KOWboy Sense for a ***Precision*** Ration

Do your part to save us all -minimize that carbon hoofprint! Does somebody think we're all stupid?

1. KOWboy forage management

I sorta figured ***homegrown*** fiber (vs. *purchased* by –product fiber) is both *economically and environmentally* sustainable. Beside requirin' none of that "fossil" fuel to *arrive* on your "back 40" (except plantin' inputs), forages *growing* on your *local* field or pasture suck down *oodles* of that *globally* destructive (?) poison (?) gas called carbon dioxide (CO_2) ☺. Yep! Somehow, all growin' plants *thrive* on this "nasty" stuff and by some *miracle* of either *Creation* or *evolution* (you decide which makes sense) and, with the *power* of the sun –plus a little H_2O and minerals, convert it to sugar ($C_6H_{12}O_6$) –and then *store* the same as starch and fiber. I am told this is a very ***green*** and sustainable process –in fact, I am told, if not for it, <u>all</u> life on earth would cease. Therefore, you should *<u>feel</u>* as good about *growin'* crops as the average suburban greenie-weenie does cruising in his tiny hybrid-electric car! Now if you want to *feel* even better (and save money) you should use the *minimal tillage required* to produce the *highest* yields possible, that is, <u>without</u> the need of *purchased* nitrogen (which uses tons of that "fossil" fuel to produce). ***Legume* based, perennial forage crops will need to be the <u>foundation</u> of the crop plan to achieve this.** If you have this forage crop program goin' on your farm, you will be producing the most ***eco-friendly*** feed possible and should therefore **max-out the intake** (within constraints of your *business plan*). If you grow ***too many*** *grass annuals* such as <u>corn</u> or other crops *requiring* ***commercial nitrogen*** fertilizer (because manure / legume credits are inadequate), you will ***destroy the earth*** (hey, the global warming eco-greenies can exaggerate and lie, so why can't I?☺). The ***precise*** amount of legume / grass mixed forage to feed a dairy cow is the **maximum she cares to eat**, but no more so it ain't wasted.☺ Furthermore, to really get optimum **feed efficiency** you have to completely stop *wasting it* (brilliant, eh?). I know, it isn't' quite as impressive (or sophisticated) as the glossy ad papers put out by the inoculant and feed additives folks, but I have always figured they went to a whole lot a work for very little gain (excepting their own profits). Stop wastin' starts in the field or pasture. The ***greenest*** thing a feller can do is **keep it *green* until a cow eats it** -whenever it loses that pretty **green** (my favorite) color, it's a *sure* sign that the *most* digestible (energy) part of it got gobbled up by some darn microbes that puked and farted out a bunch of water (H_2O) and *toxic* (?) CO_2 -and that just messes up the whole world. The way this KOWboy sees it, we would all be better off having cows gulp it down before that can happen (**graze, as much as is possible**, instead of wacking it down to wilt or dry with that big *fuel* guzzlin' tractor). Now, before you get wound up, I did have a feller remind me the other day that them darn cows can't get-r-done all that well, every day of the year, cause of something called *"climate change*". I, too, have noticed that *sometimes* it gets ***too hot*** for them girls and all they want to do is bunch up and swat flies. Then I figure there are times it gets mighty cold. I suppose then a feller could take his tractor out and get some to feed at the barn. I have seen some crazed grazing fanatics try to cut down on tractor work when that global **warming** hits them extra hard -by milking those girls at noontime and late in the evening, but I won't ask a feller to cut down on time to run to town just as the fun is getting' started. Anyway, I noticed that the little woman can pop open a Mason jar of green beans to feed me in the dead of winter and them little things are still ***green***. I think it has something to do with that top she asks me to pull off, it gets stuck on that jar. Pickles . . . the same dang thing! I'm kinda glad she doesn't just leave 'em in a bushel basket out on the porch. Seems that getting' **<u>air</u>** into stuff doesn't help it keep real well. So when I see fellers pack stuff real tight with plastic, blocking the air out, they might be doing the same thing as my honey. No, I am not sayin' there is only one way to do stuff like this, but I have sure poked a lot of holes into them round bales *wrapped tight* in that plastic -and most always see stuff green as pickles come out of there! The cows seem to like it too. So I figure putting a cows' forage up right is worth it. It's a real ***green*** thing to do. I can't end there though, because the wastin' of all that sunshine and diesel can really get goin' at the feedbunk. I have seen fellers feed (and breed) a heck of a herd of flies -or have those cows stomp down a lot of <u>acres</u> worth just because they don't keep them girls from dragging it where it don't belong. Seems like *headgates* and hay-basket feeders (with a floor in them) do a lot to get more of it into a cow, and the real sharp fellers (that like to talk about something called ***feed efficiency***) always clean stems out of the bunk to make the big heifers clean up. Oh, one more thing, those ***balage*** farmers always keep forage **tested** and *inventoried* so the *best* stuff goes to the milkers, while the rest is saved for the groups it is going to work best for. That way they can get along without feeding much concentrate. I always feel sorry for them fellers that have the stuff they need packed under the stuff they don't. They always seem to spend more on concentrates, and it is a lot harder to get **precisely** the right *forage* in front of **precisely** the right group of livestock. Sure does make it cost more to get that ***precise*** ration. I see lots of special bags of powder get mixed into rations to help them girls get more *efficient*, and *maybe* some of them do help the girls burp out a couple less plumes of ***methane*** a day, but seems to me that all this other stuff might save us all a little more. Don't get me wrong, I do *wince* every time I hear one of

