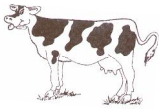
The following 6 pages are an excerpted reprint of the Dec-Jan 2005 issue of *KOW Ruminations* newsletter. This will provide some ***general*** thoughts and direction to the herd manager searching for answers to chronic health and longevity problems –and guide toward what will need to be done to successfully transition to *ruminant friendly* feeding. Other *historical* KOW literature will supplement these six pages and guide more *specifically* on *how* rations are to be formulated and how cow feedback can guide ration formulation. These details can be accessed on the *subscription* part of our website. -Tom Weaver

Personal convictions and values that are so personal as to be hidden from public recognition are . . the definition of hypocrisy and cowardice combined as one. *–T. Weaver*

If you need assistance on any ration, *please* call us!

KOW Ruminations



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Growing Weary of the Constant Challenge of Production Driven Acidosis / Laminitis Syndrome? Ready to Wave the White Flag?

How to transition a damaged herd to a high forage ration.

My title is an adaptation from an article I've kept on file from the *Wisconsin State Farmer* newspaper by Ray Mueller dated sometime back in the mid-1990s. Ray covered an event sponsored by the Northeast UW Extension office called "These Hooves Are Made For Walking." The title of Ray's article was **"Expect a Constant Challenge" with production-driven laminitis : Shaver.** Mr. Mueller was directly quoting UW Extension Dairy Nutrition Specialist Randy Shaver. Dr. Shaver was quoted, "Laminitis is driven by the need to produce high milk volumes . . *expect* a *constant challenge with this*." The article states that *laminitis is a direct effect of chronic or clinical acidosis* "a nutritional insult" of too much energy in the dairy ration and the production of propionic acid **(from *starches and sugars* in *grains*)** that lowers the pH balance in the rumen, Shaver explained. "The effects carry over to the hooves." Cows are being **pushed** to eat more, *especially the fermentable carbohydrates*, Shaver pointed out. Further on in the article, "***More fiber*** *in hot diets is a good prescription for preventing acidosis and laminitis*," Shaver stated. He recommends . . . (only [*this* author inserts the word]) 40 to 45% of the total ration as forage. He does not include whole cottonseed as forage (*this author* would grant it 50% forage value) . . . Furthermore, Dr. Shaver is quoted, "You can cheat on forages if you have good bunk management . . . In Wisconsin, the nutritionists and feed industry are very good on the fiber and carbohydrates in ration plans." (Emphasis added.)

Approximately 10 years has passed since this report. *Which* Wisconsin was he talking about? What's the *average productive* lifespan of *the average* cow? Has the industry made progress? Could Dr. Shaver do anything but *endorse* the feed industry and nutritionists –many of whom he *may* have had a hand in training? Starting with quotes from Dr. Randy Shaver is <u>not</u> with intent to *single out* the *responsibility* **for the lack of progress I observe** –laying it solely at the feet of Dr. Shaver or any *individual* extension dairy scientist. However, the responsibility *could legitimately* be shared *collectively* by our entire industry *advisory system.* Yet, the *greatest* burden of responsibility could actually be laid upon *individual dairymen*.

Before this newsletter hits the bedding chopper, let me explain: I would agree with *Hoards Dairyman*'s concern about the "*challenges*" faced in dairy science education

(staff editorial –as expressed in the September 10, 2004, issue). *However*, *my* observation and concern has *less* to do with preparing students for successful *corporate employment and much more* to do with the *lack* of "production ag experience" (listed *low in priority for agri-business interests* as reported in *Hoards*). *Most telling*, from my perspective, was *Hoards"*s point of concern in their list of "tough challenges": "Money is short [for dairy science education] . . Attractive faculty members *are* ***those who attract lucrative research grants****"* (emphasis added). It's long overdue to see this *admission* in print. *Hoards* also states on page 564 of that issue that "*everyone's* (I ask, everyone's?!) *goal is* ***employers who are happy*** with their employees . . . We believe many animal science students would benefit from ***more emphasis on marketing***, business skills, and economics" (emphasis added). The questions *of credibility that dairymen* need to answer are:

1. Is conventional wisdom, wisdom?
2. Does the conventional channel of information (university, feed industry) for dairy nutrition and management have my best interest in focus?
3. Can *continued* reliance on university trained nutritionists and the feed industry's *"guidance"* be expected to produce better results in the future?

