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"A sensible man watches for problems ahead and prepares to meet them. The simpleton never looks, and suffers the consequences." Proverbs 27:12
"If something has to be done, and all your experts convince you it cannot be done, then change your experts and do it." -Winston Churchill

KOW Ruminations

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Fully independent soil consulting-agronomy-nutrition. We do dairy nutrition from the soil up.
Produced by WF&M for KOW Consulting Assoc. Ph 608-762-6948, fx 6949, kowboy@kowconsulting.com June-July 2008

How Much Diesel Fuel Is In Your Ration?

It's time to end *excessive* use of purchased feeds and corn, consider the grazing option.

Thanks to aggressive *sales* programs (disguised as advisory services) management strategies within the dairy industry are *usually* kept on the upper limit of economic tolerance. In other words, if dairymen still have a little money left in their pockets, sales managers are *creative* enough to get their claws on it ☺. While I realize that I too might be *accused* of using advisory services as a marketing tool, I would remind that the *KOW Mission Statement* (see at www.kowconsulting.com) has not changed since the beginning and we are still hired by a *simple consultation fee* that remains fixed *regardless of the price of milk* ***and inputs needed to produce it.*** (Excepting that our consultation fee is actually ***reduced*** if / when **management *intensive grazing*** is implemented! We truthfully / rightfully tell clients that *vitamin* supplements are no longer needed while on total grazing programs and *significantly* reduce or *remove* VTM Pak from rations. While the KOWboyz cannot control the price of supplemental ***vitamins*** in the marketplace we can *and will* assist you to reduce the cost [need] of them in your farm operation!). This differs ***significantly*** from the sales and marketing industry that must ***continuously*** come up with (**additional**) new (and improved!) products and programs to convince (*fool*) you into thinking your cows are lacking something –*and ever more aggressively so when profit margins are favorable*. Then as the economic cycle takes a down-turn, the marketers (*sometimes* with the assistance of dairy scientists willing to *sell* their credentials / influence to the highest bidder for research contracts) use ***fear*** to keep the *ignorant* (dairymen that read are not) from reducing the use of unnecessary inputs –farmers are reminded of ***potential*** returns on the investment, "lost *opportunity costs*", *risks* of diminished herd health and reproductive efficiency, etc. "You just can't afford not to use ingredient X and Brand X pays for itself." Yep, *nonsense* like this . . . unfortunately (far too many) dairymen buy it. KOW Consulting only recommends "special" feed additives in very narrowly defined / limited situations (see calf and fresh cow feeding guidelines at www.kowconsulting.com). KOW TM/VTM Paks are *intentionally* designed *only* to provide the fundamentals, no "tag dressing" with "special"

unnecessaries. I cannot, with integrity, regardless of the current financial climate, ask our clients to part with their hard earned dollars for *very questionable* returns. I always run recommendations past the test of: would I open up *my own* checkbook on this investment? Yes, that test usually cuts through all the *bull pucky* ☺. This is how the (*subjective)* "truth" gets *bent* out of shape: sales dollars *change* what's "true" and wise (1 Timothy 6:10). For one recent *example* of what I'm trying to describe (I *could* offer *many*, my intent is not to single out any individual), I offer the following found in April 21, 2008, *Feedstuffs* magazine by Mike Spandern entitled **"Feed additives: Adding value, or just costs?"** The feed industry is just a little *scared* about lost sales during these difficult economic times. They should be! If you can read between the lines, my case is well supported / made (emphasis and [commentary -TW] added):

> The typical argument for **adding value** [Really? Is it truly making it *more* digestible –*increasing* the energy value? –TW] to feeds and achieving better animal performance [measurable?- TW] is hard to stick to when the costs of commodities have, in some cases, doubled and grain traders are speaking of upcoming shortages.
>
> Nutritionists working on feed formulation are told to strike out anything that is not essential to feed the animal. [This Kowboy *will* do! *Optionals*/additives are ***your*** choice –after *realistic* consideration of payback. That's the difference between a *real* advising nutritionist and a salesman! –Not credentials! One can posses a PhD in nutrition and still work in sales!]

