Weaver Feeding & Management, LLC
22770 Truman Road
Darlington, WI 53530

A government big enough to give you everything you want is a government big enough to take from you everything you have." – Former President Gerald Ford

"I pray that our eyes might be single to the will of God, that we might thereby bless our families and our country and that we shall, with increased devotion, work for **less** government, more responsibility, and, with God's help a better world." - Ezra Taft Benson, former U.S. Secretary of Ag.

KOW Ruminations

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It's Not the *Size* of the River That Runs *Through* Your Farm That Matters

The important question is, "How much can you dip out of it?"

So the analogy goes . . . which I think is *brilliant* when it comes to the discussion of *cash flow* on the dairy farm. I must give credit for the title to my associate *Mike Plucinski* as this was related back to me by one of our clients. We were talking about the brutal economics of 2009 and how he managed to hold his financial ground (while others in his neighborhood went backwards *significantly –according to his banker).* Another of you clients called me this past month merely to say "thank you" because you had to pay taxes this year (?!). I was told that KOW methods made the difference between past *economic* performance and how it come to be that 2009 afforded some level of profit. The ***average*** U.S. dairyman *lost* $720 / cow last year. The same dairyman asked me to please write on the topic of cash flow because he said he is weary of hearing the bankers talk about the need for a targeted (high –big river) level of **milk per cow** to make "cash flow" –while too little emphasis is put on profit *margin* over *cost of production*. Now before you set this newsletter aside because you can't bear to get the *useless* opinion of another economist *wanna be profit* foretelling of future fortunes *he'll never labor for*, I confess that I do not possess the credentials that enable me to boldly tell you how easy it is for me to see **you** take financial risks. (☺ Although I did have someone *accuse* me of being an economist hiding in the guise of nutrition and agronomy during one of our winter meetings this year! It was a fine *attempt* at *offending* me!) No, I'm just a simple man of very limited mental capacity –ya gotta break it down to it's basic parts if ya want me to grasp it. Because I'm such a simpleton Kowboy, I start to get a little *suspicious* that I'm getting a sales job when the convoluted explanation of the economic benefits I'm suppose to get include *borrowing* large sums of money to spend on making myself wealthy. I'm told by politicians that only the federal government can do that. While there's very complicated things in life that other fellers see clearly with ease, I just get to wonderin' why what's suppose to be so good for me don't ever be what them folks do for themselves. For example, why don't them ag loan guys and experts in economics ever get tired of talkin' theory and go sign the papers for their own cow factory? Might have somethin' to do with somethin' called risk management -which usually means it's better to let the other fella try it first. I have *always* tried to provide ideas

to our clients that I personally would have a reasonable level of comfort in the risks associated, the ***probability*** of financial success. Since each farm is unique, the best I can do on this topic is address some ***general thoughts and principles***, lest I provide *specific* numbers that'll be wrong for ***your*** farm (gotta do your own "*numbers*").

I'm told that the origin of the term "*common sense*" is from the ancient days of kings and royalty –when society was more divided by social classes. The leaders became more and more *disconnected with reality* while trying to convince the *common* peasants that, no matter how *senseless at face value* their directives were, the serfs should rest assured that their leaders' decisions were all based in ***higher knowledge***. Ultimate outcome was unbearable for the common folk so they had to rebel from their masters and, in doing so, vowed to never again be fooled by knowledge *that could not be verified by one of the five senses* –hence ***common sense***. Heck, the more things change, the more we find things haven't changed ☺. I suppose that's why we have historians warning us to never forget.

This Kowboy has been writin' about this very thing in regard to *national economic* policy. How many examples of *failure and suffering* do we need? Lack of *personal* responsibility, *asking for* government – collective action has always brought on poverty, misery *and evil.* Yet as I write, national socialism (fascism) is on the march. Since *medical* services are now *claimed* as a "right" (?!), the *logical progression* will include **food**. Without a *moral* revival and an *awakening* to our nation's *historical principles in law*, your farm and the entire food system will be *claimed* as property of the *collective* for the good of all the people, *confiscated* by the "benevolent"(?) "leaders"(?) that possess ***higher knowledge*** –able to better (?!) direct its use. Call me crazy if you wish . . .