If you are still in the camp that can *honestly* answer "yes" to all the above questions, you may now use this newsletter as bedding material. However, if you are *questioning* all the emphasis on *short term* milk per cow (different than *lifetime*) driven by maximum grain / *minimum fiber* rations, can confidently answer "no" to the above questions and would like to transition your dairy herd to what has become known as a "*high forage ration,*" (defined in other KOW Association literature) but aren't sure ***how*** to make the change –read on.

I'm told that the first step in recovery (according to the 12 step formula) for those unfortunate souls that get hooked on the booze is to admit that they have a problem. Usually, this is after a lengthy and *costly* pattern of *trouble.* No matter how many caring, loving people plead (and try to cover for their bad choices), it still comes down to *the individual's recognition that things cannot continue as is and a desire to change*. Getting hooked on the high of *more* grain / concentrate for *instant gratification* in the milk tank can be kind of like *the booze*. The ***deceiving*** part is that it *does* boost *short term* milk production. Actually, if it were not possible to manipulate daily milk production with nutrition, many dairy farms would maintain better herd *and financial* health. It is a trick of the trade for feed sales "advisors" to "tweak" the starch ("cheap" energy) just a little higher than the guy before so as to try for a *short* term response in the milk tank. Farmers lacking understanding can be deceived into thinking the little milk production increase is proof of wise nutritional guidance. What happens to the herd that gets switched from one "feed guy" to the next every few months? Moderate*, controlled* use of grain / concentrate does no harm. The problem begins when the dairyman becomes *drunken numb* to the *risk of repeated abuse.* Continuing my analogy, "another round can't hurt. Wow, that was terrific. I think I'll have *just one more*, bartender." So it goes with the grain scoop . . . more and more . . . It becomes the solution to the stress of lower milk production until one day the *entire focus* is on *mixing* the right *concentrate* blend. The cows can be *stumbling around* on sore feet, collapsing in the sick pen and even be drug out on the *old crow* wagon prematurely, but even then it can be a challenge to pry the grain scoop out of the hand of a *dairyman in denial.* Nevertheless, *the truth* is that the *destructive* effects of grain / concentrate *abuse are well* documented. Cows that are repeatedly fed excessive (by design-conventional rations) and/or *uncontrolled* (Sorted? Robbed from herdmates? Component fed with *poor forage intake*?) levels of ***starch*** *and* ***sugar*** suffer *rumen acidosis* which begins a *cascade* of health problems:

- Rumen ulcers, leakage of rumen microorganisms and their endotoxins, into the bloodstream.
- Liver, lung, heart abscesses caused by foreign microorganism invasion.
- Destruction of the circulatory system –most *visible* in the hoof (resulting in *rapid*, improper growth, *destruction of attachment*).
- *Frequent* metabolic / digestive problems including (but not limited to) displaced abomasum and passage of undigested feedstuffs into the large intestine (often with diarrhea).

As a student of Dr. Paul Greenough's writing (worldwide renown for his study of bovine laminitis), several years ago I had the privilege of enjoying a personal conversation with this experienced veterinarian-scientist. A notable part of our conversation was the following quote (I wrote down): "Tom, if you see lesions (abscesses) in the hoof, you can be *absolutely sure* that there are lesions in the internal organs as well." This is significant considering the great number of necropsies Dr. Greenough has performed.

In spite of all that is *known* (not a matter of opinion) about the *risk of overfeeding* concentrates, *conventional* (university, feed industry) feeding advice continues to advocate *minimum tolerable* (short term– lactation length-basis) forage:concentrate ratio rations. So long as these *minimum* forage levels (universally accepted *as low as* 40% of DM, considering corn silage as 100% forage value) are met, the conventional school of thought directs the dairyman to bunk management, *concrete* and facility modifications as the *solutions* to health and longevity problems. This is akin to getting advice about alcoholism from the local bar patrons or their beverage manufacturers. ("You're okay. Drink responsibly –just make sure it's *frequently* and at maximum tolerable levels!") Granted, there *are* bunk management issues and facility needs that must be met (more on that later), but due to the *financial incentives* in place, it's very *difficult* for anyone who derives income (or research money) *from a program that promotes the maximum sales potential of farm inputs* to "see" any fault with *conventional* nutrition recommendations. First *you* (the dairyman) *have* to recognize that there is a problem and that it's *primary* cause is *nutritional* –then just

as the drunk *takes personal responsibility* for putting his life back on the right path (ignoring the bartender's and his addict buddies' recommendations), regain control of what goes into your <u>cows</u>' bodies. People go mad in groups, but come to their senses one at a time.

