Selected Items

from

Doc's Blog

2015-2017

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"When you change
the way you look
at things,
the things you
look at change."

First Post
March 8, 2015

Since my awareness of holistic concepts began when I read Bromfield's books in 1948, it is fitting that I begin this new blog venture by reprinting an older entry first made on June 10, 2008.

"A visit to Louis Bromfield's Malabar Farm is somewhat like a pilgrimage for me. When Ruth and I, along with Gwen and Jim Helfter, visited the site today I recalled it has been over 60 years ago that I read his books Malabar Farm and Pleasant Valley. His story was my first exposure to the sustainable or organic agriculture movement. In that time there has not been much improvement on the innovative methods on building soil that he proposed in the early 1940s. In my mind, Bromfield, Dr. William Albrecht, Sir Albert Howard and others of that era were the pioneers of what we now call the organic and/or sustainable agriculture movement.

Farming for Food or Profit
March 9, 2015

In January I was sitting in a trade show booth at the GrassWorks Grazing Conference when a fellow stopped at the booth and after reading our glyphosate banner began questioning me about why we were against the use of glyphosate. I briefly outlined several concerns we have, such as trace mineral tie-up, super weeds, damage to soil and GI bacteria, as well as damage to human and animal health.

He was not impressed. He told me he considered Round-Up to be one of the best new things to have come about during his farming career and in his experience it was cost effective and did no damage that he was aware of. I could tell right off I was not going to make a convert here.

Having previously made the decision to never argue with an idiot in public—because those watching would not be able to tell who was the idiot—I played my trump card and asked him; "Have you ever considered that you are primarily growing food for people and animals to eat and not just producing a commodity to be sold or traded on the market?" He gave me kind of a blank condescending look and just walked away.

It is unfortunate, but often true, that many farmers are so engrossed in the profit side of farming that they overlook the fact that they are poisoning the unsuspecting folks who buy and eat their tainted products.

A Calf Problem
March 12, 2015

I had a phone call today from a fellow who was having trouble raising baby calves. His calves were suffering from scours and pneumonia with considerable death loss. As we discussed his operation it was apparent he was doing several things wrong—things that almost doomed the project from the start.

First, he was buying calves from several different sources—local dairymen, sale barns and calf jockeys. So he had no idea if any of the calves had received colostrum or what, if any, attention had been paid to their health and nutrition.

Second, he only had one group of calves and any new purchases were immediately added to the group. This exposed the newcomers to whatever else was going through the older calves in the group, and these older calves were exposed to whatever the new ones were carrying.

Third, he was vaccinating the calves with an attenuated live-virus vaccine; which should only be used on healthy animals. I don't know what he was feeding, but if he was using a soy-based milk replacer that in itself is not conducive to calf health.

Before he contacted me he had already run the gamut of available treatments with little success. It is almost impossible to overcome the poor management practices listed above and I had little to offer him except: "Clean up your act and better luck next time".

Cafeteria-Style Research
March 13, 2015

Cafeteria-style research shows
Cows prefer water with iron levels below 8 mg/L

Research conducted at Cornell by water-quality expert Dave Beede has been published in the February *Journal of Dairy Science*. In the experiment, Beede and other researchers set up a series of water tubs cafeteria-style, so they could see which tubs the cows preferred based on iron concentrations in the water. Upon first exposure to drinking water, lactating dairy cows tolerated iron concentrations up to 4 mg/L (or 4 parts per million) without a reduction in water intake; however, water intake was reduced with concentrations of 8 mg/L.

They also indicated the direct livestock suitability water analysis used by some labs may underestimate the amount of iron in the water as

some of the iron is chemically associated (bound) with other chemicals in the water and not analyzable. Therefore, what may appear as a favorable 2 mg/L level may actually be an inhibitory 8 mg/L level.

Learn more: http://www.dairyherd.com/e-newsletters/dairy-daily/Keep-iron-levels-in-water-below-8-mgL-200473451.html

Comment: Conventional nutritional opinion claims animals do not have the ability to balance their nutritional needs when given the choice. Yet, these researchers relied on the nutritional wisdom of these cows to set their own standards for acceptable levels of iron in their water by providing varying concentration of iron in water "Cafeteria-Style".