I've also been writin' ya about how the same type of *disinformation* is being used to tell farmers how to ***precisely*** feed their cows. You dairymen are told *many* things which cannot be verified by the five senses now-a-days, which you've just gotta take on blind faith, believing that those specially trained have ***higher knowledge*** and the ability to guide you *better than your own judgment*. Yet cows, on average, only last a couple of lactations and 25% (1/4!) are clinically lame. Go figure.

Could the same *insanity* that has brought us to the verge of the *next great depression* be guiding *economic* decisions down on the farm? How could experts become *experts* if they haven't *proven to know –have possession of* –**higher knowledge**? Well, this simpleton Kowboy figures it's because higher knowledge – education, by *definition*, is something *beyond the common man's ability* to grasp. Therefore, too many of us common folk *fear to question* the experts of the day lest we be *humiliated* by their overwhelmingly powerful intellect, wit –and ***secret knowledge base*** (we've never been exposed to). Seems like things have gotta get purdy *miserable* before folks finally say, "Enough, I'll now use my own ***common sense*** *alone* to solve this problem." Are we at that point yet? Sure gotta be gettin' close . . . I'm hearin' about credit limits being tapped out and a call for big *collective* schemes to further *nationalize* dairy marketing (even more than it is –yet all that would need to be done is pull the plug on government subsidies and *loan guarantees* and the *least* efficient [factory style] dairies would be finished *flooding* the market with excess milk. The price would -*could* go up. If we *can't* compete globally, it's not for lack of government support –it's due to too much government interference that drives up costs).

The secret is there *ain't no secrets*. What I'm getting' at is, get one of them "experts" out of his comfort zone (usually just off the topic of his power point presentation ☺) and he'll demonstrate *very common* human *limitations*. I recall one day about 10 years ago, while attending a farm open house in northern Illinois, how a certain dairy scientist "expert" was asked *off-topic* to evaluate the condition / development of some *several* month old dairy heifers. I had a farm credit man standing by my side as the "expert" called an *awful* looking group of *fattened, foundered* heifers a nice lookin' bunch! Well, maybe the "expert" was just being charitable toward the host farmer(?), but the loan officer, after I explained my reasons for dismay, expressed his own frustrations over the poor economic and herd health performance on "all" the herds he was working with that were following the same "expert" advice. Don't get me wrong, there is such a thing as *higher knowledge* if you mean the *finer details* of a *logical* explanation. I just ***don't*** think it ***contradicts*** *common sense* very often ☺. When it does, *wisdom* says it's okay to question things. God rarely asks us to go on *blind* faith, his ways are *usually* logical / *sensible* –though with a *higher* purpose than ours. **The *Creator* is the *only* one I fully trust with the higher knowledge claim** because I figure he truly does have knowledge I can't handle (no ability to grasp) –akin to me tryin' to each a cow how to read (maybe much worse ☺). Even scientists that may (foolishly, in my *considered* opinion) deny existence of a Creator / Designer are taught to use **"Occam's razor"** (as a scientific principle) which states that the ***simplest*** explanation, **using the fewest assumptions**, is usually the best, most *true*. I guess I'm just trying to encourage ya that **it ain't heresy to question the "*experts"*** until it makes sense to ***you***. If their explanation takes you on a confusing rabbit trail, after the 3rd attempt, pull out that *Occam's razor* ☺.

Let's go back to that *river* flowing *through* your farm called ***cash flow*** –the milk volume your farm produces. If you're managing a little group of cows giving a little bit of milk, we might call it a creek, but **if** you can dip out of it all you need for family living expenses and the **fixed overhead cost you've *chosen*** (price of land / location,