By selecting misleading information, employing too small a sample, or omitting proper context, those with an ideological axe to grind ***often make up almost whatever story they desire, seemingly backed up by "scientific" data. Numbers are particularly effective in this regard****, as has been famously noted by remarks attributed to Benjamin Disraeli and Mark Twain about the three kinds of lies –namely,* ***"lies, damned lies, and statistics."*** *–Editors of the New American magazine.*

> It is *perceived* that feed additives, no matter how **powerful** [Powerful?! I question use of the term in reference to feed additives. –TW] they are, first of all add costs; they increase the price per ton. Any ongoing discussion is too long for our hectic business. Any sentence starting with "Yes, but . . ." is ignored.
>
> Feeling almost like rookies, feed additive ***salespeople*** have to start all over again –as if there was no **established additive industry** [what about the **dairy** industry? –TW] and as if the idea of adding **micronutrients**, probiotics and so on was all totally new. [Micronutrients have been scientifically proven *essential*, probiotics have not –and economic returns are very questionable for *microbial* additives. To place them both in the same sentence *as if* **equal** is **misleading** at the least. -TW]
>
> ***Feed*** *is the largest chunk of costs* in animal production, *followed by the cost of* ***labor***. In relation, the individual costs of **animal replacement**, **veterinary services, energy** or finance are rather small, difficult to compare and very difficult to change. [Only finance is nearly impossible to change –that is once the banker has you signed, you are his servant. Proverbs 22:7. *Reducing* debt is the road to freedom. You **can** do this if you have excess livestock to sell! You can manage to reduce all the others. –TW]
>
> The **costs of reduced performance** often don't even appear in the statistics, or, at least, they are not recognized. *The pound of milk that was not produced does not send an invoice to the farmer,* but the feed mill does. Therefore, farm consultants [not *salesmen* –TW] like to attack the cost of feed. [Attack?! It's *reasonable* to question. The ounce of *useless* additive must be paid for even when milk production does not increase –which is *often* the case! -TW]
>
> What do we really need to put in our feeds, and ***how much are farmers prepared to spend*** for an additive? [KOW considers the former, you can be *sure* the latter is *the* ***primary*** question asked in the office of the sales manager. -TW] Let's take the example of a good old **yeast culture** as an established technology in [**high concentrate -**just read the research. -TW] dairy production.
>
> If we ***assume*** [assume –the key word here. -TW] that adding live yeast to the diet increases the average daily milk yield by 1 kg (2 lb) per cow per day, the dairy farmer gets around 26 cents (average farm gate price, US-Europe February-March 2008) in return.
>
> How much is the yeast now worth? If it is adding value by 26 cents per cow per day, how much should be paid for it: 2 cents, 4 cents or 12 cents? The answer is up to 26 cents per cow per day. [☺]
>
> It's basic economics. [Figures never lie but . . –TW] One extra liter of milk makes the cow, the labor and the farm more efficient. So, even if you had to pay the full 26 cents per day to achieve this extra liter of milk, it would still be profitable. [Bold –isn't he?! –☺TW] Yeast does not cost that much.
>
> The same calculations can also be done with other species and other **prebiotics, probiotics, enzymes** or micronutrients to show their effects on growth performance, ***fertility, health,*** and product quality. [Again, trace minerals and "other" additives *don't* belong in the same category. This preceeding is about using *fear* to sell by causing the *unschooled* to

question whether health and reproduction can be maintained *without* the *unnecessary* additives. Again, it's ***misleading*** to list trace minerals in the same category as these other unnecessary additives. The author obviously wants you to buy them all! Are his economic assumptions *cumulative*? If you feed them all will it result in 12 more lbs of milk to sell?! -TW]

As **energy** prices rise, we insulate our houses and make our cars more efficient. *When commodity prices go up, we should make feed more efficient.* The animal will not die without it, but *feed additive products* ***ensure*** *that production will be more profitable*. That's adding value. [No feedstuff can *ensure* profitability. Period. -TW]