Reading between the lines, this experiment also shows laboratory tests are not as accurate as an animal's nutritional wisdom —"some of the iron is chemically associated or bonded with other chemicals in the water and not analyzable." However, when given the choice, the cows didn't have any problem choosing the level of iron acceptable to them.

And taking that one more step: maybe cows really are smarter than some scientists. Hopefully more researchers will begin to apply common sense in their research and the interpretation thereof.

Remember the Spotted Owl?

March 19, 2015

With all the hub-bub in the news about terrorism in the middle east we tend to overlook the more insidious Eco-terrorism we have been experiencing here at home for decades.

25 years ago the Endangered Species Act put 90% of Oregon's federal forest off limits to logging. The area has never recovered economically and the spotted owl population has continued to decline. The EPA people have never even said, "Oops."

It's just another example of how we are protected by "the best government money can buy".

Statistical Deception

March 20, 2015

There is an old saying, "Figures don't lie, but liars figure." At one time I had a copy of a book entitled "How to lie with statistics". It

seems Big-Pharma has taken both concepts to the extreme in the way they interpret and promote the results of their drug trials.

This statistical trickery is accomplished by using 'relative risk' data in which one specific group is compared to another specific group rather than evaluating how an individual responds to the drug —-'absolute risk'.

This magical technique enabled one drug company to tout a 54 percent reduction in heart attacks when actually the reduction was less than 1%.

Used in reverse, this statistical legerdemain also allows the cover up of any adverse effects of the drug.

If you are interested in more details, go to:
http://www.naturalnews.com049079_statins_statistical_deception_Big_Pharma.html

Inbreeding

March 23, 2015

I don't know if it is classified as true inbreeding or not, but the genetic lineage of all current Holstein sires can be traced to only two bulls. 51% of Holstein sires born in this decade trace their lineage back to *Elevation* and 49% go back to *Chief.*

We do know inbreeding or even close breeding can have several deleterious effects on dairy cows, including:

1. Impaired immune function.
2. Reduced longevity.
3. Lower milk production.
4. Diminished reproductive efficiency.

They may not be related, but in the light of the above facts, I find it curious that even while milk production seems to skyrocket, the average dairy cow in the US does not live to complete two lactations and 50% of dairy cows calve with either a metabolic or infectious disease. Just wondering?

Wisdom from Dr. Wm. Albrecht

March 31, 2015

"Wild animals chose their own medicine according as the soil grows it, and thereby exemplifies better health and survival on their own than our domestic ones do under our management."

Dr. William Albrecht

Scientific Truth

April 6, 2015

I read an article today in Dairy Herd Management in which the author bemoaned the fact so many seemingly intelligent people no longer believed in science. I could name several good reasons why I have little faith in what is sometimes called "Good Science". Here are a couple that come to mind.

1. In many areas, scientific research and the promulgation of the results are profit driven. For example, Monsanto funds the research, releases only the results that support sales, pays off government officials to look the other way and then tries to foist off its toxic products on to the consumers. They tested glyphosate for toxicity on 10 rats for 90 days and deemed it safe. Then the French researcher, Seralini, did the same research for 2 years and found an alarmingly high incidence of cancer. He was labeled as a naysayer and brutalized in the press. Monsanto is not alone in this. Good science today seems to be anything that supports corporate profitability.

2. A good definition of science is; "The orderly arrangement of what is currently considered to be true." What we consider to be true changes from day to day. Eggs are bad for you and then suddenly eggs are good for you. It's the same with meat, milk, vaccinations, and many drugs. Note how many 'wonder drugs' are suddenly removed from the market after years of popularity when the previously hidden side effects begin to surface.

I could go on and on with this—and probably will in a future blog entry.

"The scientific "truth" of today becomes the discarded error of tomorrow." From: "On growing Up Tough" by Taylor Caldwell

The Grass Is Always Greener

April 13, 2015

I admire this fine cartoon. I'm sure the author wanted to humorously illustrate the old 'grass is greener" adage and also possibly comment on the pure cussedness of some cows in their distain for fences.

However, upon further reflection, this drawing illustrates two basic principles of animal nutrition. 1. No two animals have the same nutritional needs. 2. All soils, crops, and feeds differ in their mineral content.

The feeding activity of these two cows demonstrates the above principles, since each cow is satisfying her own specific needs by seeking out what it needs, no matter which side of the fence it is on.