type of facility / feeding system), maybe that's all the flow **through** your farm that is required. The argument is *often* made that a *Big River* system is more economically efficient because **fixed overhead** expenses can be spread over more cows (milk income) –but *I'm not convinced* that there is a very high *probability* of achieving the *touted* profit margins. *Large scale* management also has inherent inefficiencies (just consider how many dollars in mis-management and *repairs* "fall **through** the cracks" with *disinterested*, low wage, *unskilled* employees). Of course, the *little* creek is going to go dry during a severe drought, so it's probably wise to plan for a big enough flow to *dilute* those **fixed overhead expenses** most of the time (milk markets have *always* experienced droughts). This is not to suggest you need the Mississippi River to have some level of security! The bigger the river, the more *traffic* and money flow *through* the farm, but there's no *guarantee* you'll be able to dip out any more for family living. You can mechanize to some extent to *multiply* family labor efficiency and make the work more pleasant, but as equipment is added or, especially, as *hired* labor is employed the ***fixed overhead cost* to production** goes up ***significantly***. If that river is a **very** big waterway, you're gonna have to *share* it with a lot of travelers, including *environmental regulators* now-a-days! There's a *growing* cost for *"compliance"* (which is a government word for "do it our way or pay hefty fines"). The bigger the river, the more *scrutiny* –and *cost* associated. Still requires, on average, one full time laborer / manager for each 60 milking cows, or a *robot* to milk that same number (the *mechanization* of robotic milking is justified *economically as labor*) . The *Big River* dairy owner *plans* to pay himself more than his employees (as it *should be*), that's how he *intends* to live better than *Little* Creek dairy -but sometimes the *drought* lowers the flow of his big river so much that he ends up being the only one that *doesn't* get paid (unless another entity upstream opens the easy credit / subsidy [bailout?] dam a little more). 2009 was an example that there's no security in "bigness" **or high production averages** (the farmers reporting small profit margins to me were very *conservative* in feeding management, *very low grain* feeding). From a *labor* efficiency perspective, after all things considered, big river and little creek dairy are near equal **if** they must pay equal wages to hired labor. *When "unpaid" family labor is a greater percentage of overall labor at Little Creek Dairy, it's hard for Big River Dairy to compete* (unless they get *special favors* released upstream). Sure wish we could turn back the clock and reconsider the value we place on farm workers. Many children have been *taught* responsibility and work skills over the years at Little Creek Dairy, while *sometimes* low paid workers learn English at Big River Dairy ☺. The only *labor management scheme* that is *sustainable* is the gold rule (Matthew 7:12, Luke 6:31). **Labor is reported as the 3rd greatest expense** incurred to produce milk, but no matter the size of the dairy, apart from family "volunteers," there ain't a lot one can do to reduce the *real* cost of it ***without suffering in management*** (yes, I could create a list of *ideas* for labor efficiency, but it would be unfruitful, beyond the scope of my primary topic here. Each farm has specific challenges. Mechanization can both help and hinder. ***Grazing*** can help significantly **if** it's not merely an ***added*** method of feeding, it must be a ***primary*** method. If labor unions show up at Big River Dairy, they are *sunk*. **SEIU** [Service Employees *International* Union, really a *communist* front group] will want to *nationalize* those **big** dairy business centers, too!)

Cows (calves) born at Little Creek and Big River Dairy are *equal* in potential so long as equal in genetic selection. Since farmer management determines the appropriate genetic selection for the farm, we may conclude equality in ***potential*** lifespan and productivity. **Herd replacement costs are reported as the 2nd greatest expense** incurred to produce milk. There is no reason why cows / heifers / calves cannot be equally cared for regardless of the size or milk production average of the dairy, but it is more ***probable*** that the closer the owner stays involved with daily labor and management, the higher the level of quality control. This is a time honored *truth* (and why free market capitalism is superior in *efficiency* and why *collective* ownership [which is no ownership] fails every time). It is also *more* ***probable*** that cows live longer in systems where they are not "pushed" for maximum short-term production. Therefore, the Little Creek Dairy is *more likely* to achieve a cull / turnover rate of *less* than 20% of the herd per year while the Big River Dairy is *more commonly* (not automatically!) at *closer to* 40%. This means that *many* a big River Dairy, besides spending to *raise* replacements, also buys a few from Little Creek Dairy. (Granted, *maybe* sexed semen will eliminate this need, but let's wait and see if those heifers *perform* equally and all economic *assumptions* work out as predicted.) **If** the herd turnover rate is high, hoof trimming and vet expenses will *usually* track high with it. Back in April of 2002 I wrote a *KOW Ruminations* article titled "Have you been buying milk from the feed company?" and it's been on my website since the beginning. I present some *basic* economic calculations that demonstrate how it *might be possible* for a herd producing 80 lbs of milk per cow to be making $1.14 ***less*** / cow / day than a herd producing **only 70 lbs** of milk average (*assumes* $12 / cwt milk, $1500 replacement / hfr raising cost). While *some* economic numbers have changed over the years, the general principle still applies: the dairyman should not trust *mere* income-over-feed-cost calculations and will not be likely to get ahead financially by *pushing* cows with concentrates because health / longevity will *suffer*. The law of diminishing returns can be swift and powerful whenever the herd *suffers* a loss in ***productive* lifespan**. This is *especially so when the milk price is low* because one way or another, **each cow milking has to pay the cost of replacing herself** before any level of profit can be realized.