> To paraphrase G. K. Chesterton, "If we think about any issue for long enough, there is a real danger we will discover the truth about it.

them girls belch (they tell me that **methane** is going to kill us all). However, I figure we would be doing our part of **saving the planet** if we could feed our cows on a ***greener, higher*** **forage** ration with less wastin'.

2. KOWboy precision grain feedin'

Seems like this ol' boy has spent an awful lot a time tryin' to get folks to understand the **precise** amount that *can be* fed before it's *too much* and she ends up D.E.D. Yep, lots of real smart fellers (and I have read their books) have come up with ways to predict (like the weather) just the *exact* (precise?) amount those girls can handle (and some even say "need") to get the *most* milk out of them in their *short lives*. When I was a younger KOWboy and much more book smart, I could ride that fenceline (next to the cliff) with the best of them! Yes sir, we'd spit out reams of paper usin' the new computer style feedin' tools. After a while, I got to thinkin', "Why is it *always* the best for the *farmer* to see so many of them cows on the *grill* before their time?" Then I realized that ridin' the fenceline might not have anything to do with what's best for the *farmer*. Seems to me, it gets awful hard to be a dairyman *without* cows. Come to find out that all them *forecast* numbers for "energy" were about as reliable as the weather -and with this ***climate change*** thing happenin', it's makin' it all the harder to believe it will ever be good. So, a few years ago I stopped payin' attention to them bright boys at the University on the grain feedin' and instead went out to the barn and asked the girls about it -did I get an education! First thing I noticed was dairy cows can live without ***any*** grain! Yep, smart fellers with good **green** forage don't have to feed any to the heifers (older than 5 months), and even milkin' cows, though they give less. Then I kinda noticed that if I fed a *boatload*, the ol' girls stopped chewing cud, got real *flat* on the sides and put a whole lot of what I was feedin' into the gutter (undigested). Now I know them experts had (and still do) all the answers to my questions setup real easy for me on the computer, yet this ol' KOWboy wasn't satisfied doin' things the easy way (KOWboyz never are). Well, long story short is that, based upon what them girls was tellin' me (*symptoms* of indigestion / acidosis under *various* forage quality parameters), I came up with some ***safe*** *ranges* (far from the cliff) for shelled corn feeding (or its equivalent). I also figured out that there are *many other things* beside forage quality (and *desired* production level) that determine the ***precise maximum*** level of grain (starch) feedin'. Feedbunk management, weather (climate *changes* ☺), amount of effective fiber, hybrid selection, moisture, and extent of grain grindin', etc. Nope, *no* ***predictive model*** computer software program can replace a trained cowman's eye for (biological) feedback (*in real* time) from a herd of cows! Well, maybe I am just some dumb ol' KOWboy . . . but I think the *truth* is the **precisely** correct level of grain feeding for any individual farm / ration **has more to due with the price of grain and the business plan** than any *real* nutritional *requirement*. If the cows get only ½% of their bdwt (maybe 15% of their ration) in shelled corn (or equivalent) they will have no problem with "energy" for ***reproduction*** (see it all the time in **low input** graziers' herds), ***so long as*** **they are fed good quality (GQ) to top quality (TQ) forage in un*limited* amounts.** KOWboy *maximum* grain feeding rates (vs. feeding *none*) are *estimated* to provide for from 35% to as high as 45% of the rolling herd average (in the ***average*** *reasonably well* bred and managed herd). These ***maximum*** grain rates range from 22% to 35% (max with ***very*** *poor* quality forage) of total daily DMI -**all depending upon forage quality** (the poorer quality forage, the more grain to get the same milk production is the general idea). *None* of this is **precise**. Well processed grain should not pass through a cow undigested (*excepting* a small portion of the pericarp). Feeding much more than this just seems to make them turkeys happy after the manure gets spread. So I figure a feller ought to just leave the real **precise** *number crunchin'* for his bank account and make sure he ***doesn't*** feed too much. A guy can then keep *more* of them girls milking for long enough to get a few calves out of 'em and maybe have a few head to sell (that grain ain't health food). I noticed an *average* well bred and managed herd of Holsteins can usually put about 20 to 24,000 lbs RHA into the bucket, some fellers can do even better (at KOWboy *maximum* grain feeding). Take all the grain away and I suppose a feller can't expect much more than 13 to 14,000 lbs. By my KOWboy figurin', it seems like a feller can expect about 250 to 300 lbs of milk added to his rolling average for each 1% of added grain to the dairy ration -**and the *first* 10 to 15% seems to pay back more than the next (last) 10 to 15%**. Read some fine stuff about this in some book put out by the **National Research Council** a few years ago, figure it must be true. I suppose them Jerseys and crossbreds respond in like fashion. Naw, I don't have no big research team of experts backing me up on all this, just somethin' I sorta noticed happenin' out on the farm. I also noticed there is some little yeller kernels in the **corn silage** and it seems like they feed about the same as when they ***aren't*** mixed up with all the stalk and leaves. I know them dairy scientists might count up them corn silage kernels a little different, but it just makes sense to me that if we can *see* shelled corn in it, it might be a good idea to use that silage more like a source of ***grain*** (and measure the amount) instead a callin' it *all* forage. So if a cow milker is sittin' with the banker and talkin' about paying debts back according to his RHA, I would sure be figuring out how much milk he ought to *expect*, but I would also be getting *more* **precise** about how much milk he *actually got* (measured vs. predicted) the past 5 years -out of that grain he *has been* feeding. Crazy thing is, **the first ½ of the grain he has been feeding *probably* gives about 70% of the payback.** The fellers I have seen that cut back a little (to a lot) end up further ahead in the long run -better than the guy that scoops up a whole lot–thinkin' it will **make** them girls milk a lot more. I'm telling ya, it ain't wise to try to *"make*" females do nothin'!! I know there is some real sharp fellers that *think* more grain