This concept was explained in the 1950s by Dr. William Albrecht's film–aptly named *"The Other Side of the Fence"*.

EPA Promotes Crop Rotation?

April 15, 2015

I see the EPA's new proposal to curtail the spread of resistant corn root-worms would stipulate GMO bT corn could only be planted for 2 years in a row and then the field would have to be planted to a different crop for a year.

Hey, wait a minute! Isn't that what Grandpa did years ago—rotated crops to control weeds, worms and insects? I guess continuous mono-cropping with herbicides made things 'easier' but at what cost. Rotating crops and mechanical cultivation was cheaper in the long run and provided food that was safe to feed to man and beast alike. Nowadays we must eat the 'frankenfood' foisted upon us by corporations like Monsanto and Dow Chemical.

If approved, the final ruling would affect areas of Iowa, Illinois, Nebraska, and surrounding states.

Does anyone else see the irony in the EPA finally doing something to actually protect the environment?

An Imponderable

April 20, 2015

Along with robins and greening up trees, another harbinger of spring in many rural areas is the appearance of anhydrous ammonia (AA) tanks being pulled by pick-ups on the roads and by tractors in the fields. AA is a source of nitrogen necessary for plant growth, as is phosphorus and potassium—the big 3 in Von Liebig's NPK concept of agricultural fertilization. Prior to its common use as a fertilizer beginning in the 1940s and 50s it was used during World War II in the construction of airport runways in war zones. AA burns the organic matter out of soils thus hardening them up enough to support landing aircraft without the need for cement runways. Today as we use it on prime agricultural soils we wonder why our soils are becoming more compacted as years go by.

We live at the bottom of an ocean of air composed of approximately 78% nitrogen, 21% oxygen, 0.93% argon, 0.039% carbon dioxide,

water vapor at an average of 0.4%, plus small amounts of other gases. At sea level the weight of all these gases over each 1 square inch of the earth's surface is 14.7 lbs, known as Atmospheric or Barometric pressure. Doing a little math here gives us a little over a ton of air over every square foot of the earth's surface and of each ton 78%—or 1650 lbs—is nitrogen. There are 43560 square feet per acres times 1650 equals over 70 million pounds of nitrogen over every acre. I don't know the capacity of the AA tanks delivering nitrogen to the fields but I do know it is infinitesimal when compared to the amount available in the air above us.

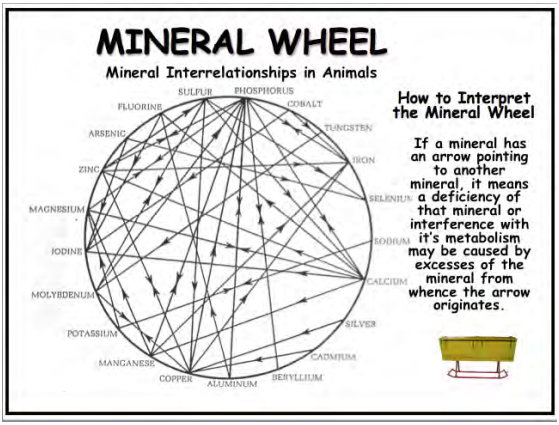
Rain and snow carry some atmospheric nitrogen to earth. High organic matter soil absorbs and preserves this water and nitrogen for future plant growth. Legumes, with suitable inoculates, grown in a good crop rotation fix atmospheric nitrogen into the soil.

Ponder this: Why do we pay big bucks for a little bit of nitrogen when its use destroys the natural fixation of free nitrogen in the soil?

Copper Toxicity in Sheep

April 22, 2015

I had a question come up today about copper toxicity in sheep. Of all our domestic animals sheep are the most susceptible to copper toxicosis.



Copper is a required mineral in all species, but sheep have a narrow range between how much copper is adequate and how much is toxic. Most cases of copper poisoning in sheep occur when they are fed rations or minerals designed for other species more tolerant of copper.

When sheep are fed

such diets over a period of time, copper builds up in the liver because sheep do not excrete copper as efficiently as other animals. When the liver becomes saturated with copper, massive amounts of copper are released into the bloodstream resulting in tissue damage. This sudden onset is often triggered by some stressful event.