The next step in the journey is to recognize, assess, and *accept* the damage already done. Don't waste energy or focus on blaming *the bartender* (*responsibility shifting* is what caused the problem in the first place). Until you're ready to acknowledge the problem(s) and take ownership of them, there's too great a probability that you'll slip back into the *denial mode* and be found, once again, sucking down whatever they're serving up at the local watering hole. The *permanent, unfixable* damage must be faced. Getting a handle on which cattle (heifers?) have *not* been damaged by *nutritional abuse* –so as to immediately protect them from such –is important as well. **The two groups may need to be managed and fed *differently***. If cows are so severely foundered that their hoof set is *so poor that the dew claws flex down toward the concrete with each step* (due to pedal bone rotation), *don't hope to get much more than another calf out of these animals*. Whatever these old, *damaged survivors* need (nutritionally, environmentally) to get bred and give a *profitable* (only the *individual* dairyman can determine what this is) level of milk until they are gone, should be provided. If this means continuing for some time on the same / *similar high(er) concentrate* feeding plan they have been *damaged* on already, so be it.

At this point, some may be a bit surprised. One must consider that although the damage to a herd *can be done in a relatively short period of time* (depending upon the severity of rumen pH drop), neither was it done overnight and instant turn-a-rounds should <u>not</u> be expected. If the cows have been fed a relatively *low* forage ration for long enough to cause significant, *visible* hoof damage, the digestive tract *and internal organ damage that accompanies it* will render the particular cows *incapable* of eating (dry matter intake) *and fully digesting* / utilizing the more *ruminant friendly* diet. *Repopulating* the rumen with fiber digesting microorganisms alone may take up to one month and rumen wall ulcers may require *at least* a 60 day rest *during the dry period* for any significant *healing to begin*. Cows that have been "conditioned" to *require* (yes, kind-of-like an *addiction*) relatively large amounts of by-pass (past the rumen) fat, protein and starch digestion are <u>not</u> going to maintain *tank average* if switched "cold turkey" onto a *high forage* ration. Although this author has personally witnessed many dairymen who have chosen to "bite the bullet," ignore the daily milk per cow, and hold on until better days, it is *not* my personal recommendation. Too many get discouraged at the milk loss and go back to *binge* on the high cost program concluding that it's the only way that "works" –*hangovers* and trouble notwithstanding. I've also witnessed far too many dairies lose their *financial* lives going back down that path and would like to avoid seeing any more. It's best to do a complete evaluation of damage all the way down to where it begins (possibly in the calf/heifer rearing program) and then put together a *thoughtful* plan of action *and stick to it*. It takes 2 years to produce a healthy, *well developed / undamaged* replacement heifer. On some farms, mature cows and first calf heifers may already be grouped separately (a good practice regardless). Conduct a walk-through *physical* evaluation of the herd and, considering *as though you were in the auction barn*, place a dollar value on each of the cows. Those that you'd still consider worth top dollar move into the high forage plan group. Those that are rated closer to cull price may as well stay on the same path to end their journey, or at least, until the dry period is reached. (Also consider the total cost incurred as a result. The herd has been devalued significantly!) Tie-*stall* managed herds feeding total mixed ration may consider a *high forage* base PMR (partial mixed ration) with a high fat / by-pass protein / starch top-dress supplement to be given to the "*grain addicts*" -while making the base mix to be the <u>*total*</u> mixed ration for others. Although this evaluation –segregation process may seem to be an *overkill* in management to some, it cannot be overemphasized just how *disabling* acidosis / laminitis syndrome can be. My long time friend and associate, Keith Ostby, put it this way (after suffering exasperation over a new client who was expecting *instant* results), "This guy *can't see* that his herd is like a *former* super bowl championship team. A bunch of 50 year old *has-beens* that are all limping around. He can't figure out why they're not winning anymore."