In spite of all the bold assertion in the above, it's not been my experience to see *consistent* returns on the yeast / microbial additives; in fact, my observation is that the financial benefit ***to the farmer*** that Mr. Spandern so boldly proclaims is **nearly *non-existent*** for most *non-nutrient* additives. (Again, not to single out Mr. Spandern: if you need another example of the same read **"Eight feeding decisions that can backfire"** by Michael F. Hutjens in May 10, 2008, *Hoard's Dairyman*. Mike, do cows **really** need cottonseed and all your "slam dunk" additives?! Gee, I would like to see some *investigative journalism* on the ties between "land grant research" and marketing!) Balance your rations for *basic* needs. Limit the additives (low inclusion rate items) to **minerals, vitamins** and **buffer**. If / when anything beyond these are fed, do so only *after* all feedbunk management and cow comfort limitations have been *eliminated* and you can measure / maintain a consistent ration to the extent that response to the additive can be *truly* ***measured*** on ***your*** farm (not a [fixed outcome] "*research*" farm trial!). Far too many dollars are *wasted* because a particular additive helps the **farmer *feel*** better (*magic in a bag* helps to sooth the painful worry caused by ***fear of the unknown*** in the farmer that ***chooses*** to remain ignorant of his cows nutritional needs and/or *not* deal with husbandry / bunk management limiting factors). Yep, that's what I think. KOW clients that *take an interest in* ***learning*** to ***formulate rations*** usually (by their own decision) eliminate the unnecessary additives, **with the only economic consequence being money left in their pockets!** ☺ While certain additives ***might*** provide a ***slight*** *edge*, the money spent ***usually*** would be best used toward things that *really* make a ***great*** difference (such as improving forage quality or cow comfort). Sure, use a **direct fed microbial** and/or a little **yeast** (for examples) in calf starter or transition / fresh cow rations –or **yeast** in the whole milking herd's ration during periods of **heat stress** if you wish -but don't consider these things as *essential.* 99% of the time, spending on ***cleanliness*** *or* ***comfort*** will pay back better. Due to the rise in energy (fuel oil *and starch*) prices, the cost of all inputs are going up. The first step to cutting / controlling costs is to eliminate the unnecessary ones.

The commercial feed industry was borne out of the needs of grain, oilseed and meat processors to find an economical and safe way to dispose of their ***waste by-products****. -5/5/08 Feedstuffs magazine*

Wish I had a dollar for each time I have been asked what to feed to **replace shelled corn** in the ration(s) these past few months. Many wonder about the availability of a by-product feed to replace corn, but that's what *makes* a by-product: the ***starch*** has been *removed* (the primary reason we feed corn is for the ***starch*** –a *concentrated* form of highly digestible ***energy***). By the way: corn ***distillers*** grain is now widely available thanks to government subsidy (*Socialism comrade*! Redistribution of wealth schemes). While the **starch** has been *removed* / converted to alcohol (to *squirt a little* into gasoline –yet at this time our country is not even ready to *transport* it economically![*]) what's left is a valuable livestock feed high in protein (26 to 30% CP), phosphorus and digestible fiber. Distillers also provides B vitamins –***yeast*** fermentation *produces* these B vitamins, and whenever you feed distillers you are already feeding *yeast* supplement! (So how much *more* do you need?).

We've become so accustomed to cheap **energy** that we take it for granted –and are now shocked when we must pay *significantly* more for all sources of **energy**. If the American public would only *demand* that we end the socialist programs and drill *and refine* ***our own*** *vast* oil and coal reserves! If we (USA) would reduce government debt spending (the *cause of inflation*), use *our own* "fossil" fuel, the "*renewable*" fuel could, once again, be *cheap* ***energy*** *supplement* for livestock. (Read the *Hoard's Dairyman* editorial titled "It's oil's fault, but why is crude so high?" Found in the May 25, 2008, issue. Excessive government growth / spending / inflation of the dollar [socialism] has caused the *great* rise in both corn and oil prices –tracking on the graph together since 2004.) Until that happens, you'll be wasting your time to search for any "*cheap*" feedstuffs *that are high in* ***starch*** –and that can be *delivered* "cheap" in a big *diesel* powered truck. The