This leads us to **the #1 cost** category for producing milk . . you know it, it's ***feed***. ***So long as*** the herd remains **healthy and reproductive efficiency** is high (providing for ***feed efficient fresh* cows**), income-over-feed-cost calculations are valid and should be a *focal point* of your quest to remain profitable. The most common error I see made in income-over-feed-cost calculating (besides ignoring how feeding affects productive life) is in *mis*-use of enterprise accounting between crop production and ration formulation. The *root* of the trouble (no pun intended ☺) is in a lack of understanding ration formulation on part of the dairyman / crop producer.

Let's go back to some expert advice offered in the State of Illinois more recently. In the March 2nd, 2010, issue of *progressive Dairyman* magazine, Editor Karen Lee quotes ***retiring*** Extension Dairy Specialist Mike Hutjens. Karen titled her article "Lessons learned at Illinois dairy day" because Dr. Hutjen's shared what he considered to be important considerations / observations after his 30 year career. Looking back, family farms in 1980 were noted to be ***generational*** and "**based on family labor**" –and **alfalfa** was considered the "Queen" of forages." Since then Mike reported that average milk production per cow jumped from 11,000 lbs to more than 18,000 lbs. Dr. Hutjen's noted that 2009 was of the most challenging years he's seen "as feed costs reached 60% of a farm's expenses." He left dairymen with advice on the most important (listed in order) feed *additives* to be using now-a-days (which I'm sure have ***nothing*** to do with his plans following "retirement" ☺):

1. Monensin (Rumensin™)
2. Yeast culture (most responsive in acidotic rations)
3. Silage inoculants
4. Organic ("chelated") selenium, zinc and copper
5. Sodium bicarb / s-carb (buffer)
6. biotin (fed due to poor hoof condition)

The use / application / importance of the above list is found in various KOW literature, so I will not make note of anything more regarding the above . . merely found the list of interest. A man's parting words are noteworthy and a wise student will consider why they are said. The parting words I *would* like to *focus* more on are: **"In a perfect world you'd feed 2/3 of the ration as corn silage . . it's the *cheapest* way to feed cows in Illinois."** (Emphasis added.)

This statement / assertion has *always confused* this *simpleton* Kowboy like the puppy lookin' in the mirror, then quickly behind it to try to discover the hiding place of the *other* handsome animal (memory of a puppy tipping it's head sideways and *whining*. Try it sometime, it's real entertainment! ☺). Where are the folks in Illinois *hiding* all these saved dollars?? Up here in Wisconsin, it cost our *most efficient* corn silage producers approx $80/ton of *dry matter* (approx $800/acre) to produce it. (PEPS program –Profits by ***efficient*** production systems –winners reported in *Agri-View* newspaper, 2-4-10). This *seems* to be real "cheap tonnage" till ya decide to feed **a lot** of it to ***milking*** cows ☺ and need to factor in the protein and mineral / buffer supplements -and maybe also *yeast, biotin*, etc.!☺ As a general rule of thumb, unless the *forages* complimenting (mixed / fed with) the corn silage test *well above* 20% CP (23 to 24% CP), feeding a **significant** amount (like 2/3) of corn silage will require a *significant* amount of protein supplement. Without the *exceptionally high* CP forage to mix with the silage, one should *budget* that it will take another 1 ½ to 2 acres of soybeans (or their equivalent –purchased) to boost protein concentrations of a milking cows diet (per acre of corn silage -assumes 40 to 60 bu/acre soy yields). While **corn silage is an *excellent* source of *grain*** (*sometimes* exceeding 60% of the dry matter) –and should be used accordingly –it doesn't really produce any more ***true*** forage per acre than well managed alfalfa and/or clover grass mixed hayfields / pastures (½ of DM as grain means only ½ as forage, consider). **If** the protein / mineral / buffer mix costs approx $400/ton (realistic? It was very recently. Feed prices change. It's *possible* for soy to skyrocket after the silos are full. Do your own numbers. What happens if the price of milk drops, soy goes up and all you have is corn silage?), it costs approx $800 to ***supplement*** an acre of corn silage (that comes to $1600/acre *when added to* the cost of growing / harvesting / storage). Sure, you can get some of that protein from urea (cheaper) in a high corn silage TMR, but there's a limit for health and production potential (and nobody feeding 2/3 corn silage wants to loose a drop of milk because they've got a **big** feed bill to pay! ☺). Yes, and we do have heavily *subsidized* –to-be-cheap high protein corn by-products *currently* available, but, again, all corn based protein sources perform poorly without supplemental **lysine** (soy is a good source, or bloodmeal, or commercial products) and ***we must prepare* for the big government subsidies to run dry** (as the world has *never seen* such reckless financial mismanagement as demonstrated by the U. S. Congress –our federal government is *more than* bankrupt).