It is also worthy of *emphasis* to note that one cannot *successfully* walk on *both sides* of the fence with this high concentrate vs. high forage question. I've seen many try and many fail. Don't let me leave you wondering what I mean: *don't even think* you can raise your heifers on a high concentrate, *finishing-steer-like* ration, and then expect good results with a *high forage* ration in the *milking* barn. There is also the interesting phenomenon that I've witnessed *many times over* in which a milking herd has been *severely abused* to the point that rumen wall and liver damage is expected (mirror image of hoof health), and then when the dairyman *attempts* to move them to a more *rumen fermentable* diet (vs. a heavy on the by-pass starch/ fat/protein), the cows exhibit *even worse* symptoms of acidosis –especially / immediately diarrhea with poorly digested feed (in place of pasty stiff manure that is poorly digested. Looks like a *steer's* manure). Why might this happen? My theory: the net *increase* in microbial fermentation (fatty acid production) in the rumen exceeds the damaged rumen wall's ability to absorb. The VFA's accumulate and drop rumen pH *further*. Additionally, it is possible that when *fiber* begins to be properly digested once again, *the feed passage rate increases*. This allows even more of the excess grain fed to escape the rumen and be fermented in the large intestine –which drops the pH there and causes diarrhea. **It is *best to prepare* animals as heifers or at least transition them as dry cows for *high forage* feeding.** Expecting "grain hogs" to abruptly switch without some training / healing / strengthening time, will be about as painful as asking the average "couch potato" to run a marathon.

After the decision has been made (**by the dairyman**, cold turkey vs. segregation) and the heifer rearing protocol has been *thoroughly* evaluated (according to KOW guidelines), the next step is to evaluate cow environment and bunk management. It is unreasonable to think ***any*** ration plan will be successful without proper attention in these areas. The foundation to meeting cow's energy needs on ***any*** ration plan is to maximize dry matter intake and to make certain *maximum digestion* takes place (grain and *fiber*) *before it leaves the cow*. *Limited* dry matter or water intake and *the stress of heat* or the lack of a place to lie and chew cud will be *especially* detrimental to the cow's rumen fermentation (digestion). If the *constant flow fermentation vat* we call the rumen is not kept in a *steady state* of production (this requires *frequent*, small meals and drinks of water, *balanced* nutrition, and *normal* cow body temperature) one *should* not *expect* optimum performance from a *high forage* ration. (Consider: *fiber digesting* rumen microbes are *slower* to repopulate than the *grain* digesters. They need a smooth 4-lane highway in place of stop and go city traffic. Stop and go feeding management will be *as frustrating*.)

General cow environment. Regardless of the breed or forage production system (grazing or stored), cows actually have a *need* for a clean, comfortable place to lie down shortly following each meal if saliva production (chewing cud) and rumen contractions (to mix rumen contents) are to be *maximized*. Cows that are overcrowded in free stalls suffer much more stress (resulting in rumen/digestive dysfunction) than is often appreciated / recognized. Additionally, blood flow to the udder is much improved when a cow is lying down (the last link in the chain of feed conversion to milk). Even if each cow has a stall available, those stalls *must be designed and* ***maintained*** to be *inviting* rest beds. While it has now been well documented that cows suffering acidosis / laminitis syndrome on *low forage* rations tend to exhibit more only-front-feet-in perching behavior and reluctance to climb into *even the best designed* / maintained stalls (likely due to the *pain* associated with climbing in and rising up-out), fortunately, a great deal has also been learned about stall and building design (specific dimensions / requirements are readily available throughout our industry and need not be covered here).

Bunk *access* is also a noteworthy *critical* issue. Even if cows each have a clean comfortable stall (and use them), lack of adequate crossover alleys (number, location and width) will keep a good percentage of animals from maximizing meal numbers and total DMI. Much emphasis has been placed upon use of *rubber* surfacing of the floor area in front of bunks in total confinement systems. This can be an ideal final enticement to approach the feed bunk, but should in no way be viewed as a replacement for other fundamentals or, as some are *selling*, the *solution* to sore feet.

Cow flow / milking **time** / frequency (**away from feed**) is often overlooked. The typical *daily* routine should not allow more than 2 to a max of 3 hours away from access to feed in a 24 hour period.