automatically equals more milk, but I think some of them folks is working at sellin' stuff, or they never noticed this stuff about the laws of diminishin' returns. Yep, you can get all wound-up about calculating out the **precise** grain your cows will be needin' to *"make*" them put it in the bucket real heavy, but you best error on the low side *and be real careful at the bunk* if you are trying to get that extra 10 to 15% of milk production feedin' *more than* 28% grain (shelled corn equivalent) in the daily ration. The **precise** part of grain feedin' isn't really a number, it's watching them girls for symptoms of <u>*acidosis*</u>, the first of which is <u>*in*</u>*digestion* (<u>un</u>digested grain and fiber in manure -and it gets loose if you go too far overboard) and poor rumen fill (flat sides). If you're seeing any of this, better double check whether or not some of them girls is robbing their neighbor's share (eating more than you think). Some fellers think TMRs prevent 75 different rations, but if them girls are diggin' holes in the mix and lickin' the bottom of the bunk, they are goin' after more than their fair share. (Even them dumb communists care about spreadin' 'round the goodies so nobody gets much!) If things look good at the bunk and the cows are still showin' some <u>*acidosis*</u>, back down on the grain *a little* and you will be at the ***precise*** <u>*maximum*</u> you should dare feed. Last, if those brilliant fellers in government put a **big** tax on energy, and we see the cost of **grain** go to the moon with it, this KOWboy figures it will be time to give up that TMR wagon for a good hammer / mixer mill. There isn't any sense in spendin' all that much to feed only 15 to 20% grain (shelled corn equivalent) in the daily ration. You could make up a nice grind-n-mix and feed meals of 4 to 6 lbs, 2 or 3 x / day, while lettin' 'em fill up on pasture or balage. Maybe you will need lock-up headgates and/or in-parlor grain feeders. Naw, the entire ration won't be all that **precise**, but is it now? Not really. KOWboy logic.