Note, on the Mineral Wheel, both molybdenum and sulfur act as antagonists to copper and have a protective effect if there is excess copper. The presence of these compounds bind with copper and prevent gut absorption and increase excretion of copper.

Sheep do well on ABC''s cafeteria-style mineral program and I have never encountered copper toxicosis in sheep on this program even though it does provide a free-choice source of copper. Animals will balance their own mineral needs if given the choice.

Windbreaks

April 39, 2015

I see where the USDA Natural Resources Conservation Service (NRCS) is offering cost share programs to replant windbreaks on agricultural land. Once a hallmark of good farming practices, many windbreaks have been removed, possibly to accommodate larger farming equipment and/or the mistaken idea that windbreaks lower crop yields.

Windbreaks have multiple benefits in most areas where windbreaks were previously planted. While yields were somewhat hampered out to 1 to 1-1/2 times the height of the trees, the loss was more than offset by increased yields in the remainder of the field. The study found that, within the protected zone of the windbreak, spring wheat yields increased an average of 8%, corn by 12%, soybeans by 13%, and winter wheat by 23%.

For more information on this topic check out:
http://z.umn.edu/furrowjan2015 or
http://www.dairyherd.com/news/windbreaks-can-increase-crop-yield

Conventional vs. Holistic

May 5, 2015

I am perplexed when I contemplate how to reconcile conventional allopathic veterinary medicine and livestock management with alternative or holistic veterinary medicine and livestock management. There are many aspects to this problem. I would like to comment on a couple of basic concepts to hopefully foster a more agreeable discourse not offensive to either side.

First of all, I believe, if properly done, holistic or alternative management manages the health of animals in a "proactive" way to avoid common problems by attention to basic nutrition and immune support as the primary goal. On the other hand, allopathic medicine kicks in when the animals show symptoms of illness or production decline. This is not necessarily a bad thing but 'it is what it is— a "reactive" procedure to remedy a situation brought about by a breakdown in management. I am sure there is middle ground somewhere between the two sides.

Another factor to be considered is the ultimate purpose of the animals being treated. For example, some allopathic drugs might be totally acceptable to administer to a gelding and totally unacceptable for use in a breeding age mare destined to hopefully produce a healthy foal.

The same precept comes into play when we consider what is appropriate treatment for food producing animals as opposed to companion animals.

The same concept applies to crop farming and poses the question — is the harvested grain destined for conversion to gasohol or synthetic plastics or will it be eaten by us and our children or be fed to food producing animals. It is my personal opinion that too many farmers strive for quantity instead of quality and overlook or ignore the fact they are producing food for people to eat. What do you think!

Bird Flu

May 7, 2015

The other day a fellow asked me what I thought about the bird flu epidemic in the central states. I had to admit poultry had never been part of my vet practice and my main poultry experience has been with grilled chicken breasts.

However, upon reflecting on the problem a couple of things came to mind. First question: "What is the genetic diversity level of the affected flocks?". When a genetically diverse population is exposed to a disease not all get sick or die and some survive to carry on the species.

This is the same mechanism enabling bugs to become immune to the effects of insecticides and weeds to become resistant to glyphosate. I'm guessing in the current situation the genetic diversity is low and the morbidity high. Obviously, the mortality is 100% as all sick and exposed birds are depopulated to avoid spread to other vulnerable flocks.

I also wonder about the vaccines used on these birds. There's a lot of controversy about vaccines these days and like the old saying - "there are three sides to every story; yours, mine and the truth". I don't believe I'm the only one who is highly skeptical of scientists playing around with mutated live viruses in the laboratory. I have read that the incidence of disease is higher in some human population groups vaccinated for a specific disease than in the unvaccinated population.

What could happen if a highly susceptible population was exposed to a rogue laboratory virus . . . —it sure makes one wonder!

Censors of Nature

May 12, 2015

In the 1830s a devastating disease of swine called Hog Cholera or Swine fever apparently arose spontaneously on a hog farm in Ohio. For over a century this was one of the leading causes of disease in swine and as late as the 1960s was costing the swine industry in excess of $50 million a year.

In 1907 a vaccine had been developed. It involved injecting a little dose of the virus along with some hyper-immune serum from hogs previously vaccinated for the disease. In 1951 the virulent live virus component was replaced with a modified live virus vaccine but still required the use of the serum. Improper use of these live vaccines contributed to many iatrogenic outbreaks of the disease.