Lack of feed push-up. This is probably *the most common* bunk management error I see in otherwise well designed systems. Most dairies would be far better off with J-bunks or some other type of feed retaining device because nobody wants / has time to push up the mix every 3 to 4 hours day ***and night***. If TMR is fed only 2x/day without regular push-ups, there can be *difficulty* reaching feed *for up to 50% of the presumed bunk time* (not counting milking time). The resulting low DMI should be revealed by the TMR mixer scale and/or poor rumen fill observed on many cows. Timid heifers, *fresh,* and *lame* cows would likely suffer the most in these situations and milk production / reproduction records would likely confirm these observations. TMR feeding *may require* 3x to 4x per day bunk fill (meals) *at regular time periods* if feed push-up management is poor or, *especially,* if TMR **sorting** is observed and cannot be stopped by moisture and ingredient changes.

Those dairyman who choose to graze the cows to provide some part of their forage needs are *not* off the hook for any of these bunk management issues. In fact, some of them actually become *more* difficult to control. Graziers cannot feed TMRs (only PMRs or individual components) and while cow comfort and walking surface *can* be much superior to stalls and concrete, it's not an automatic "given." Weather extremes and mud/rocks can do as much *or more* detriment at times. Heat stress or poor density of pasture swards can be a problem. Feeding in confinement can be *superior in inclement weather* and if graziers hope to have *good* results feeding a high forage ration, it would be wise to use *a few* of the methods employed by total confinement as part of their system. **The bottom line is that the best way to keep *any* herd of cows working for you is to keep them *comfortable and make it easy for them to eat*.** One can either invest in the facilities to accomplish this (provide the comfort cows need) or *accept* lower production, and reproductive efficiency –or *artificially* push with more concentrates. However, when the line is crossed from *equipping* the cows to milk with comfort, gentle care and *balanced* (healthy) rations to attempting to *force* productivity *nutritionally*, health / longevity and profit are *not* likely to be long maintained. It's simply a question of *sustainability*.

Some may note that these points regarding environmental and bunk management apply to *all* types of feed programs and may not initially understand why the *special* emphasis is placed upon what "everybody knows" here. It's important to understand that excessive / unnecessary concentrates can compensate for poor bunk and environment management *in the short term*. If the rumen fermentation (steady-state, *consistent* digestion of *fiber*) is not *maintained* due to "empty bunk disease," "slug" feeding / sorting of concentrates or heat stress (for examples that are common), extra / excess starch (grain), fat and bypass protein added to a ration will help "cover for" energy and

protein *that would have been naturally (and economically) provided* as a by-product of *fiber* fermentation / digestion (volatile fatty acids and *microbial* protein) in the rumen. Additionally, *healthy* rumens / microbial populations provide an *abundant* supply of the B vitamins that are so vitally important to everything from liver function / health to growing normal / healthy hoof horn tissue (hence the reason why so much more emphasis on supplementing the B vitamins choline and biotin in recent years –as rations continue to drift farther and farther from legume / grass based to corn, corn silage, and commodity by-products). The farther our industry continues to drift away from what cows were *designed* to eat, the more we can expect the grocery list of additives to continue to grow. To re-emphasize a previous point, how great is the financial incentive to *shorten* that list? So long as farmers continue to pay for "advice" by funding *sales* and supply, and sales and supply continue to direct research, expect more of the same. Granted, there is much "talk" about the need for improved bunk management and *effective* fiber from both researchers and feed sales representatives now-a-days, but a careful analysis of ***actual ration recommendations*** from the same will *almost always* reveal a plan that "walks" dangerously close to the edge of *fiber deficiency*. It is this author's position that, for the best interest of *the dairy farm* to be served, a "fence" should be built a safe distance from the cliff. The story is repeated over and over of herds that have climbed to great heights of production with the aid of excessive concentrates only to inevitably tumble over the edge because no one warned of what lies ahead or how close they may be getting to it. This, of course, is not to suggest that climbing out of the valley of *low* milk production should not be attempted. Any *climber* should be well informed and trained in the materials *and methods* required to make their travel safe. For the dairyman, *suspending* their herd and financial health on too much concentrate is akin to the mountain climber using baler twine.