> *. . . No honest person should shy away from wrestling with the implications of his or her conclusions.* ***When knowledge is unhinged from the question of ultimate purpose****, the result is a conglomeration of facts that are* ***incapable*** *of imparting* ***wisdom****. This is perhaps one of the greatest challenges we have faced since the explosion of knowledge in the last couple of centuries. Faced with the inevitable need for specialization . . .* - J. M. Njoroge
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> *The specialist put on blinders in order to shut out from his vision all the world but one little spot, to which he glued his nose. Perspective was lost. 'Facts' replace understanding; and knowledge, split into a thousand isolated fragments, no longer generated* ***wisdom****. Every science, and every branch of philosophy, developed a technical* ***terminology intelligible only to its exclusive devotees****; as men learned more about the world,* ***they found themselves ever less capable of expressing to their educated fellow-men what it was that they had learned.*** –Will Durant

3. KOWboy precision protein feedin'

Some folks are pretty *wound tight* over a cow getting' a little extra protein and peein' it out. They've been tellin' us that it ends up in the Mississippi and the water we drink. I never could see how it gets so far without ***people*** puttin' a whole lot of cow crap in one spot. That usually takes puttin' a whole lot of cows in one spot. Well, it has somethin' to do with what the powers that be call ***nutrient management***. What goes in a cow, must come out. What we feed a cow we call ***crude*** **protein** and what she *doesn't need* ends up in the gutter as **nitrogen**. My book learnin' has taught me lots of stuff about protein. It is made up of *little parts* called *amino acids* (AA) (each on *average,* is made of 16% *nitrogen*). AAs are like what letters are to words, sentences -heck even entire books! These are found in *everything* a cow eats. Some forages are high in protein (legumes), while others are not. <u>All</u> forages *require* a lot of *nitrogen* to grow, but legumes can get their own right out of the thin air. (No lie! The rest must get it <u>*from*</u> the legumes and/or manure and/or *commercial* fertilizer). For some reason there is a lot a folks that want manure to have <u>less</u> nitrogen (fertilizer value). They'd like to see dairy farmers feed less protein to their cows. This KOWboy has always tried to keep the milk cow ration around 16 to 18% <u>max</u> protein. Whenever a cow eats any source of protein, those little bugs in her rumen try to gobble it up (break it down to AAs and ammonia). This folks call soluble / degradable protein. Whatever they ***can't*** use goes into the bloodstream (as ammonia, turned to urea in the liver) and/or gets passed along to the intestines for another chance at digestion. This folks call "by-pass" protein. Anything the cow can't use past the intestines or that can't be **recycled** (a real ***greenie*** kinda thing) back into the rumen (via bloodstream to saliva) is what ends up in the milk (milk urea nitrogen or M.U.N.) **or manure / urine**. Rumen "bugs" <u>need</u> digestible energy from sugar, fiber or starch (grain) to use protein efficiently (without loss) and any amount in excess of the cow need for production or growth is dumped out. Getting' everythin' to work just perfect on the ***ideal*** minimum amount of protein fed is about as tricky as measuring the amount of fuel this KOWboy's truck needs to get to town and have it runnin' on fumes just as I pull into the gas station ☺. We have lots of fellers in dairy science that have been workin' on highly sophisticated computer "models" that are *suppose* to tell us just how to run on fumes ☺. If you bring a team of these experts to your farm to gather somethin' called "data" and pay them to enter "data" for about three days ☺, they claim they can **precisely** *predict* just what your cows need for protein (and grain) and *specific* by-pass amino acids. This KOWboy has spent lots of time reading their stuff. They claim you can feed less overall protein while getting' more milk (<u>if</u> you buy the *commercial* by-pass amino acids they are sellin' [focus is, primarily, on two: **lysine** and **methionine**]). Trouble is, their *calculations* are based *a lot* on how much *time* a feed stays in the rumen -which anyone in the barn