For many years, the income derived from vaccinating swine for Hog Cholera was the financial mainstay of most veterinary

practices in areas with large swine populations. In 1961 the USDA mandated a Hog Cholera eradication program and all live or modified live vaccines were banned in 1969. The nation was declared free of Hog Cholera in 1978. This was hailed as a great success, but unfortunately, it wasn't long before other, heretofore almost unknown, virus diseases of swine such as pseudo-rabies began to cost the swine industry almost as many dollars as had Hog Cholera before eradication.

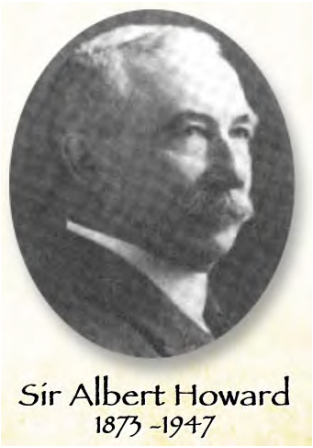
Even if successful, vaccinations only protect against one particular organism and if the immune system is already compromised—malnutrition, stress, mineral deficiency, etc.,—the animals are easy prey for any other virus or germ lurking out there. As illustrated above; when one virus is removed either by vaccination or eradication (Hog Cholera) the next virus in line (Pseudo-rabies) stepped up and functioned as a "Censor of Nature".

Nature tends to eliminate or censor anything not meeting her standards of excellence. Weeds are attracted to a sick soil in an attempt to remedy the imbalances of minerals and organic matter in the soil. Insects are attracted to sick crops as one of nature's methods to eliminate sub-standard plants. Germs and viruses are attracted to sick animals (and humans), to recycle inferior products.

The key to good health is not in a bottle of vaccine or antibiotic but in good nutrition and common sense holistic management of the environment.

Sir Albert Howard — A Pioneer

May 19, 2015



Sir Albert Howard, an Englishman, is known as The Founder of Modern Organic Agriculture. In 1940 he published a book entitled "An Agricultural Testament" detailing his research on composting as a method of increasing soil fertility.

On the research farm, in Indore, India, his work animals were fed with fresh green fodder, silage, and grain, all produced from fertile land. None were segregated and none were vaccinated. His oxen often came in contact with diseased stock suffering from diseases such as rinderpest, septicemia, and foot-and-mouth disease.

Sir Albert wrote: "I have several times seen my oxen rubbing noses with foot-and-mouth cases. Nothing happened. The healthy well-fed animals reacted

to this disease exactly as suitable properly grown varieties of crops did to insect and fungus pests -- no infection took place."

A favorite quote typifies his findings: "The health of soil, plant, animal and man is one and indivisible."

Sir Albert's book inspired J. I. Rodale to begin publishing the magazine *Organic Gardening and Farming* which was a powerful influence in the early organic movement in this country.

Mineral Recommendations For One Cow

May 26, 2015

I was recently asked to recommend a mineral feeding program for one cow. Not as easy at it sounds. There are many variables to consider and some of those variables change from day to day.

While the optimum mineral program would be to provide the full array of Advanced Biological Concepts cafeteria style mineral program, it is not always feasible for one cow.

Here is a basic starter program.

First of all, provide a way for the animal to self-adjust the critical Calcium:Phosphorus ratio. ABC's Dairy 2:1 Mineral is a good source of Calcium and some other minerals. It can be fed free choice. Adding a self-fed source of Phosphorus such as ABC's P-Mix provides the opportunity to adjust the Ca:P ratio.

Always have plain white salt available.

Free choice kelp should also be fed as it is an excellent source for all trace minerals. Feeding kelp free choice is sort of a diagnostic ploy, as excess consumption of kelp for over 4 to 6 weeks may indicate a deficiency of one or more trace minerals.

Eating dirt or chewing on wood are also indications of a mineral imbalance. The occurrence either of these two signs and/or excess kelp consumption would be a good indication to provide ABC's 15 item Diagnostic Kit.