Granted, that same acre of corn silage also *provides* the equivalent of approx 8000 lbs DM (170 bu/acre) of shelled corn at a value of approx $340 to $400/acre –*some* of which would have to be *replaced* without corn silage use (not all because, as forage quality increases, the *need* / benefit for / of supplemental energy as shelled corn *decreases*. **Corn stalks are poor quality forage**). Corn silage ***really*** costs about $1200/acre or *at least* $150/ton of dry matter when considered by ***average*** yields in ***typical*** rations. Can't ya just buy some of the *extra tonnage needed as premium* quality dry hay and end up at about the same cost -while having' much healthier cows?☺ Maybe less of that *cash flow* (feed supplements, vet and hoof health costs, etc.) would *leave* the farm and more could be diverted into your own little cistern. Sure, someone will tell me about how government farm program payments make the corn silage a little lower in cost, but I wonder how wise it may be to **rely** on subsidies(??).

Thus far, we've only considered one forage suitable only for *mechanized* harvest (and *mechanized* manure spreading) and there are many other forages to *consider* that offer greater *flexibility* in management. Above was merely a *different* way to consider the *real* cost of chopping / feeding corn silage. I dealt with what's *become* "the tonnage king" of forages *first* because I'm still *dismayed* by how *easily* big agri-*sales* convinces most dairymen that if a little is a good (and it may be!), a lot must be better (?!). No one connected financially to fertilizer, seed, pesticides, or feed supplements is going to *discourage* you from adding a little *more* corn silage into your feeding plans. Contrary to what you may have heard ☺, neither will I. KOW *standard* guidelines allow for up to 40 (wet) lbs/hd/day, and I've even formulated rations using 50 to 60 (wet) lbs! If **you** *like* how your #1 cost for producing milk comes out, whether or not you live in Illinois, the Kowboyz *can* work within the parameters of Mike's "perfect world".☺ I'm paid to do a job, which *ain't* to tell my "boss" (you!) what he *must* do, only to look out for his interests / profits. I only want to stimulate thoughts, cause for questions, answers.

Whether or not you consider my analysis above to be *reasonable*, that **corn silage costs *about the same* as buying top quality dry hay *when fed at a high level*** (*after* supplementation), you may now be thinkin' that I've *forgotten* that TQ dry hay, too, needs / benefits from supplementation. No, I have not. Fortunately, it doesn't take a lot (as you well know). The trace mineral, vitamin, and fat *supplement* (not *essential*) needs differ very little between a high corn silage or a high TQ dry hay / balage / haylage (*legume* based) diet -consider the *costs* equal. Rumen buffer needs would differ, and I don't need to tell most dairyman which forage eats up concrete and why ☺. The by-pass protein (amino-acid supplementation) "investments" really *don't* differ either, because they are based upon per cow production goals (farmer-business plan driven, not *nutritional necessities*). The GQ to TQ legume-*grass* based diet ***may*** need / benefit from *up to* approx 25% shelled corn DM (or equivalent from other starch sources) which today would cost approx 50 ¢/cow/day (1400 lbs bdwt, 50 lbs DMI, if shelled corn has a value of approx $2/bu -current cost to grow it with legumes and manure in a good rotation). Fortunately, unlike the *high* corn silage diet, the high legume based diet offers *great* flexibility in *grain* supplementation rate. Cows could be fed 50% less grain while still producing about 70% of the milk they would at full rate (*approximation* based upon both the *science* of dietary energy, and the author's experience). Cows have no absolute *dietary requirement* for grain (starch). Therefore, whenever economic conditions (cash flow?) warrant (grain prices skyrocket) grain can be **gradually** *reduced* without harming health (likely to *increase* longevity) or reproductive efficiency. Not so with basic needs for *adequate* protein, minerals. Feed *nuthin' but* corn silage and cows / milk will *suffer* greatly. Feed *nuthin' but* legume based forage and cows will be *healthy*, but milk will suffer. Feed *mostly* legume based (grass mixed) forage with ***a little*** grain (and/or high grain *corn silage*) and you can have both healthy cows and *more* milk –with *little* supplemental feed cost (cash *flowing off the farm*). So *maybe* 15 to 20 ¢ worth of that shelled corn "*investment*" comes *from* high grain corn silage *or snaplage*, but don't go "hog wild" or the **supplemental feed bill** and the cost to *grow* the corn will *skyrocket* (corn following a legume is cheap, corn year after year on the same acre gets very *expensive* to fertilize, yields less and costs more to *try* to keep pests and weeds out. Isn't this common [sense] knowledge?). How do they rotate crops ***efficiently*** on dairy farms that feed ***mostly*** corn silage? They don't.

