



ADVANCED AG SYSTEMS'S

# Crop Soil News

<http://www.advancedagsys.com/>

December 2014

**"It is the crops that feed the cows that make the milk which creates the money."**

## Steps to High Forage Diets, and Why

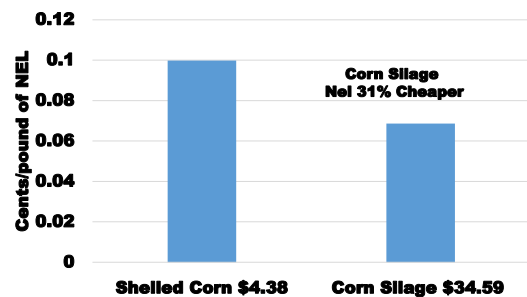
As the forecasts for milk price continue to slide, dairy farmers are justifiably concerned for their bottom line. The shock is magnified having just come off of very good prices. Yes, grain prices have also slid but not as much as milk is forecasted. I saw this similar setup in the early 1980's and it was not pretty.

Fortunately, we have more information now that can help farms weather the down turns and pay down debt in the upturns. A key has been to feed cows as cows. They are forage digesters and the more that is included, the greater the benefit. On farms we worked with they saw increased components as they switched to higher forage, so they got more money for their milk. Reduced culling meant less heifers needed to be carried to maintain herd numbers. Dr. Chase of Cornell in a study of high forage farms also found less metabolic disorders and acidosis. This meant fewer foot problems and lower vet costs. The lower vet costs was a striking factor in the farms with which we worked. Dr. Chase and our work found that there was a significant increase in income over feed costs. In other words the bottom line got better! A group of farms for which high forage diets are critical, are the organic dairies. Their grain costs are tremendously high. **Substituting high quality forage, can meet the animals needs for high production without sending so much of your milk check to someone else.**

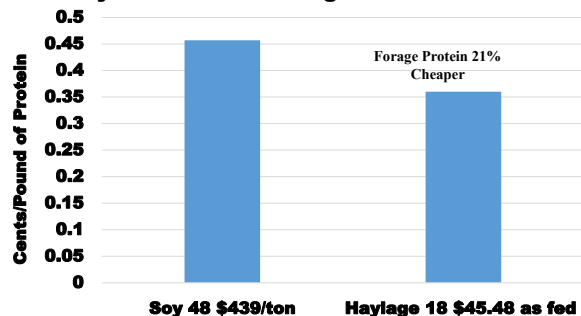
Over the past two decades, I have repeatedly looked at the cost of nutrients from purchased concentrate vs that from a well-run forage crop program. The numbers on the graphs may change, but the relative positions do not change. A well run quality forage will produce energy and protein to meet the dairy animals needs for high production at 20 – 30% less cost than the same nutrients from concentrate, as you can see in the graphs on the right.

Advanced Ag Systems  
Research, Education, Consulting

**Cost/lb. of NEL:**  
Shelled Corn \$4.38/bu vs Corn Silage \$34.59/ton as fed



**Cost/lb. of Protein:**  
Soy 48 vs Alfalfa Silage 18% Crude Protein



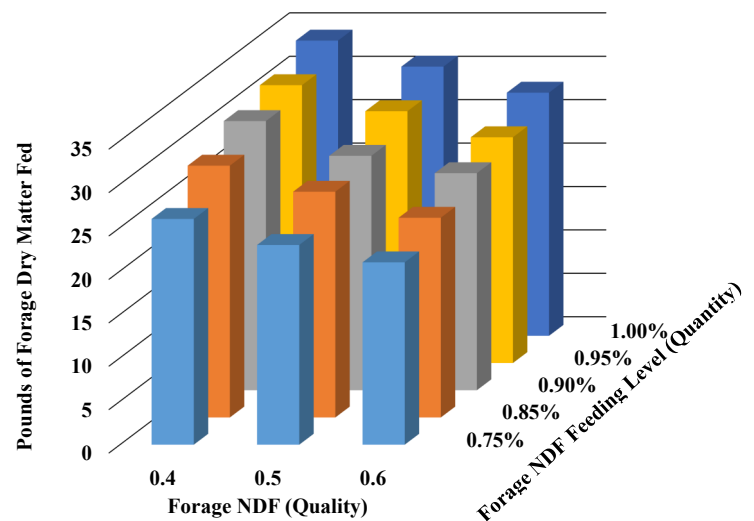
High forage diets are not a silver bullet to cure all ills, but rather a mindset and a process that can only be achieved over time. For some farms, the transition takes 3 to 4 years.