For more background information on feeding minerals check out:

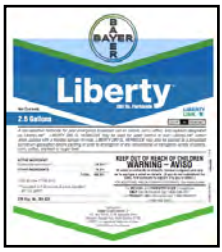
http://www.dochollidaysblog.com/article-index/let-your-animals-balance.html

http://www.dochollidaysblog.com/article-index/cows-eating-dirt.html

More Technology Not A Fix For Flawed Technology

June 2, 2015

The USDA recently approved new GM soybeans and crops resistant to the effects of the Bayer's Cambria herbicide. This follows the previous approval of GM soybeans and corn tolerant of the old 2,4-D herbicide. Also up for EPA approval is Monsanto's newest herbicide containing both Dicamba and glyphosate. (This is, in itself, a step backwards as glyphosate was originally said to replace the old, more toxic herbicides. Remember Agent Orange from the Viet Nam era.)



While these latest examples of USDA's allegiance to the biotechnology industry are touted as the next generation of herbicide-tolerant crops the truth is these steps were taken to address the problem of herbicide resistant weeds which highlights the abysmal failure of GMO and glyphosate technology.

This is only one of the many examples of the failure of any bio-technology ignoring natural principles. The answer to the breakdown is not to add on more of the same but to return to systems that did work and look for more appropriate and common sense answers.

Check the labels! I am always suspicious of any product with a Health Emergency telephone number on the label.

Everything Has To Go Someplace

June 5, 2015

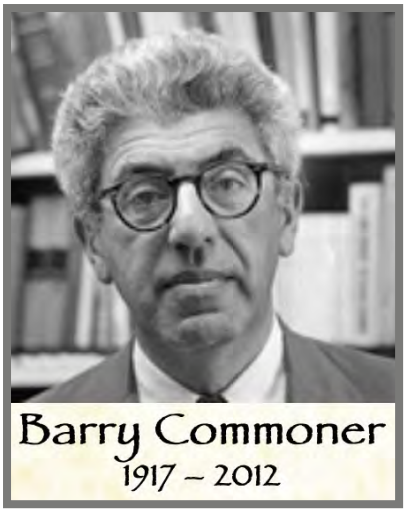
I note that Des Moines, Iowa is experiencing its normal springtime bout with nitrates in the Raccoon River from whence it obtains its water. This is a decades old problem beginning after WW II when highly concentrated nitrogen fertilizer first became available. The immediate problem is caused by drainage of nitrate-laden ground water from over-fertilized farms draining into the field tiles, ditches, and tributaries flowing into the river.

The city is required to lower the nitrate level in drinking water to 10 milligrams per liter. This is an expensive process and will cost an estimated $1 million or more for the year 2015.

It probably costs the farmers even more as nitrogen fertilizers are expensive to buy and apply, only to have them leach away and become unavailable for plant growth. Their appearance in the water supply exemplifies one of Barry Commoner's Four Laws of Nature —"Everything has to go someplace".
The water works board has filed a lawsuit against drainage ditches in three northern Iowa counties demanding mandatory nitrate reductions rather than voluntary actions. Farm leaders argue more time is needed.

My view (and I know it's utopian) is that implementing a system of alternative or organic agriculture would go a long way to resolving this problem as well as providing a myriad of other benefits to farmers, consumers and cities alike.

Barry Commoner - The Paul Revere of Ecology
June 10, 2015



Barry Commoner was an American biologist, college professor, politician, and a leading ecologist among the founders of the modern environmental movement.

In 1970, the year of the first Earth Day, Time magazine put Dr. Commoner on its cover and called him the Paul Revere of Ecology.

His 1971 bestselling book '*The Closing Circle'*, was one of the first to bring the idea of sustainability to a mass audience.
His book listed four laws of nature.

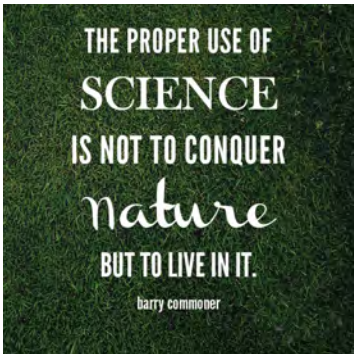
1.sk Everything is connected to

everything else. There is one ecosphere for all living organisms and what affects one, affects all.

2. Everything must go somewhere. There is no "waste" in nature and there is no "away" to which things can be thrown.

3. Nature knows best. Humankind has fashioned technology to improve upon nature, but such change in a natural system is "likely to be detrimental to that system"

4. There is no such thing as a free lunch. Exploitation of nature will inevitably involve the conversion of resources from useful to useless forms.



