



ADVANCED AG SYSTEMS'

Crop Soil News

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

February 2018

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

Back to Basics

The squeeze on dairy profitability has been getting tighter and the length of this downturn is exhausting both the financial and emotional state of many farms. "What can I do?" is a common question. A key I have seen in my 40+ years in the industry is that basics are the foundation of the farm profit. In spite of the technological advances in computers, GMO's, drones, etc, the basics mattered yesterday and they still do today. Highly digestible alfalfa is not a help if you have not soil tested all the fields you work, nor applied any lime in several years.

Forages are the foundation of most of the dairy industry. The ability to produce protein and energy at a cost less than can be purchased as an outside grain, is where the potential profit begins. Forages start with high potential but what reaches the cow's mouth is often much less than what it could be (see graphic at right). The October newsletter (<http://advancedagsys.com/wp-content/uploads/2017/11/Oct-2017-soil-fertility.pdf>) covered the basic of optimizing soil fertility for high yield without trying to buy your results through un-needed fertilizer purchases; or conversely stunting yield by not feeding the limiting nutrient factors for that crop (soil test to know – not guess).

Those who still harvesting by date rather than physiological stage have a major loss in first cutting haylage. John Winchell of Alltech in western NY, has tracked date of optimum alfalfa harvest based on heat units. For his location, it has ranged between May 16 and May 28 over the past 8 years. Thus only one out of the past 8 years will hit close to quality if you use date as your start point. Fortunately, key work by Dr. Cherney at Cornell has developed a system that uses the physiological maturity of the alfalfa itself to determine optimum harvest time (see forages.org). As you can see in the graph at the right, by just using a ruler and noting the percentage of grass in the stand, you can determine when it is optimum time to harvest. Grass fields are ready often a week or two before all alfalfa fields. South facing fields are ready before north facing. Dry fields before wet fields. But if you don't look and measure, you are simply guessing at quality forage harvest date; and there is no room for guessing in the dairy industry today.

Quality In Field At Time of Harvest

Harvest Losses

Storage Losses

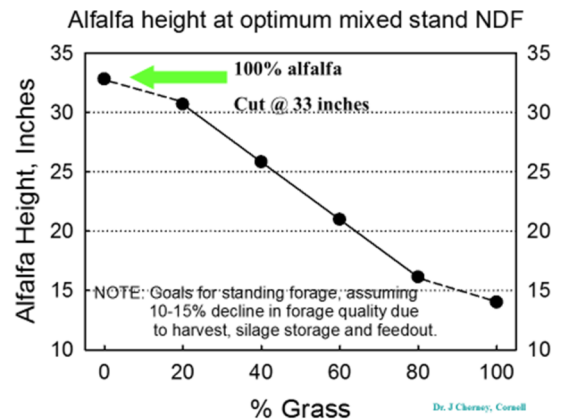
Feed-out Losses

Quality That Reaches The Mouth of The Cow



Advanced Ag Systems LLC

Advanced Ag Systems
Research, Education, Consulting



How you harvest has a major impact on the time it takes and the quality saved or lost. We have been talking about wide swath, same day haylage, for nearly 18 years. Some non-wide swathed samples I recently looked at were .61 NEL. A farm in Savannah showed me a wide swath haylage sample with an energy level (NEL) of .71. This is almost to corn silage energy levels. 16% more energy in your haylage can go a long way to reducing the cost to produce the same milk production. Yes, it takes some effort to figure it out for your farm. You may have to make some changes on your mower to get a swath to greater than 80% of cutter-bar width. The biggest problem is between the ears – you have to change “what we always did!” The money is on the table, it is up to you to pick it up.

We have been talking about winter triticale and other winter forages for nearly 20 years. It is at the level where the entire package has been researched and sound recommendations are available. <http://advancedagsys.com/wp-content/uploads/2017/09/August-2017-seasonal-management-decisions.pdf> Pulling off 2 – 4 tons of dry matter (5.7 to 11 tons of silage) before you even grow your regular crop that year is a nice addition. This pales though against the very high forage quality winter forage has been producing. Crude protein of 20% and NEL of .75 is huge in reducing the cost of producing the milk you sell. Multiple farms are growing it solely to put in the diet when temperatures turn hot and “summer slump” drops milk production. With properly fertilized and harvested winter triticale, production holds and summer slump becomes a thing of the past – putting profit back where there was a loss.

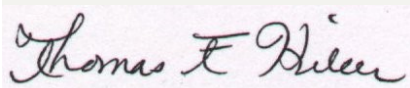
As we follow the forage to the cow, short cuts and “savings” are eating into the milk producing ability of the feed you grow, harvest, store, and feed. If you had a field that needed to be seeded again, do you lime, fertilize, work up a perfect seed bed, roll it to push the stones down to make it smooth, and then walk away and let what ever might grow be the crop you harvest? If you are harvesting very high quality forage, at Dr. Cherney’s optimum stage, using same day wide swath to enhance energy, chop at optimum moisture, pack it well in the silo, and then let what ever garbage bacteria, fungi, and mold floating around in the air and on the soil ferment your crop – it is no different. For making cheese, yogurt, ethanol, and other fermented products, the bugs doing the job are carefully selected for optimum results. So it is with silage. In a controlled, replicated trial I conducted with American Farm Products (I have no financial relationship – I questioned their product and we all wanted to get to the bottom of what I was seeing in research so we ran a controlled experiment). Using the inoculant with proper water carrier (chlorinated water will kill the bugs) compared to the control with no inoculant, the enhanced fermentation preserved more digestible material (NDFd30) to equal 2.3 more pounds of milk/cow/day.

Inoculant Impact	Lignin/NDF	NDFd 30	Sugar % DM	NEL	Kd/hr Van Amburgh
AgriSile	7.49 c	67.05 a	8.43 b	0.7125 a	5.07 a
SilagePro	7.87 b	67.775 a	9.78 a	0.71 a	5.3275 a
Control	8.25 a	63.125 b	6.83 c	0.695 b	4.69 b
Different letters indicate significant difference at 95% level					

Finally (will he EVER finish!!) check your feed out details. I was once on a farm where after morning feeding we shoveled up sufficient loose forage to make 110% of the afternoon ration. Loose forage at the end of feeding will spoil and burn off a considerable amount of the quality in the last step before it reaches the mouth of the cow. The farm switched from having loose feed left to having none. On 200 cows, from Thursday when he made the switch to Tuesday when we again reviewed the farm, he was up 2 pounds of milk/cow/day. Ultimately he went up 5 pounds of milk/cow/day with this one simple change.

Little things make a difference, especially when we are dealing with the basics.

Sincerely,



Thomas Kilcer,
Certified Crop Advisor

172 Sunnyside Rd
Kinderhook, NY
12106

Tel: 518-421-2132

tfk1@cornell.edu

**The Helping
Hand
to Better
Agriculture**