Ration formulation, feed bunk access to maximize DMI, and a nice place to lie down to chew cud are not the end of it. **Sequence** of feeding, even *if* a TMR mixer is used in the most ideal environment, matters a great deal. Before the widespread use of TMR mixers, many dairymen were catching on to just how important it was to keep the concentrate meals *small, frequent, and at regularly established, consistent time periods*. This, in fact, gave the same benefits as TMR (with less cost) *so long as forage intake was adequate* (met expectations). Hay *before* grain was a commonly held rule. The KOW Consulting Association *ideal* for concentrate intake is no more than 1# of DM per hour –split into a minimum *of 4 meals (*maximum of 6# DM concentrate every 6 hours) *with unlimited access to forage between each concentrate feeding*. This, of course, is not to suggest that *all* rations *should* consist of 24# DM concentrate (defined as all non-forage ingredients, including shelled corn content of silage). *Actual* concentrate feeding levels must be determined based upon forage quality (estimated *digestibility* [energy] and level of CP). KOW Consulting has other literature available to assist the dairyman with determining the *appropriate* amounts of various *supplements* to feed and these specifics will not be covered here. (This author will note, however, that our guidelines for developing lactating cow rations are much more *appropriate*, *accurate, and profitable* than any computer software program currently available [else we would recommend one]. If KOW teaching / guidelines are *understood and used properly, far more critical thought is employed* in ration development than merely inserting numbers [*that may not have much merit*] into a computer to "run a ration.") Since the widespread adoption of TMR feeding, some of the *reasons* for proper sequencing of component rations seem to have been forgotten in our industry. TMR *sorting* is actually the common rule (you can plan for it!) instead of the exception and PMR (*partial* mixed ration) feeding is often done *without consideration*. Dumping the entire daily TMR into the feed bunk in *one fill usually encourages sorting*. (There's more to be considered than merely heating / feed deterioration in hot weather). Sometimes, for labor efficiency, I've seen small groups of animals get 2 days worth of TMR at one bunk fill and if this happens to be the *prefresh* pen, it's a subscription of more *metabolic trouble at freshening* (this can make a high forage ration, or any ration, perform *real bad* from the production / reproduction vantage point). To assure steady fermentation of fiber occurs in the rumen, cows must be kept from *stealing* too much concentrate *ahead of the forage* (Remember the ol' hay before the grain rule?). If cows sort out a TMR, and especially if it's *randomly* and *continuously* kept pushed-up and available –and it's their *total daily ration* in one drop -it is *conceivable* that they may be able to eat 3/4 or more of their daily concentrate programmed *in the first 1/2 of the day*. After this, they'll tend to nibble at the *fiber* leftover while nursing a bellyache. Little hope left that the rumen environment will be *ideal* for *fiber digestion* for several hours (or more) after the sorting binge. This greatly reduces the *digestibility* (energy) of a high forage ration (of course, even worse things happen on a low forage plan). To make matters worse, a PMR may be fed: even if no sorting takes place, these often **require** 3 to 4 *structured* bunk fill periods in 24 hours in order to keep the most aggressive eaters from consuming too much of the timid heifers or lame / fresh cows' portion (tie-stall or lock-up head-gate feeding can help a lot). It's common to see this problem when TMR mixers are used to supplement *grazing* herds or when the *free choice* hay / balage ring / bunk is used. Some of the cows milk "real good" *until they are foundered* (acidosis / laminitis from too much concentrate and too little fiber), while others never get off to a good start and suffer poor production / reproduction (and, no wonder, they're on an *excessively* high forage ration with *too little* concentrate for the forage quality fed). *Manure* in a herd fed like this would likely be very inconsistent. Results (production / reproduction-wise) on a high forage ration would be poor (while on a *low* forage plan: *disaster*). Remember, it's only the ration that is *actually eaten* (and digested) that counts.

To summarize, if you *really* want to get good results

(production, reproduction, and health) with a high forage level feeding plan, you have to learn *how* to feed cows, not simply switch from having one salesman / nutritionist "running you a ration" to the KOWboyz (or anyone else) *telling* you what to feed. The dairymen who learn *how a cow works inside* and how to meet her needs, are the ones that have great success. *Calculating* rations is not so difficult that any dairyman *needs* a computer or a PhD (sometimes *both* get in the way of seeing the most obvious nutritional needs). Just like the *fundamentals* of diet and exercise, there are no shortcuts to *lasting* success. Still, the marketers of magic diet pills seem to do quite well. The gullible are not the few. The few are the men who will *take responsibility*, engage in critical thought, and *face reality* over the option to *disengage*. Unfortunately, modern American culture seems to have produced far more *aged boys* than men (yes, that's what I think) –those *unwilling* to devote time and effort toward anything that is challenging, unpleasant, lacks in entertainment value or fails to stroke the ego. They can be counted on to always take the easy path over keeping commitments, *working through problems, and staying on* course. The sales and marketing experts *control* these dairy*boys* who are more than willing to give up the responsibility / decision process on *how*/what the cows will be fed. All they have to do is tell them what they want to hear and the checks to support the "addiction" will gladly be written. I believe KOW clients are better than this. In fact, *to stick with us,* they have to be.