Before you can even consider moving to a high forage you first have to produce high quality forage, at an economic cost, over a range of weather conditions and time. The **critical** part is the **crop rotation** used on each of your fields (it could be different for each field). It may be a shock to a few nutritionists, but the **soils drive the rotation, which drives what the cows are fed** – it is not the nutritionist. You have to grow quality forage that is best adapted to your soil and environment. This is why we are actively researching the best management practices for crops that produce very high quality forage such as winter triticale forage, red clover; and double cropping short season BMR sorghum forages or short season corns with highly digestible kernels. Each have the ability to support high forage diets, but are adapted to soils/environments where alfalfa and/or corn may not do as well.

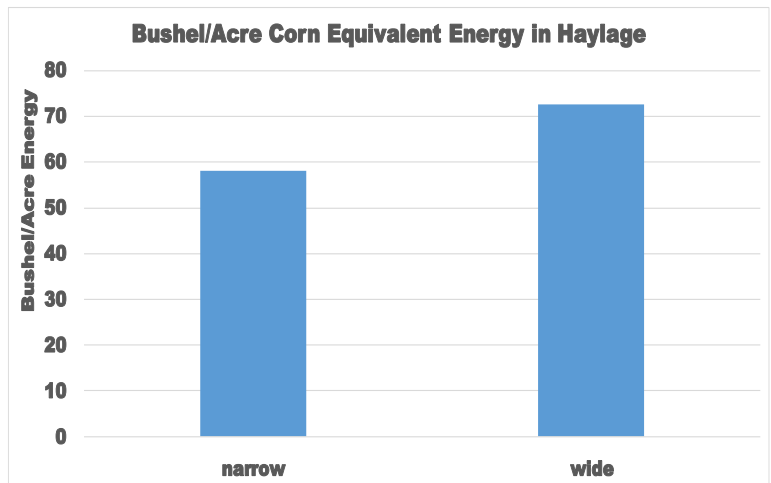
As you take steps to increase forage quality (nearly all steps are your management, not something you buy), the cows will start eating more. As you work with your nutritionist to increase the forage feeding levels, the cows will eat more. Combine the two factors and a moderately low forage quality diet fed at a typical low forage feeding level when transitioned to a high forage diet of high forage quality, **will consume 32% more forage** (graph at right). It may seem common sense, but you have to produce it before you feed it. Farmers are often shocked to see how fast the end of the forage supply comes when feeding a high forage diet.

Critical to all of this is the job you do in getting forage quality to the mouth of the cow (the only place it counts). Growing appropriate seasoned corn varieties will allow it to be harvested at optimum quality instead of waiting a month after everyone started before you can chop wet butyric stuff. That promised extra yield is not worth it. Harvesting haylage by wide swath same day practices can **increase the energy level of your alfalfa 25% to nearly that of corn silages**. This supports much higher milk production from your haylage. Both of these factors, corn silage maturity and haylage harvest, are factors **you control** in your journey to high forage feeding.

Forage Needed by Forage Quality and Feeding Level



Bushel/Acre Corn Equivalent Energy in Haylage



Sincerely,

Thomas Kilcer,  
Certified Crop Advisor

172 Sunnyside Rd  
Kinderhook, NY  
12106

Tel: 518-421-2132

[tfk1@cornell.edu](mailto:tfk1@cornell.edu)

The Helping  
Hand  
to Better  
Agriculture