[*] There is great *potential* for the entire *false* economy of the *corn* ethanol industry to come crashing down. While this could bring relief to corn prices for dairy farmers, it could *devastate* grain farmers that have planted corn with record breaking input costs this past spring -only to see fall prices for their product drop. Read May 1, 2008, *Agri-view* article "Infrastructure not ready for all the ethanol to be produced in '08." A Purdue University economist by the name of Wally Tyner warns that some ethanol plants will be shutting down by fall due to over production / lack of ability to transport / market finished product economically - this even with up to 66.4 ¢/gallon in tax incentives (subsidy) to produce / include it! (Also read May 10, 2008, *Hoard's Dairyman*, "Ethanolization" impact continues by C. W. "Bill" Herndon.)

closest thing to "cheap" **starch** (relatively) will be ***homegrown*** corn (or corn silage or other grains) fertilized with livestock manure [*ideally* spread by a cow]) in a good rotation providing **nitrogen credits** sufficient to ***eliminate commercial fertilizer*** needs. In fact, **high cut** corn silage or *snaplage could be* the ***only*** source of grain (starch) you feed (review the article titled "Ultra-low grain feeding in lactating cow rations" published in Aug-Sept 2005 *KOW Ruminations* at www.kowconsulting.com). Considering the trucking costs alone, especially at today's fuel prices, makes buying it instead of growing it really tough to "pencil out." (I'm not alone in this considered opinion. Read **"Milking cows without corn"** by Gary Sipiorski in March 25, 2008, *Hoard's Dairyman.* To quote Gary, **"If you grow your own feed, you will have an advantage** . . . Think outside of the TMR box . . . about doing more **grazing**. The less **energy** needed to plant, harvest, and spread the natural fertilizer will turn into real money now. The industry will seriously have to look at the total financial picture much differently than it ever did in the past. If you do not find other ways to get **energy** to your dairy herd, the dragon will eat your cow's lunch." [Emphasis added.])

To think that true efficiency and long-term sustainability will be found running more and more of the feedstuffs your cows consume through the loop of various processors, suppliers and truckers is about the same level of thinking that causes people to believe the government knows how to (can) spend money wiser (more efficiently) than they can as individuals. Similarly, a *feeding and fertilizing* program that does not take advantage of *at least some low cost* **cow** labor to harvest and spread manure is a "leaky bucket" as well. Unfortunately, this level of thinking (really not thinking!) prevails in our country (government continues to *grow, confiscates* more wealth) **and on far too many dairies** (the feed industry still "*guides*" *most* feeding programs). This because of the **rejection of *personal responsibility*** in our culture –too many folks want it to be *someone else's* "job" to solve *their* problems. **Politicians love to see folks ask to be taken care of – and so do feed salesmen** (and chemical, fertilizer, etc.). It's ***not*** the job of the *KOWboyz* to grab anyone by the shirt sleeve and drag them toward *anything*. Have you ever felt *pulled along* by a salesman? I *know* you have. He's got sales goals to meet. *Some* dairymen *seem* to enjoy or *appreciate* letting salespeople rub their back while reaching into their back pocket(?) *Sales training* is all about learning to do this skillfully! The mission of KOW is to ***equip*** and ***assist*** the dairyman to set and achieve his own goals by presenting **options** and providing **education** (that salesmen and *sales funded* dairy research won't). There's a ***huge*** difference! Would you like to make better agronomy and dairy nutrition decisions that will result in *less dependence* on purchased inputs? Let us teach you the **how** and **why** of soil, agronomy, and feeding. It's the dairymen that *remain confused* about what cows ***need*** to be fed that salesmen exploit. From the very beginning, KOW Association has been promoting / teaching / informing of management ideas that can make your dairy farm more *self-sufficient* –the **opposite** of what salespeople want! No special knowledge –just the truth.