Now, again, before the newsletter hits the bedding chopper, please allow me to explain.

What does this have to with *successfully* feeding a high forage ration? **Everything**. One may ask, "If you do believe KOW clients are *wiser* than to be lured down the false path of 'more concentrate is going to make me rich,' why then 'preach at the choir'?"

As my high school *history* teacher used to say, "My how quickly we can forget!!" The fundamentals are well worth review. Keeping a dairy farm running smoothly *is* a complex job –but becomes more so when problems arise (*or are caused) by ignoring the fundamentals*. 90% of troubleshooting those problems has to do with reviewing the fundamentals. (Reminding ourselves of stuff we already knew.) The "jobs" that don't get done are the ones *considered* less important or that are forgotten. Things *considered* less important are often things *poorly understood*. My mechanic can tell me that it's important to regularly change the oil and fuel filter in my truck, but unless I *understand* ***why*** it's important, I may tend to neglect it. So it is with dairy nutrition (formulation *and bunk management*). I can blame the trouble with my truck on the "bad fuel" I purchased, but if it's running poorly because I've failed to do the basic maintenance, I still won't get much further down the road. Fortunately for *simpletons* like me , *cows* don't change much. (Yes, we breed them for improvement, but the changes are very gradual. I'm thankful that, as is the case with new model year trucks, I *don't* have to read a new manual on maintenance for the new 2005 model of *cows* freshening. While some salesmen would like us to *believe* the *needs of cows* have changed *signficantly* over the past few years, it's simply not true.) **Rations / forages and environmental factors do change.** As technical troubleshooter for KOW Association, I am often called to evaluate when a farmer-client runs into problems. Although there is always something new to learn or factors discovered beyond anyone's control or complete understanding (those "we aren't quite sure, but have a couple theories or ideas" on), I always start the *process of elimination* by covering the basics *before* looking for the exotic –as all experienced troubleshoooters *should.* 90% of the time the *root cause* of trouble can be found. Dry cow or transition-to-milking cow protocols have been neglected, the forage has changed or a spot of poor fermentation / storage damage is discovered, etc. It only takes a *logical* plan and, *unfortunately*, **time** to work through the trouble. However, if the farmer has not learned the *fundamentals* of cow care, how to properly judge forages, and what generally needs to be done to supplement them, patience and understanding are more difficult to muster during those stressful mini-crisis situations. Everybody wants an instant drug-like response to *nutritional / environmental* management problems. Things just don't work that way. A farmer that was well pleased with the success of his "high forage ration" last year but has experienced problems recently, becomes very perplexed and loses confidence very quickly ***if he has not advanced*** **in his ability to judge forages and recognize *normal* function of ruminants over that same time period** (normal digestion / manure and what to do if it's not, rumen fill, cud chewing, what poorly fermented butyric or caramelized silage is and does to a ration for examples). These guys are *primed* for the *doubt and additives* peddlers. These are the fellers who said, "Just tell me what to feed" -but didn't care to know why or that were very resistant to have much , if any, dialogue (or consider *change*) of **any** concerning issues brought up regarding bunk management, heifer rearing protocols or cropping plans, and storage management issues. To go back to my first analogy: I know a guy has started slipping back "on the bottle" when he starts bringing up "salesman so-n-so says the cows are probably low in *energy*" -and I know he doesn't yet understand how *little* the term actually means. I usually counter with the questions: "Which energy –sugar, starch, fat or digestible fiber?" Or "Is there anything that might be holding back DMI in the pre-fresh or milking string –a bunk issue, a significant forage quality / fermentation change?" I know there's hope if we can dialogue and troubleshoot in these areas. I lose hope if communication is *strained*. I also have hope when the dairyman starts pointing out limiting bunk and ration ingredient factors *before* I can discover them. He *knows* I know and I know he knows . Then it's just a matter of assisting with a plan to do the best that can be expected with the things we have to work with (assuming *some* factors are beyond anyone's control). Keep an open, *inquisitive,* mind and open *communication* as you feed or attempt to transition to a "high forage ration." It's well worth the effort to learn ***how*** to feed the cows.