



ADVANCED AG SYSTEMS'S

Crop Soil News

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

January 2026

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

**Advanced Ag Systems
Research, Education, Consulting**

Forage is an Attitude: Run in a System

There are many forage experts in the industry. Unfortunately, a vast number are "silo smart". They have deep knowledge about a small slice of the agriculture industry producing forage, but not enough to step back and see the way quality forage production interacts in a holistic system on the farm. They missed the impact of many of the in-between steps that significantly affect the outcome for their products and for the farm. It took me several years when I started 50 years ago, before I learned to approach it from both the production and consumption ends, see the system, and managing the processes affecting it.

The first step I learned is that farms will buy very expensive forage seed to assure high quality, but then not take a soil sample to see if this top genetic line will actually grow in their soil. Just guessing and throwing fertilizer out there based on someone's guess, or what the neighbor did, or worse, "this is what the crop removes," is a great way to spend money without results to pay for it. On a research farm, we were putting in a sulfur trial on alfalfa. We carefully laid it out, spending time and money to get sulfur fertilizer and applied it in replicated random plots. The process was somewhat rushed, and we did not have a soil test before. The results were spectacular. Yields were horrible, and the stand was visibly dying out. The cart before the horse of taking a soil sample after the research was started, found that the pH was 5.7. This is so low that even grass cannot grow well. It was the worst in all the trials, and was the reason the alfalfa did not yield and eventually died out. Of course, farmers will often blame it on "that lousy seed variety," or bad weather, when looking in the mirror is where the answer lies. Now this doesn't always work as planned. One farmer followed my recommendations, and got samples from all his fields and put them in the house in the spare room to dry. His wife later came in and found the kids actively running a gravel bank operation with their toy trucks, loaders, and bulldozers. She chased them out and tried to undo the mess by carefully sweeping all the samples into one nice, neat pile. Some days just don't work out!!!

When I was working in Extension, my responsibilities were primarily agronomic. Computers were just coming along (yes, it was a hundred years ago – when newsletters were on stone tablets!!). My dairy/farm management agent had a full plate of responsibilities and did not feel confident learning dairy rations on a computer. With the help from Cornell, I got pretty good at doing rations for her, and subsequently became a better agronomist as I no longer looked at it as stuff to put in the silo, but rather as components of a profitable dairy ration production/storage/feeding system at the cow's mouth.



Wide swath same day haylage had 30% more energy than narrow row systems.

Alfalfa haylage in rations was commonly testing .56-.58 NEL; with an occasional .61. While at a pasture meeting, the researcher showed fresh samples testing .72-.74. I was shocked. That is almost a 30% difference. Where did all the energy go in our alfalfa? In my subsequent research I found that drying directly in windrows was actually composting the forage, with the shade inside the windrow burning up energy in plant respiration while jacking up the soluble protein, which limits the forage fed. When we mowed directly to a full width (minimum 85% of mowed swath), it dried for haylage often in two hours, and the sugar levels and the milk/ton from this forage were significantly higher than those from narrow swaths. 300 more potential lbs. of milk/ton makes a difference in the milk check. This is a key part of the forage/feed system. We will discuss this research in detail in the next newsletter.

I am dismayed by the number of farms that feel they can ensile forage direct from the field without any inoculant, especially for hay crop or winter forages. In our controlled trials testing different inoculants, the measured increase in feed quality was equal to 2.3 lbs. of milk/cow/day for inoculant-treated forage compared to no inoculant. Make sure the applicator is not killing the inoculant before it reaches the plant. One machine had the tank mounted down in the engine compartment, where the water temperature was over 180F. Others have clear tanks mounted on top where the sun can penetrate and heat the solution – killing the bacteria. Some have thought this through and realized the importance of the inoculant in preserving forage quality. Their tanks are insulated and surrounded by reflective foil and in some cases, foil with foam insulation. On refill, they often put in a block of ice for very hot days. Those selling you the seed, or those balancing the ration, often are too busy and focused elsewhere to check if the inoculant is alive to do its job.



Silo management can make or break your forage program. Face management and feed out is critical.

Finally, a part of the system that is overlooked except by a very careful nutritionist – the feed out face. A farmer had just finished morning feeding when I stopped. After looking at the silo, we got 2 forks and the loader, and just forked up the loose feed into the weight wagon. 110% of the next haylage feeding, and 95% of the next corn silage feeding was lying loose on the bunk floor, decomposing for the next 8 hours before the night feeding. A farmer who knew of this work and was hosting a silo meeting the next week decided to have a tight clean face before everyone showed up. In the intervening 5 days with tight, clean bunk face, the 200 cows went up one pound of milk (no other changes). In two weeks, he was up 5 lbs./cow, which at that time increased his income by \$61,000.



Each of these examples can have a significant impact on farm profitability, but is often overlooked in the management review. Each step from the soil to the cow's mouth needs to be in sync with the rest of the system. They are not instant answers for farm profitability, but a systemic approach.

Sincerely,

Thomas Kilcer,
Certified Crop Advisor

2150 Cherry Street
Rutledge, TN 37861

Tel: 518-421-2132

tfk1@cornell.edu

**The Helping
Hand
to Better
Agriculture**