> *Communism works only in heaven where they don't need it and in hell where they already have it. – President Ronald Reagan.*

Search far and wide, you won't find any *cheap* sources of ***starch*** to replace corn. **Sugar**, to some extent (*excess* will promote rumen acidosis), can replace *starch*, but you will find it to be a more valuable (expensive) commodity than feed grain ***unless*** it's *preserved* ***within*** **a *forage crop***. **Herein is the "secret" to *reducing* corn (or other grains) in dairy rations.** Even those attempting to dairy *without feeding **any** grain* (something I'm not entirely opposed to *so long as* the *business plan* [Do you have one?] can suffer the low milk production) must consider how they will produce / retain ***sugar*** and **pectin** (***digestible*** fiber) in *forage* crops. Cows need **energy**.

The first priority ***every*** dairy farmer should have when trying to manage the feeding program with less corn is to **make corn less necessary**! The single *most profitable* way you can reduce the need (or benefit) of supplemental **energy** in the form of starch (grain) is to feed better quality fiber (forage). Many dairymen have been overfeeding starch (grain, corn) in the first place. Too many heifers are fed grain they *don't need* for optimum growth and, thanks to our dairy scientists, starch and sugar levels exceed the KOW recommendation of 25% maximum (combined) in most "expertly formulated" milking cow rations. (I was recently *asked* by one of the major dairy scientists of our day whether or not I thought it was ***possible*** to be successful with *less* than this. ☺ No kidding.) Again, this is not done by *discovering and trucking* in a new byproduct feed but rather *growing* / harvesting / retaining / *fully utilizing* what the farm is capable of. Economics within the marketplace will not allow you to discover a byproduct that'll be more economical than what you can ***grow*** –at least not for very long. **The only "freebie" you get is *solar* energy.** Thankfully politicians have *not yet* attached a tax to this source of energy, and even though it's the primary contributor, the *global warming* crowd hasn't yet started campaigning to stifle its use ☺ (these "Nuts" are busy working on ***forcing*** you to feed your cows *more* grain and monensin -so as to reduce *methane* emissions [from *belching* during rumination]! If you can't believe it, search the web or ask for a copy of the article titled "Bossie's belches contributing to global warming" by Jane Fyksen, May 1, 2008, *Agri-View* newspaper. She reports on the *serious* [?!] work of Virginia Ishler, Penn State University - she's referred to as the "Cow-burp Expert" ☺ in the article). Everything else you *truck* (consider the cost of fuel) onto your farm must have a profit margin added to each step of the journey -every financial transaction, every hour of labor. While there are some good deals to be found at times, when substituting certain byproducts for other ***purchased*** supplements or forages, one does not

usually gain for long if / when *substituting* for ***homegrown*** forages.

Again, **the only free energy source you get is solar.** Therefore, why not utilize / capture / retain it more fully? Furthermore, **if** that forage is **harvested by the cow**, the potential gain is much greater. (This is so, *so long as weather conditions* permit the ***legal*** / ethical low cost workers [cows] to do the work [winter, extreme heat in summer do not permit a *continuous* lowest cost optimum to be fully realized in the upper Midwest USA. However, that does not give reason to abandon the **grazing** option *entirely*! Any pound of forage harvested [or manure spread] by a cow instead of a *diesel powered* machine can improve the bottom line.]).

Due to the high cost of **energy**, one simply cannot afford to waste it anymore! One of the **efficiencies** of *grazing* as a method of feeding cows is that there is no loss of digestibility (energy) in **storage** (it's a short trip / time between harvest [tongue] and the rumen). This is one of the reasons why cow's milk *surprisingly* well on *grazed* forage with little supplement (confounds the **predictive equations** for energy and DMI –*don't* trust them!).

Don't forget that all **energy** originates from ***solar***. It is a well established scientific law that whenever energy is transferred from one storage system to be utilized or stored in another, there will ***always*** be a net loss of *usable* energy. Anyone that can come up with an exception to this won't need to milk cows for a living☺! Unless you are **that** scientist, the best we can focus on is reducing the amount of ***potentially digestible energy*** **lost** between **solar** and the **rumen**. A *significant* thing that can be done to cut your *losses* is to eliminate one of the steps between harvest and digestion by **grazing** (not storing) forages.