Even **if** it *really* costs 50 ¢/cow/day *more* income-over-feed cost for a legume based ration vs. a corn silage based ration, go back to your 2nd greatest cost of production. A cow / replacement heifer that costs you $1500 to buy / raise has a ***fixed overhead*** (purchase) cost of $1.37/day if she lives to be 3 years old, while only 82 ¢/day at the 5 year mark -and *likely* gave you *one more* heifer calf (even without sexed semen!). After *time* and with *consistency*, that extra heifer *could be* sold at a profit (*especially* **if** fed an *economical,* all forage, legume based diet). Longevity *multiplies* and divides **to reduce fixed operating costs** (part of the *real* cost of owning livestock). Health and longevity, in the long run, could *easily exceed* $1 /cow/day in ***potential*** *profit margin* comparing a high concentrate / corn silage ration –vs- a high forage / legume based diet. Consider that cash flows in with livestock sales (15% of replacements sold / year at $1500 each gives you *back* another 30 ¢/milk cow/day, while it *ain't* all *profit* [had to feed her], it still reduces fixed costs *and improves cash flow*!) Lower vet, hoof trimming costs help, too. A $75/cow/yr *reduction* in this "maintenance" comes to another 20 ¢/cow/day. **Income-over-feed calc's can *mislead* when these things are not *considered* and broken down to be added into the per cow/day equation.** I think I'm being *realistic and generous* with the above (nevertheless, you can be sure I'll get some arrows shot at me for it because I'm questioning the "experts," the royalty of feeding management and their loyal, devoted serfs ☺). Now we're back on *equal* footing because we save 50 ¢/cow/day with a ***healthy*** ration.

What does it cost to harvest the forage cows eat? When I look at data published in *Hoard's Dairyman*, May 25, 2008, ("What others are charging for custom work," pg. 374), it appears that ***harvesting*** costs approx $12 to $15 per ton of ***dry matter***. This is approx the same for any crop, whether or not it is pre-wilted or direct chopped (alfalfa, corn, whatever). ***Storage*** costs vary quite a lot (based upon volume / system), but for the sake of *consideration* we will consider approx 3x the cost to harvest, this comes to about $40 per ton of ***dry matter*** (the cost of storage *could be much* higher due to *shrink* loss alone. For example, *poor* bunker / pile "storage" could *exceed* 30% loss). Therefore, ***total*** **harvest and storage cost comes to approx $55/ton of DM**. **If** we

could *eliminate* harvest and storage on 1/3 of that throughout the year, feed costs could be reduced on average for the year by 27 ½ ¢/cow/day. Whenever **intensively grazing** to utilize fresh (un-stored) forage as the primary feedstuff, the Kowboyz **eliminate vitamin supplementation**. It's reasonable to think you could save another 6 ½ ¢/cow/day (yearly average), now you're at 34 ¢/cow/day *savings* (vs. total confinement). Because grazing cows are typically eating TQ forage that is legume based (grass mixed) supplemental grain, protein concentrate and mineral needs are *minimized*. Compared to GQ stored leg-grass mixed forages, it is not *unreasonable* to feed 1/3 less grain and 2/3 less protein concentrate (if any at all). If this can be realized for *1/3 of the year*, using the cost *assumptions* previously noted, you save another approx 7 ¢/cow/day (yearly average). **Now we're at 41 ¢/cow/day (yearly average) *reasonable expectation* in savings *whenever well managed grazing is utilized as 30% of the feeding management plan instead of confined feeding.*** This *presumes* equal cost to maintain a legume-grass mixed hay field or the same as a grazing paddock (or dual purpose) and equal yields (which is a *reasonable* expectation). This is generous.