knows isn't all that predictable (ever notice how cows poop passage rate *varies* due to *many* factors, including *but not limited to* fiber length?). Real educated fellers talk about this in terms of digestion *kinetic's* (I would explain more if I weren't such a hayseed-KOWboy, but this lofty knowledge is beyond a person comfortable in bib-overalls ☺). Don't get me wrong, I do think the *idea* of feedin' less protein and a more *correct* by-pass amino acid balance is good (and the KOW guidelines for feeding have *always* considered this knowledge). This KOWboy is simply not yet ready to *bet the farm* on the ability of the computer "model" to ***predict*** the response. After all, this *luddite* (I have been called ☺ [a person opposed to technology] –not true!) has actually read a *crap spreader* full of stuff on this over the years. The bottom line is that no matter whose computer "model", one still must *actually* ***measure*** whether or not there is a response! The *KOWboy logic* here is to approximate the milk cow ration using KOW standard guidelines (or with *less* grain if you please) and then *gradually* adjust *degradable / soluble* sources of supplemental protein **according to manure / fiber digestion, also considering M.U.N. levels.** (See various other KOW literature for *specific* guidance.) As for *overall* ration protein targets (16 to 18% max) -no change called for here, even the **precision** amino acid feedin' boyz are still within this range (although most on the lower end of it)! Some of them glossy ads and farm papers brag about feedin' less than 19% CP, but that don't impress me none. Who feeds that much on intention? Don't need no special additives to fix that.☺ *Because* KOW guidelines *emphasize soil* ***sulfur*** fertility needs (for production of *methionine* in forages) and use of corn *distillers* (provides the same), the response to **rumen by-pass *methionine*** (Metasmart® by Adisseo, ph 800-727-1019, fx 678-339-1600, www.adisseo.com) is unlikely, *but* if you aren't fertilizin' with sulfur and feedin' corn *distillers* you ***might*** get a response. **If** you are feedin' *a lot* of *corn* (include silage and corn by-products) and/or cottonseed with very little soy and/or *heat damaged* feeds, the milk cow ration by-pass amino acid profile will *likely* be limited by **lysine**. If you're a feller that likes to roll the dice, you could try feedin' a little ***rumen protected* lysine** (Aminoshure-L, Balchem Corp, ph 800-780-9233, www.aminoshure-L.com). This *luddite* ☺KOWboy has listed aminoshure-L as an *option* for use in our standard "pre-fresh / fresh cow" and "energy boost" top dress mixtures *ever since it became available* (KOWboy was really diggin' in his heels against that one, eh? ☺). The reason I would *prefer a top dress* is that these ***expensive*** supplements should not be fed to the *entire* herd, only early lactation cows (in an *environment of comfort / care*) with *realistic potential* to payback a ***profit*** (now isn't that backward and anti-tech? ☺). If a feller is sweatin bullets over the thought that his cows might be starvin' for both **lysine** and **methionine** you could simply feed ½ to 1 lb of **Menhaden fishmeal** (Sealac®, www.omegaproteininc.com or call 800-345-8805. [Beside the amino acids, you will get **omega-3 fatty acids**, and this company is *promoting* them to **save the *planet*** by *slightly* reducing them darn ***methane*** *burps* ☺]). If you don't care about fatty acids to reduce methane burps (of course, that means you're evil and want *climate destruction*), you could also get high levels of both of these AAs from a commercial product called Gemini protein sold by Papillon (ph 800-888-5688, papillon-ag.com). Same feeding rate as fishmeal. The rumen protected sources of AAs are fed at a rate of just 1 to 2 *ounces*/hd/day, and come complete with a razzle-dazzle sales rep that''ll try to convince ya with his *laptop evidence* (specially designed to make your grey matter dizzy ☺). Be sure to ask for a *money back guarantee* ☺ on the response if you follow his **precision** formulation - that will usually back these boyz up about as fast as a German shepherd walkin' out the barn door ☺. If you believe you're saving the planet from certain destruction, that's *really* the only reason you need to make sure the AAs are **precision** formulated.☺

4. KOWboy precision mineral feedin'.

This here's one they's tellin' us is messin' up yer favorite fishin' hole. Yep! The real "bad" mineral is **phosphorus**. Them ecologists has been tellin' us that cow milkers are spoilin' it for everybody -if them cows get a couple extra grams of dical! Yep! My learnin' as a *crop advisor* (and they up and awarded me *certification* – which ***you*** ain't all that impressed with) tells me that *most* of that darn phosphorus problem ain't 'cause we've got the cows poopin' in the creek (most folks figured out that ain't good global warmin' relief☺), it's because somebody is lettin' the *farm* (soil) run into the creek. Imagine that! How's a feller gonna farm without some good topsoil?? Anyway, them soil scientists know that once that piece a dirt locks onto that phosphorus, it ain't going' nowhere –without that soil. So this KOWboy figures it *might* be a wee bit smarter to keep that dirt covered with some grass mixed hayfields and pastures – instead of gettin' to "wound up" over the *exact* (precise) amount of phosphorus the girls are gettin'. No matter, the powers that be ain't askin' some "hick" like me. So to keep them regulators happy, I figure we better make sure them milk cow rations don't have over 0.40% phosphorus in ém. (They been after the dairy scientists to get us learnin' that that's all they need –and no more – else they just poop too much out and it gits the dirt levels way off the charts). Long time ago, this KOWboy figured out that all a feller needs to do is to **follow them KOW rules of thumb for *mineral* feeding precisely** and you'll be doin' your part to *save the fish* –or at least have lower testin' KOW poop ☺. Ain't too hard to look at them forage tests (and even sample the pasture once in a while) to see if you ain't gonna need to add any –and don't forget about them by-products high in phosphorus (see "KOW standard guidelines for balancing rations"). This KOWboy has had the lab checkin' up on him a long time now, I ain't given ya a "bum steer" on any of this. If you need me to "bust out" with some big $40 words to convince ya, I'm doin' my book learnin' on this, just give me a holler.