Some folks fail to *capture* all the solar energy *possible* on their farm because the *solar panel* is not as **big** as it *could* be (they fail to keep something green and growing year round on every acre via the use of ***perennial*** and **winter annual** forage crops). This is very unfortunate. Once again this spring, I watch farmers *waiting* for soil / weather conditions to get "fit" to plant corn (for example) while the soil / solar energy is growing nothing but *weeds*. A crop of winter cereal rye (example) or vetch or red cover (for nitrogen plow down) would be capturing more solar **energy**. Too often, *fall* crops like oats and turnips are not used to extend the growing season. Why?

Some folks fail to capture all the solar energy possible because they *don't* use ***grazing*** as a method of *harvesting* whenever weather permits. Whenever a *live* **photosynthesizing** (sugar) plant is directly harvested into a rumen, a *major* factor in **energy** *loss* –storage- is taken out of the equation! (I *cannot* overemphasize this point!)

To make matters worse, some dairymen spend lots on diesel fuel to move ***more forage than necessary*** into (energy) **inefficient storage systems** –especially those that allow greater amounts of **oxygen** to "burn up" the sugar / pectin. (Evidence: color loss. See the KOW guidesheet "Legume, leg / grass mixed and grass forage *physical evaluation" for more guidance*.) For many years I have written / taught / spoken on the topic of making (preserving) silage (haylage, balage). I have *dared* to *criticize* bunker / pit / pile silos for storage of, especially, ***legume*** forages. My primary *motive* (What other one would I have?) was (and still is) driven by the **energy** (digestibility) losses I ***typically*** see in these systems. Don't get me wrong: **any of our clients are free to choose whatever method of storage they are happiest with and KOW guidelines include advice on how to *better* manage bunkers / pits / piles.** You'll just need to feed *a little more corn* (starch) to make up for the lost **energy**.☺ Corn silage and **grass** forages (especially warm season [such as BMR sorg-sudan]) store *relatively* well in bunkers. However, there are ***consequences* to choices** that the KOWboyz cannot do anything about - if **you** choose to put *alfalfa* in a bunker. Since the KOWboyz are intentionally poor liars ☺, we'll not claim that Brand X silage inoculant will prevent all losses, *regardless of the method of storage used*. We like to leave that job to the salesmen ☺. (Sure, *some* salespeople can offer good advice –but you don't *need* their commercial microbes to be successful!) It's hard to face the client if you've asked him to spend a couple thousand dollars on inoculant and he's asking why his forage is *brown* and / or smells bad. Seems like salesmen (and "researchers") that benefit from inoculant use (income / funding) have little trouble (of conscience) *emphasizing* how *essential* (?) they are for silage making. This in spite of the ***much more*** **significant** factors emphasized in KOW literature (and commonly known for years prior to the new found **profits** created by *commercial* microbial products). **Oxygen** is enemy #1. The more **oxygen** that a *harvested* forage is exposed to prior to entering the cow's rumen, the less **digestible energy** from (sugar, pectin, fiber) it will retain. The road to optimum **feed efficiency** and low **starch** (corn) requirements is not paved with **feed** or **forage additives** – it's about *utilizing* / preserving in more fundamental ways!

Currently the most efficient system of converting *solar* energy to milk is ***grazing*** (no storage). Second to this would be **balage** (with the dry hay option *as ideal weather conditions occur*) due to the *lower fuel requirement* (compared to chopping) and high compression / **oxygen excluding** seal of *stretch wrapped* plastic.

If you've never *considered* the *grazing* option (even just the heifers and/or a *small* portion of the milking herd's diet) or you'd be open to ideas about how to improve your forage storage (**preservation**) system, would this year be a good time to begin –or at least talk? We *won't* drag you, but the KOWboyz are ***eager*** to help our clients remain profitable. Therefore, we are eager to discuss the practical / real (***significant***) ways to get more ***solar*** energy into your cows' rumens while reducing the ***diesel*** in their diet.