What does it cost **you** to spread manure? Figures reported on slurry manure *spreading* costs are in the range of $100/cow/year. With 1/3 grazing, it is reasonable to expect 1/3 reduction in manure handling costs (this does not account for storage system cost). The savings would come to approx 9 ¢/cow/day. Added to the 41¢ above, **we're now at 50 ¢/cow/day *yearly average* savings by turning the cows out 1/3 of the year.** *Graze* all heifers over 6 month old, 6 mo / year, add another 25¢ **to bring us to 75 ¢/cow/day.**

I keep using that term **fixed overhead cost**. Maybe that should be given as much or more scrutiny than some of the above. Going back to the river analogy, consider your fixed overhead cost to be the size of a boat or ship you plan to float on it. While the creek might float a canoe, the cruise ship (impressive and comfortable as it is) will be a stuck-in-the-mud without the appropriately sized waterway. All too often the dairyman chooses his "vessel" based upon what others are floating instead of what *his* cows need. Dairy farm "cruise ships" are what I consider unnecessary investments in equipment and facilities. While *all* dairies can justify milking machines, not many can afford huge rotary parlors and free-stall *palaces*. Always "ask" the cows before you invest! The only part of the milking system they care about is what attaches to their teats –is it functioning properly? The only part of the facility they "care" about is a clean bed, protection from weather extremes and an easy access to the "cafeteria." Many *successful* farms have gone to simple "swing" parlors and fabric cover buildings to meet cow *needs*. I could write *more* about housing options for young stock and dry cows that meet their basic needs while being low cost (go back to April-May 2009 *KOW Ruminations*, title "Raising replacement heifers without the 'bull;" . . . pg 5). However, this is very farm specific, suffice to note that I see *over*-built milking centers and housing on *some* farms and I'd encourage *simpler* systems that incorporate bedding –pack / compost style manure storage (to reduce both the cost and environmental *risk* of manure hauling). These simplier housing things "fit" the ½ year use *grazing* model well. So far as specifically tellin' anyone how many buttons and buzzers they *don't* need in their milking center . . . I won't dare. Last time I milked cows it was with surge buckets ☺ and I don't mind physical exercise! However, I'm at the same time *impressed* by robotic milkers. Whatever floats your boat ☺.

Equipment that makes it ***easy*** *and* ***fast*** for you to keep a heifer and cows' "world" clean is *still a good investment*. Thank God for skid loaders and such. Fortunately the cost of them can also be spread over the harvest, storage, and feeding system as well. I'd *highly* recommend a machine with rubber tracks so you can keep lots and lanes in "good shape," have less need of concrete.

In spite of the cost of *plastic*, I am of the *considered* opinion that it actually ***reduces*** the cost of feed storage whenever used liberally *and* ***properly***. The **balage** system is still my favorite (for *many* reasons I've written about in past issues go to www.kowconsulting.com) - because from an *economic* perspective, it offers the *least* storage (and quality) loss while requiring the *least* HP/equipment investment (fixed overhead expense). A good *baler* can also be used for harvesting *bedding* (spreading cost over more use). If not balage, most folks should hire *a* chopping service *(**if** a* reliable *one is available)* before re-investment in the equipment (or at least *share –own* the equipment with neighbors). I need not explain the economics . . . and for the same reason, I'd take a real l-o-n-g look at the numbers before you re-invest in a TMR mixer for feeding. Numbers I've run estimate the cost at near $1.50/cow/day to feed TMR (4 yr machine life plus tractor and labor). I'll end with my own list of 6 priorities:

1. *Divest* in heavy metal equipment. Use less diesel and electricity, utilize more cow power.
2. Question the cost of TMR and possibly return to a grain mix (fed at flexible rates) *controlled* via in-parlor feeders and/or lock-up headgates 3x/day.
3. Extend the grazing season to its maximum using fescue, fall oats and turnips, winter cereal rye -and do everything possible to capture as much free solar energy as you can.
4. Consider irrigation to maximize yield of TQ, *graze-able* forage. Very farm specific -but as energy / fertilizer / transport costs go up, *homegrown* yields will increase in value.
5. Adopt a *no compromise* policy on forage storage. Must be able to harvest *rapidly* and ***retain*** quality.
6. Find money for changes by cutting out *un*necessary feed additives! ☺