa and red clover) is that the natural chemical compounds produced by grasses and red clovers to prevent the breakdown of the grass and clover protein (proteolysis) also help prevent a normally almost complete breakdown of the alfalfa protein.
- Results that you will always see when grasses are correctly fed are
  1. Higher milk components.
  2. No need for straw to promote cud-chewing. Properly fed grasses provide this necessary rumen-health benefit.
  3. Healthier cows, mainly due to number 2 above.
  4. Less lameness, again due to number 2 above.
  5. Higher Milk Efficiency (Fat corrected lbs. of milk produced/#s of feed eaten). This is because of the more complete digestion.
  6. Grasses or grass/alfalfa mixes provide a much prevention for runoff and erosion than does alfalfa alone
  7. Grass/alfalfa mixed or certain cool season grasses alone will out yield alfalfa in a monoculture.
  8. Grass and grass/alfalfa mixes are the best choice for complementing high-corn silage diets due to the reduction in NFC of the grasses. This helps prevent acidosis and lameness. According to Ev Thomas, the average NFC in alfalfa is 23%; in grass, 18%; and in corn silage 42%.

Are there any shortcomings of grass? When grass/alfalfa mixed haylage are stored as baleage, one can be vulnerable to having the bales not be consistent in their grass/alfalfa percentages since a baleage bale represents such a small part of the overall field. In this harvest system, possibly, the best choice is to plant each crop separately and feed each in the exact amounts required by the diet.

Commented [H1]: