

# William H. Miner Agricultural Research Institute FARM REPORT



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## CALIFORNIA DAIRYING

Our Advanced Dairy Management class along with two farmers and staff members from the Institute and the University of Vermont, 19 in all, spent several days last month in the Fresno, California, area visiting dairy farms and attending World Ag Expo in Tulare. The cross-country trip itself was relatively uneventful except for our airplane hitting a pickup truck.

We visited three dairy farms ranging in size from 600 to 3,000 cows, milk production from 23,500 to 30,000 lbs/cow. The farmers were very pleasant, while cow facilities ranged from pretty decent to terrific, including manure separators, carousel milking parlors, and efficient handling systems.

We didn't see a bunker or tower silo anywhere on the hundred-plus dairy farms we passed in the 600+ miles we traveled in the Central Valley region. Huge stack silos are the way silage is stored in California, but silo management isn't so hot. Virtually all were packed front to back but not side to side; this was easy to see from a mile away because of the steep sides. Even though the stacks were covered with plastic there was a lot of spoilage on the sides, spoilage that on some farms was discarded, and on some was not. Face management was casual to say the least, in part because many of the silos are over 25 feet high. California farmers could take lessons from their Northeastern brethren in silo management.

Instead of driving vans this year we rented a shiny new 44-passenger tour bus since it didn't cost much more and came equipped with Will (A.K.A. "Sweet Pea"), our intrepid bus driver/tour guide. Will is from Louisiana via Los Angeles and was notably well acquainted with the California penal system. The father of six girls, he specializes in long-haul trips; these two facts may be related. Will's many abilities included whisking all 19 of us into a packed Outback Steakhouse that had a long waiting list, commandeering a "preferred parking" space at World Ag Expo, and talking a park ranger down to \$90 from the normal \$300 admission fee to King's Canyon National Park, home of giant sequoias.

On the hour drive up to King's Canyon we went from orange trees at sea level to snow at 6,000-foot elevation. In an apparent effort to save money while at the same time removing careless drivers from the gene pool, the California highway department has no guardrails on long stretches of winding mountain road and there's only about a foot of shoulder.



The ADM students visited the Dias and Dias dairy, with 600 cows averaging almost 30,000 lbs/cow. Here Mr. Dias discusses the farm's manure separator system.

I discovered this unpleasant fact when looking down from the window of the bus and seeing neither pavement nor shoulder, just a sheer 200-foot drop. (As someone later noted, after the first 100 feet it's pretty much academic.) Meanwhile Sweet Pea was driving with one hand, cell phone in the other as he negotiated both hairpin turns and business deals that appeared to have nothing to do with his employer. Wanda said the look on my face was memorable as I first turned white as a sheet and then red as a beet. Easy for her to laugh... She was on the other side of the bus.

Our return trip went well until our United Airlines commuter jet hit a United Airlines pickup truck at Los Angeles International Airport (LAX). Our plane was turning off the taxiway when here comes the truck, heading smack for us with the driver deep into a cell phone discussion, perhaps with Sweet Pea. He tried to avoid us at the last instant, only to have the wing hit the rear of his truck, folding it like an accordion (the truck, not the wing, although both sustained damage). The pilot was not amused as traffic of all sorts including buses, fuel trucks, and a Korean Air jumbo jet quickly backed up on the taxiway. We're guessing that the driver of the truck (who was already in a walking cast on—of course—his right foot) is at his new job, scrubbing oil spots off the tarmac at the airport in Tierra del Fuego.

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## TAX THE RATS

As I read the volumes of bills that New York State legislators introduce into the legislative system, it is not often that one catches my attention because of its merit. I believe that legislators should pass one particular bill, S2572, because citizens and government will benefit from its passage. The explanation of the bill reads as follows: *Includes mice and rats within the definition of livestock for purposes relating to assessment of real property within agricultural districts.*

Since mice and rats would be real property, taxable by the state, this would encourage the farmer to work harder to eradicate them to reduce his taxable "real property". Reduction in the mice and rat population would reduce loss of crop and spread of disease. Busy farmers would be prone to hiring outside pest firms to help reduce the rodent population, providing much needed jobs in New York State.

If these benefits are not enough, one must consider the extra income the government would receive. Taxing mice and rats that the farmer cannot eradicate will boost the New York State revenues. Since rodents produce offspring in prolific numbers, the extra taxes would be a financial windfall for the state.

Someone would have to count these mice and rats to make sure that farmers did not cheat on their assessment of "real property". The Governor could establish a Tax the Rat Bureau, which would hire hundreds of Tax the Rat assessors. These guardians of the state's resources could perform Tax the Rat censuses, providing jobs for people who would count the mice and rats. The Tax the Rat assessors could hire students, providing them much needed summer jobs.

Taxing the Rats is a win/win situation for all!

Nancy Motley  
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## OUT THERE

—M.T.

**Spanish** researchers, using 10 years of data covering almost 13,000 lactations for a retrospective survey, have shown that an increase in infertility and reproductive disorders occurs simultaneously with an increasing average milk yield. They discovered that each 1,000 kg increase in milk yield related to decreases in pregnancy rate and cyclicity and an increase in inactive ovaries.



**Dutch** scientists, determining the integrated environmental impact of conventional versus organic milk production, have found some interesting results. The acidification potential of milk production due to the volatility of ammonia was the same for both systems. The eutrophication potential per tonne of milk was lower for organic production. Organic milk production reduced pesticide use but increased methane emissions and land use per tonne of milk produced. It seems that being organic does not necessarily mean being environmentally sensitive or sustainable after all.



A **Finnish** study, considering average cow age to be too low, has found that the most economical system would be one in which cows achieve an average calving age of four years old, with a 20% culling rate. Here in the USA we aim to breed heifers at 22-23 months old, which would appear to be one of the reasons our culling rate is so high and our dairy animals have such a short productive life span.



**Dairy farmers** can now communicate with their milking parlors through the use of their cell phones. The "Farm Messenger" sends out information in the form of a text message between the producer's cell phone and the Milk Manager program. This means that farmers can change settings from wherever they are on the farm or any part of the world in order to draft cows, input veterinary information, or send cows to the parlor.



The **National Farmers Union** is angry at the Bush budget. Their research shows that discretionary spending on agriculture will go down by 8% and includes cuts for conservation programs and a staggering \$64 million reduction in agricultural research funding. "Agriculture is footing the bill for the tax cuts and previous budgets," says NFU President Dave Fredrickson.



As **Biotech** venture capital takes flight from the United States and Europe, governments in the Third World are investing huge amounts into the research. In the Indian state of Karnataka there are 72 biotechnology companies employing 3,500 scientists, and eleven new firms are about to start up. The bulk of the new investment is coming from Europe's second largest drug maker, AstraZeneca. In Singapore, an 18 million square foot biomedical sciences hub housing public research institutes, corporate research, and development centers will be built as a "Biopolis."



**FROM THE  
PRESIDENT'S DESK—  
MANY WAYS TO  
MAKE MORE MILK**

Recently I read an excellent article about the benefits of long-day photoperiod on milk production. Illinois researchers conclude that 16 hours of light and 8 hours of darkness can tease approximately 5 lb/day more milk from your cows. That response is amazing, and the results appear repeatable. As I read this report, I tried to mentally list all of the reported cow and feeding management practices that may improve milk yield. Here's the list I pulled together, and no doubt there are other strategies as well:

- ☑ 16 hours light and 8 hours darkness – increase of ~5 lb/cow daily;
- ☑ 2x to 3x/day milking – increase ~8 lb/cow daily,
- ☑ 4x or 6x/day milking for 21 days then 2x/day – increase ~6 to 7 lb/cow daily;
- ☑ Separate grouping of first-calf heifers and older cows – increase ~8 to 10 lb/heifer daily;
- ☑ Improve resting (lying) time – increase milk by ~2 lb/cow for each additional hour of resting;
- ☑ Improve feedbunk management – remember that each additional 1 pound of dry matter consumption rewards you with approximately 2.5 lb/day more milk per cow. And, often the changes necessary to elicit this feed response cost virtually nothing such as more frequent feed push-up (or pushing up right after a meal before cows have to reach for feed); and
- ☑ Avoid overcrowding – data are scarce, but I feel we can conclude that certainly beyond 20% overcrowding you will lose milk production in your herd.

In addition to this incomplete list of management strategies to boost milk production, we clearly have to consider the fundamentals of successfully feeding dairy cows. High quality forage is irreplaceable in high-milk production diets. The simple relationship of 0.5 lb/cow extra milk production for each one-percentage unit improvement in forage fiber digestibility seems to hold true over a wide range of forages and feeding conditions. In addition, proper ration formulation obviously is necessary for the cow to properly digest that high-quality forage. As an example, if we formulate a diet using CPM Dairy and then simulate improved rumen conditions (i.e. proper effective fiber, use of an additive to improve microbial efficiency, etc.) by increasing bacterial efficiency by 8%, we predict 5 lb/day more milk production.

Obviously, the milk response to all of these various management practices is not simply additive or else we'd all have herds averaging 100 lb/cow/day. Each of these tools can boost production, but only if other limitations to production have been solved first. For example, a herd may not respond to increased milking frequency if poor bunk management limits dry matter intake. Likewise, poor

stall comfort could easily negate any positive response to photoperiod (and other management routines as well). The best analogy I've heard to explain limits on production is the "barrel stave" analogy. A barrel will only hold water (or milk production) up to the level of the shortest stave. The shortest stave, of course, represents the first limiting management practice on your dairy. For some it may be forage quality, for many cow comfort, and for others some aspect of ration formulation. The goal needs to be identification of the first, then second, then third limitation on each dairy. This process goes on forever (or until you reach a satisfactory, profitable level of milk for your dairy) because there will always be a constraint at any level of production. You can track herd response to management changes by observing trends in 150-day or standardized milk production on your DHIA records. My bottom line is: there are always ways to improve milk yield – assess your management strategies, identify your major limitation, solve it, and then see if your herd responds to strategies such as long-day lighting.

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**PLANTING INTENTIONS**

It appears that grain farmers will be planting fencerow-to-fencerow this spring, as planting intentions are up by 2.2% for corn and 1% for soybeans. Early forecasts (real early considering that planting hasn't yet started) are for a whopping 10.4 billion bushel corn crop and a 2.9 billion bushel soybean crop. What effect would this have on prices? Following are year-ago, current, and forecast prices for April-June and July-September:

Crop	Year ago	Current	April-June 2004	July-Sept. 2004
Corn, \$/bushel	2.36	2.66	2.80	2.20
Soybean meal, \$/T	180	240	220	205

As you can see, prices are forecast to drift lower as the crop season progresses. How far they'll move (and indeed in which direction) depends to a great extent on Corn Belt growing conditions. However, note that soybean meal is forecast to remain well above year-ago prices, further increasing the value of home-grown protein. How can you increase home-grown protein? By fertilizing grasses with nitrogen and harvesting forages early, but then you already know that.

## VET CORNER

The annual auction season seems to be upon us. Between now and spring planting time has been a popular time for dairymen to replenish their winter-weary herds, so it is an opportune time to give a veterinarian's view on purchasing herd replacements. Obviously, to minimize introduction of disease, we recommend that all replacements be raised on the farm. However, herd turnover rate can become excessive at times due to reproductive, mastitis, or other health problems. Cash flow suffers when milking cow numbers drop, so purchasing additions becomes necessary. The dairyman and herd health veterinarian should devise a strategic herd addition program, tailor-made for the individual dairy.

The safest option is to buy pregnant heifers from a closed dairy that follows a well-monitored vaccination protocol. Ask the seller for the vaccination records of the heifers to see if they are protected for diseases on your dairy. For instance, the Miner Institute herd has been cleaning up Lepto Hardjo bovis, so vaccination with Spirovac would be a big plus for pregnant heifers if the Institute was purchasing replacements.

Is your herd participating in NYSCHAP or VTCHIP? Unfortunately there is no blood or fecal test that can guarantee that your purchased two-year-old heifer won't become a clinical Johnes shedder when she turns five in your herd. Your best defense against endemic diseases is arranging with the seller to interview his/her herd health veterinarian about their specific disease challenges. The veterinarian world in this region is small and cordial. With the client's permission, a conversation between cooperative herd vets can enhance a coordinated plan for the buyer.

It has been years since blood testing for Brucella has been required

for cattle movement, but are there blood tests which should be conducted before cattle enter your valuable herd? Cornell offers a cost-discounted blood panel originally designed for embryo transfer recipients for Neospora, Leucosis, and BVD that could prevent introduction of an abortion/infertility problem. An ear notch should be taken to be sure you are not adding a BVD-PI carrier to your herd. To prevent contagious mastitis introduction, collect milk samples for culture a few days after the purchased heifers calve. Observe closely for lameness, which could indicate hairy heel wart.

Does your farm have an isolation area where newly purchased heifers can be observed for a month before they are turned into the milking herd? Of course, few farms have such space, so it makes observation of the newcomers turned into herd most critical. And what happens if one of your new heifers has a positive lab test? Will the seller allow you to return her? **Not very likely**, but at least you will have the knowledge to treat and isolate her in the case of a Staph mastitis infected heifer or cull her if her ear notch shows a BVD-PI carrier.

Finally, back to the auction-purchased cattle. Most have had a preg check, a shot of killed viral vaccine, and then they land in your herd. Do you just give them a shot of Naxcel to prevent "shipping fever," watch to see how much milk they give on their initial milking, and then forget about them? Maybe it is time to consider developing a plan for herd additions with your herd health veterinarian.

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## 2002 CENSUS OF AGRICULTURE

The Preliminary Report of the 2002 *Census of Agriculture* has been released, containing what we presume USDA considers the most important data. As a result, while we don't know such trivial facts as how many dairy farms, cows, or acres of corn there were in New York State, we know the important stuff including how many "Native Hawaiians or Other Pacific Islanders" were farming here (three women, four men). Aloha!

Total New York farm numbers decreased by 3% between 1997 and 2002, but that's not very useful information since USDA considers any enterprise with \$2,500 of farm sales to be a farm, and we know that \$2,500 in sales isn't a business but a hobby. More meaningfully, the number of farms with at least \$100,000 in sales decreased by 12% since 1997, while those with sales of \$500,000+ increased by 9%. What USDA considers to be family farms increased by about 1%, while corporate farms decreased by 11%. Since family farms are increasing while corporate farms are decreasing, we expect rural sociologists to soon be wringing their hands and gnashing their teeth worrying about "the demise of the corporate farm."

We also learned that in the past 5 years New York's farmers have aged by 1.2 years, which is a nice trick if you can do it; except, as you've probably figured out, that's the *average* age. Rural sociologists—they again—have also been wringing their hands and gnashing their teeth (wringing and gnashing are what rural sociologists do best) about the "graying of American farmers," although since the average age was 53 years back in 1997 we'd surmise that most were already gray.

—E.T.

## WHAT'S HAPPENING ON THE FARM...



One of our cows is a winner! Rick pointed out that while we often thank our employees for all their effort “we do not thank the bovines”—so to speak—who are the reason we are here at the Institute in the first place. So, to cow Heart’s Delight Beacon Snickers (don’t laugh), we say, “Thank you for producing over 240,000 lbs of milk.” Imagine what we could do with a barn full of this type of animal? The demands on animals milking like this are huge, not only physically but also psychologically, which is exactly why it becomes important to pay as careful attention as possible to animal health, comfort and well-being. If we are viewing cows as simply a commodity then actually we are poor businessmen and would do better investing in Brazilian soybeans.

The first whispers of spring have reached us: a noticeable increase in day-length, several continuous days of sunshine, buds on the hardwood trees,

patches of grass peeping out from beneath the snow, the coats of the steers outdoors looking like the beard of a teenager. In western New York, some farmers have already started spreading manure, which is worrying in that they are doing it before the snowmelt has truly occurred. Think about your neighbors; think about the effect of doing this! Our Crops Crew are starting to get restless now. Their equipment is ready and awaiting; the corn, grass pasture, and alfalfa seeds have been purchased; and they sit in limbo right now, waiting, doing odd jobs like mending fences, cleaning out the new dairy barn, and emptying manure pits.

Milk production has increased as we include processed western alfalfa into the TMR of the High Group animals. The warmer weather no doubt helps in this, and finally we have started noticing animals in heat. The “silent” heats of a deep winter freeze are frustrating for many farmers using the natural breeding method, which is when it probably makes good economic sense to adopt a hormone breeding programme. There are two

Advanced Dairy Management student projects that the dairy barn crew is watching with particular interest: 1) The effect of a 60 versus 80 day Voluntary Waiting Period for Presynch protocols, and 2) An Evaluation of the cost-benefit of western alfalfa hay in the Miner Institute dairy rations. Having spent most of my USA time on the Front Range of the Rockies, I’m very partial to both dairy and feedlot rations high in good quality alfalfa, and was rather, how do I say this delicately, perturbed about the quality of hay used in the Northeast. The cost, however, of transporting alfalfa with RFVs over 190 is challenging to many dairymen in this area, and unless a direct economic benefit is noticed it may not be worthwhile. Bear in mind, though, that there are other pros to feeding good quality alfalfa, not only increased milk production—health, for example is one obvious benefit; increased digestion is another. It’s really all about the whole picture of what you do to your cows.

We auctioned a few 550-700 lb steers in Chazy recently and were astonished at the number of animals being sold off there. On the night we sold steers, there were over 300 calves on offer according to the staff working the sale. In the little, square, grown animal sale area, bulls weighing close to 2,000 lbs tried to escape over damaged railings, while just two bidders snatched up cull dairy cows, steers, bulls, and the occasional crossbred animal.

Our veterinarian, Dr. Henderson, recently returned from a conference at which a new approach to preparing bovine vaccination programs was discussed. It seems there is a host of new products under development, and vets are being encouraged to work closely with their clients to re-look at what is being used for disease prevention. We have tentatively drawn up a new vaccination protocol, which has not only reduced the number of vaccines being given, but has also substantially reduced the cost of the endeavor.

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### ALFALFA WINTERKILL

It must be getting close to spring since farmers have started asking the Crops Dude how he thinks our alfalfa will make it through the winter. This is an especially timely question this year since many areas haven’t had much snow cover and, thanks to heavy December rains and some snowmelt since then, there are lots of ice sheets.

Relying on my 40 years of experience, almost all of it here in the Champlain Valley, I can say without embarrassment that *I don’t have a clue*. Oh, I knew a lot about winter survival of alfalfa early in my career and confidently predicted when alfalfa would winterkill and when it would not. But following an unfortunate run when I was wrong 5 years out of 4, I stopped predicting winterkill entirely and now model my comments after modern weather forecasting, which makes predictions like “There is a 40% chance of rain today.” The only way they can be wrong is if they say there’s a 100% chance of rain and it doesn’t, which is why they usually cover their...uh, bet...and say there’s an 80% chance of rain.

With this in mind: To some extent how much winterkill we’ll get in a particular field depends on the amount of snow cover, if any, beneath the ice sheet. We learned following the Ice Storm of the Century in January, 1998, that even a few inches of snow will protect alfalfa that has several inches of ice on top of it. What’s really bad is ice that’s locked tight to the ground; what’s even worse is if there’s not enough alfalfa stubble to stick up through the ice sheet.



—E.T.

## COMMERCIAL MILK REPLACERS—WHAT'S AVAILABLE

A recent project here at the Institute dealt with identifying and characterizing commercial milk replacers available in the Northeastern U.S. We looked at 10 milk replacers from four manufacturers (not to be confused with distributors). The cost per bag ranged from \$39.00 to \$50.00. The crude protein and fat levels of the milk replacers also varied, including High protein/Low fat (CP>21%, Fat <20%); Low protein/Low fat (CP<21%, Fat<20%); High protein/High fat (CP>21%, Fat≥20%); and Low protein/High fat (CP<21%, Fat≥20%). Of the milk replacers chosen, most used primarily whey as a protein source and animal fat as a fat source. Two of the milk replacers also used plant proteins as a protein source. All but two of the milk replacers were medicated. Looking at these criteria, we felt that we had selected a representative sample of the milk replacers available in the region.

To characterize the milk replacers, we evaluate smell, texture, solubility, and nutritional content. One manufacturer consistently produced the sweetest smelling and softest texture milk replacers regardless of brand.

To evaluate solubility, we assigned a score based on the amount of time it took to completely mix the bag-recommended amount of milk replacer powder with the bag-recommended amount of water for one feeding. Solubility did not seem to be affected by the protein or fat levels in the milk replacer. One brand of milk replacer was extremely gelatinous in nature and it was difficult to determine its solubility (Table 1).

When compared to milk (an obvious solubility of 100%), most of the milk replacers fall in the 80% range. Solubility can be a usability issue, as no one wants to sit and mix forever before they can feed.

Additionally, an overall score was assigned to each milk replacer based on solubility, stability (the amount

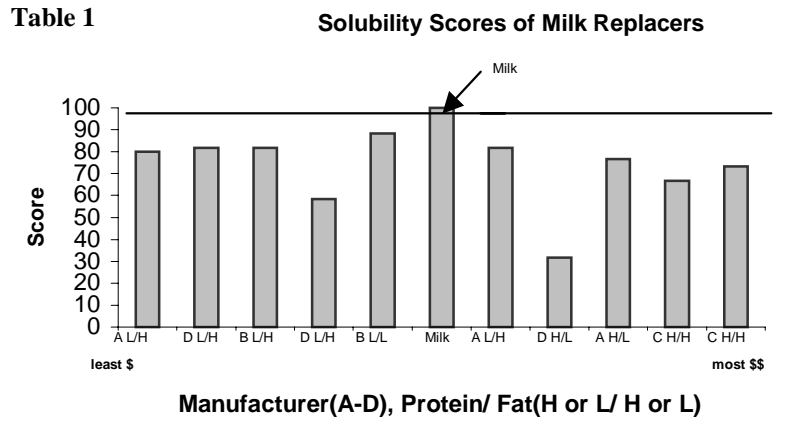
that remained in solution after sitting), and nutrition. The average was weighted so that purchaser factors (solubility and stability) accounted for 10% each of the total score and the major animal factor (nutrition) accounted for 80% of the total score. CP, energy, mineral and vitamin levels were evaluated. When fed as listed on the bag label, all of the milk replacers met the energy needs of the calf, and only a few fell short of the grams of CP required per day by the calf. Most of the points for the nutrition score were deducted due to inadequate mineral content or over supplementation of minerals by more than 25% of the requirement. Deductions for mineral content may not be completely justified, as mineral requirements may not be entirely defined. But for our purposes, each milk replacer was held to the same standard and therefore faulted equally across the board. There

was no fault for over supplementation of vitamins, as there may be health benefits associated with increased levels of certain vitamins.

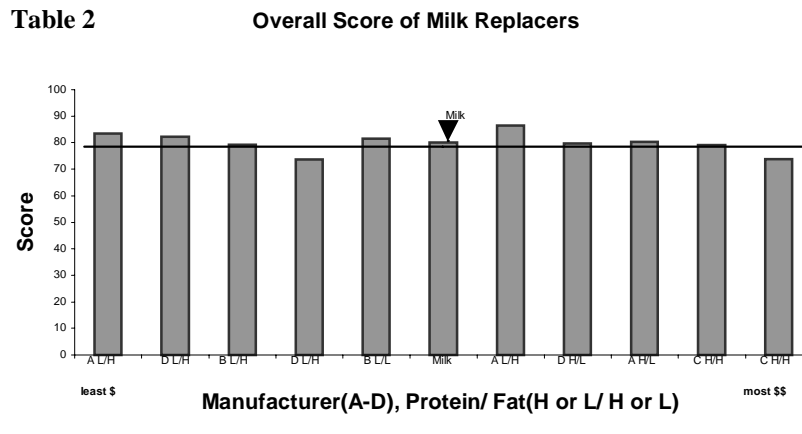
The first thing you notice on the graph (Table 2) is that whole milk itself does not achieve a score of 100%. It falls short in nutrition, dropping its overall score to an 80%.

Even if you don't at first think so, this *does* make sense. Naturally, a calf would start grazing and supplement its milk intake with fresh grass... and there are the missing protein, vitamins and minerals! Therefore, milk replacers become an added-benefit feed source in that we can increase the vitamins, minerals, and highly metabolizable protein sources in the 'milk'. This may help to overcome any problems we may have with poor quality hay and starter grains with low metabolizable protein sources. While only two of the milk replacers that we chose scored less than milk, four of them scored higher than milk. This is good news for those of us looking for good quality milk replacers to feed to calves.

**Table 1**



**Table 2**



## SUGARS, NPN, AND MUNS

There is tremendous interest in feeding sugars in dairy rations. Coordinating the amounts and sources of rumen soluble sugar/carbohydrate with rumen degradable protein seems to be as much art as it is science. We have a crude understanding of the importance of providing sufficient amounts of N in relation to rumen soluble carbohydrate and vice-versa to maximize microbial growth and hence milk and milk component yields. When rumen degradable protein or NPN is fed in excess of carbohydrate supply, the result is increased urinary N, blood urea N, and MUN. Not only is this a waste of N, but also it costs the cow energy to get rid of the excess. Increasing sugar levels in this situation improves utilization of the excess N and increases microbial growth, which should transfer into increased milk yield. What then is the best combination of rumen degradable N to match up with added dietary sugar? Does NPN work better than degradable true protein when feeding supplemental sugar? How best to balance N requirements of fiber and non-fiber digesting bacteria in the rumen?

At Miner Institute, we have been formulating rations to have between 4-5% DM as sugar. The source of that sugar is 0.5-1.0 lb of sucrose along with the sugars associated with 3.0 lbs of citrus pulp and 2.5 lb of western alfalfa hay as well as a touch of dextrin in our grain mix. Our whole herd average milk is in the low 70s, 3.6% BF, and 3.1% TP. The MUN levels have been low, averaging 10 mg/dl. The question is, are we losing milk production with such low MUNs? Are we limiting microbial yield by not supplying enough rumen available N to match up with the level of rumen soluble sugar? The answer would appear to be yes. Next question, is it the amount of sugar and rumen available nitrogen or the sources of sugar and N?

It may be that we have created a competition for N sources between the sugar fermenters and the fiber fermenters. With our 5% sugar TMR, we may not be supplying adequate levels of N in the form of NPN or peptides to support optimal microbial growth from both sugar and fiber. Dr. Mary Beth Hall at the University of Florida cites research that shows that replacing starch with sucrose can increase DMI, milk fat, and fat yield, but milk/DMI was decreased from 1.60 to 1.52. In this case the conversion of ration N to milk protein decreased with increased sucrose feeding. Dr. Hall also states that sucrose utilizers have a lower microbial protein yield than starch utilizers. As a result we may need to increase the level of undegradable protein to account for the decreased microbial protein yield when feeding sugars.

Within the next few weeks we intend to address this issue through ration adjustments to increase milk yield and track MUN values as a guide when feeding supplemental sugars.

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## CAFO UPDATE

New York State DEC is in the final stages of drafting CAFO permit requirements for Animal Feeding Operations. DEC will hold regional meetings to seek comments on the proposed changes on March 12 after the NEDPA Conference in Syracuse, March 16 in Batavia, March 17 in Canton, and March 19 in Albany. (The Canton meeting will be at the Best Western on Rte. 11 starting at 1:00 pm.) Producers and others interested in this process are encouraged to attend the meetings and to comment on the permit in writing, which may be submitted to DEC until March 25. Contact DEC for times and locations of other meetings, and for instructions on where to send written comments. Copies of the draft permit are available by calling DEC at 518-402-8111 or on the DEC website at: <http://www.dec.state.ny.us/website/dow/cafohome.html>

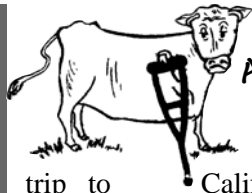
Changes that will occur in the NY permit to conform to the new Federal Rules include:

1. Using animal numbers instead of animal units. The new guidelines are based on a single class of livestock. This means that cow and heifer animal units on the same operation are not added together, but if there is a certain number of either cows or heifers, the farm is a CAFO. For example, EITHER more than 200 cows or 300 heifers is a medium CAFO, while EITHER more than 700 cows or 1000 heifers is a large CAFO.
2. Large CAFOs will be expected to conduct regular checks of manure storage levels, conditions of water fountains, and water management installations such as gutters, filter areas, and silage leachate treatment systems. Results of the checks and any maintenance performed will need to be recorded.
3. All CAFOs will be required to submit an annual report as to the numbers of each class of livestock on the operation, the number of acres that receive manure, the amount of manure exported, etc.

The NY permit will contain changes regarding the timeline for implementation of CAFO plans. More information will be available in the draft permit.

## NEWS BRIEFS

- ★ A Purdue University Center for Food and Agricultural Business survey of corn and soybean farmers with a minimum of 1,500 acres concluded that their use of paid consultants will increase rapidly over the next five years. The largest projected percentage increase was in the use of environmental consultants (from 5 to 15%), while both crop and marketing consultants will be used by at least 50% of these farmers.
- ★ PETA, unsuccessful in bribing residents of Hamburg, NY, to change its name, has offered Slaughterville, OK, \$20,000 in veggieburgers if it will change its name to Veggieville. The residents of Slaughterville, named after one of the town's founders, James Slaughter, of course have no intention of doing so. What we don't know is if this decision is based on town pride or concerns of what to do with \$20,000 worth of veggieburgers.
- ★ A large British grocery chain is marketing an aphrodisiac pizza in the shape of a...heart. Named "Pizzagra" (honest; we don't make this stuff up), it contains the normal pizza toppings plus asparagus, ginger, chocolate, and bananas. Yuk.
- ★ A Newmarket, England, woman has been fined \$400 for registering her cows to vote. She's a repeat offender, last year registering Henry and Sophie Bull as well as her dog. She only responded because the town council addressed a letter to the "Occupants" of her barn and then inquired why they hadn't completed the voter registration. So she did it for them.



## LAMENESS— A CRITICAL CONTROL POINT

During our trip to California in early February, at the World Ag Expo the students were encouraged to attend any of the various seminars offered at no charge in one of the tents. I went to a seminar by Dr. Temple Grandin on Stockmanship. An expert on animal behavior, she discussed ways that farmers should assess their production unit (primarily dairy farmers in the audience with us) to determine if they are doing a good job providing a good environment for the animals. What are the areas that we can measure in terms of good animal welfare?

One of the critical control points that Dr. Grandin focused on was assessing cattle lameness. She told the audience that the herd should be examined for lameness at least monthly. This examination should be performed by an outside observer because we tend to get blind to our own animals and become accustomed to how they move in our own barn. If the observer can't watch the whole herd, then a sample group should be observed as they come into the milking parlor.

This system doesn't need to be quite as elaborate as a 5 point scale that assesses no lameness, hunched up topline, 1-legged lame, two-legged lame, 3-legged lame, etc. She was asking the observers to assess 'Yes' or 'No' in response to "Is the cow lame?" Five percent with an obvious limp is excellent. Over 10% with an obvious limp not acceptable. Lameness is caused by a combination of poor management and failure to select breeding stock with good feet and legs. Score 50 to 100 cows.

The number of lame cows one month is compared to the number the previous month and then goals are established for reducing the number of lame cows the following month. Obviously methods for re-

ducing lameness will vary from farm to farm. For some herds it may involve hoof trimming techniques, timing, or personnel and for other herds it may be a laminitis issue, a heel wart problem, or a barn floor surface issue. However, the goal is the same for all: to reduce the number of lame cows. For some individual cows, reducing herd lameness is a terminal issue, but that won't work for large numbers of animals and a management change is necessary.

Further information from Dr. Grandin's website, [www.grandin.com](http://www.grandin.com), indicates the critical control points on a farm. The key concept is that a critical control point can be measured and is easy to standardize. A good manager enforces standards to maintain good welfare for the animals.

Dairy producers should be looking at their farms in terms of animal welfare, because consumers care about where their food came from and the animals that produced it. The consumers may not understand all factors involved in food production, but they want to know that it was produced in a humane fashion. The Animal Welfare Audit Program (AWAP) is a national program cooperatively developed with the National Council of Chain Restaurants (NCCR), the Food Marketing Institute (FMI), and the producer community. AWAP is a totally voluntary program designed to provide objective data regarding animal welfare at livestock production and slaughter facilities. The audit tools are generally based on voluntary guidelines developed by the industry. There is a growing list of food retailers and restaurants participating in the AWAP program. Those of us involved in animal agriculture need to take on more responsibility for animal welfare.

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## IT'S NOT TOO SOON...

...to start thinking about spring forage seedings, especially on land coming out of several years of corn production. Although your corn weed control program has undoubtedly been pristine, you might have missed an annual grass plant or two. And if the grass went to seed last summer, it doesn't take many plants to result in a mess this spring. For instance, a single barnyardgrass plant produces over 7,000 seeds.

Since in many cases it's hard to outnumber weed seeds, you should try to get your forage seeding into the ground early so it will get out of the ground before annual grasses germinate. This doesn't work for cold-tolerant broadleaf weeds, including pigweed, lambsquarters, and mustard, which will germinate right along with the alfalfa. In fact, I think that mustard germinates before you leave the field with the grain drill. Annual grasses, on the other hand, need warm soil conditions to germinate. If you have a lot of annual grass seeds, most likely you'll have a carpet of grass in parts of your field, but as long as the alfalfa or other legumes germinated enough earlier to become well established, the first crop of alfalfa will form a canopy over the annual grass seedlings, shading them and thus reducing their competitive effects. Even if you do harvest annual grasses with your alfalfa, all is not lost because most aren't bad feed. In fact, vegetative stage foxtail has higher crude protein and lower fiber than does timothy at the same maturity stage.

Depending on the type of spring we have, you may or may not be able to seed alfalfa in April. However, if it's a good field for alfalfa to begin with, in most years you should be able to seed well before the soil starts to warm up. And if at all possible you'll want to have your forage seedings done before it's time to plant corn. Any field not seeded by the time we start planting corn seldom gets done until we're done planting corn... And that's too late to get ahead of annual grasses.

—E.T.

## ROUNDUP READY ALFALFA

The Crops Dude is high on Roundup Ready corn and soybeans, but he's not sure that when it does become registered, Roundup Ready alfalfa will be a big deal in much of the Northeastern U.S. That's because most of our alfalfa is seeded with a grass companion crop, and for good reason: Alfalfa-grass yields more than straight alfalfa, doesn't suffer as much from insect damage, and the grass provides some protection from our arctic-like winters. Of course, applying Roundup to an alfalfa-grass seeding will kill all the grass. Other options may be to seed the forage grass later in the season—we know a few people who do this—but it's questionable how much grass makes it through the first winter.

If you know you'll have a potentially devastating weed problem, Roundup Ready alfalfa may be worth a try since a good alfalfa seeding is way better than a failed alfalfa-grass seeding. But for farmers who don't have serious weed competition, alfalfa-grass still gets our vote.

## STARTER FERTILIZER FOR CORN

Cornell University has conducted on-farm trials for the past several years to demonstrate the value of starter phosphorus applications to corn on soils high and very high in P ("High" = 9-39 on Cornell soil analyses, "Very high" = 40+). Following is a three-year summary of 65 on-farm trials, including those at Miner Institute:

**Corn silage yield, tons/acre @ 35% DM, 2001-2003**

	High soil test P	Very high soil test P
No starter fertilizer	17.7 <sup>b</sup>	19.5 <sup>a</sup>
N + K	17.9 <sup>b</sup>	20.6 <sup>ab</sup>
N + K + 10-25 lb P <sub>2</sub> O <sub>5</sub> /Acre	19.2 <sup>a</sup>	21.4 <sup>a</sup>
N + K + over 25 lb P <sub>2</sub> O <sub>5</sub> /Acre	18.2 <sup>ab</sup>	21.2 <sup>a</sup>

Yields within columns with different letters are statistically different @ 0.05.

It's not appropriate to compare the two columns since the "High" and "Very high" trials were run on different farms. We can make some important statements, however, about the yields in each column:

- While there's no statistically significant yield response from starter N + K, there's a trend to higher yields and other research has found a significant corn yield increase from starter N. Unless you apply manure in the spring just prior to planting, use at least 20 lbs/acre of starter N.
- Corn silage yields are higher on "High" soil test P fields when 10-25 lbs starter P is used, but there's no additional response to starter P rates over 25 lbs/acre.
- On "Very high" soil test P fields there's no statistically significant response to any amount of starter P. Don't use any P fertilizer on these fields.

—E.T.

## CLOSING COMMENT

Statistics show that at the age of seventy, there are five women to every man. Isn't that an ironic time for a guy to get those odds?