These laws have never been repealed and are still in effect even though mostly ignored by our modern, so called, scientific community. As a society, it would behoove us to pay more attention to these laws of nature.

Shark Deaths vs. Iatrogenic Deaths
July 10, 2015

The recent spate of shark attacks on the East coast attracted lots of attention by the press even though the average number of people killed by sharks is only about one a year. The press also noted one death by alligator in Texas—also about average. Other reports indicate bears kill about 1 person per year, Venomous snakes and lizards kill 6 people per year: Spiders 7: Cows 20: Dogs 28: Other mammals 52: Bees, wasps and hornets 58. If you add all this up, you have a grand total of 174 animal-related deaths—a not insignificant number.

But, consider this; statistics published in the Journal of the American Medical Association indicating 'iatrogenic' (Doctor caused) deaths account for more than 225,000 fatalities per year. This makes the medical/pharmaceutical profession the third leading cause of death in the US, after heart disease and cancer. This astounding fact was not reported in the mainstream press.

To put that into perspective—if one 747 Jetliner with 600 passengers aboard crashed and burned every day for a year the result would be about 219,000 deaths.

The question is: If that happened, would the same number of people continue to make airline reservations as they now make appointments to see a Doctor?

Two Thought Provoking Quotes

August 31, 2015

"The commercial purpose of GMOs is not to feed the world or improve farming. Rather, they exist to gain intellectual property (i.e., patent rights) over seeds and plant breeding and to drive agriculture in directions that benefit agribusiness. This drive is occurring at the expense of farmers, consumers and the natural world."

Jonathan Latham, Executive Director
The Bioscience Resource Project, Ithaca, NY.

"Future historians may well look back and write about our time, not about how many pounds of pesticide we did or did not apply; but about how willing we are to sacrifice our children and jeopardize future generations with this massive experiment we call genetic engineering that is based on false promises and flawed science, just to benefit the 'bottom line' of a commercial enterprise."

Dr. Don M. Huber, Professor Emeritus, Purdue University

Formulating Equine Rations

August 2, 2015

The other day I was asked about a basic ration for an average horse using average ingredients, a task not as simple as it would appear at first glance.

It's not too difficult to formulate rations for swine or poultry. Their nutritional needs are relatively simple and there is little variation in their environment. Then too, they have a relatively short lifespan.

Dairy cattle rations are a little more complex. There is a wide variation in forages used. Dairy nutritionists are successful in wringing out exceedingly high milk production. The downside being the average dairy cow lives less than four years and 50% of those calving do so with an infectious or metabolic disease.

The horse, however, is a complex and often enigmatic creature with a markedly different set of parameters associated with balancing a

ration. Even so, it isn't difficult to formulate a basic ration for an individual horse—on paper.

Don't overlook the fact that horses evolved in a desert environment and need high density–low moisture forages for ultimate health. Kept in a stall for 23 hours a day and fed a fancy high protein ration with alfalfa hay as the only forage and soy as the main protein supplement is not conducive to optimal health.

The following three links will take you to equine ration calculators. These programs will enable you to input pertinent information about the horse as well as nutritional data about the feedstuffs you plan to use.

http://nrc88.nas.edu/nrh/
http://www.horsemath.com/horse-feed-calculator
http://equimed.com/health-centers/equine-feed-calculator

You can use numbers from a laboratory feed analysis of your own feeds or input averages for many different feeds available on a chart from Feedstuffs Magazine (Go to feedstuffs.com, scroll down to and click on Feedstuffs Reference Issue 2015. Download the file "Feedstuffs_RIBG_Ingredient Analysis Table 2015.pdf"). Once you have entered the basics, you can fine-tune the ration by adding appropriate sources of minerals, protein or energy.

Managing the day-to-day vagaries of your horse's nutritional needs is an art more than a science and cannot be made by a computer. It requires a personal touch or a personal involvement; sort of like described over 2000 years ago by Cato the Elder in his treatise entitled "De Re Agricola"; "The master's eye doth fat the ox, his foot doth fat the ground". I interpret this to mean that in order to have healthy and productive animals or crops the master must be personally involved in caring for both.

What are you really feeding?

September 9, 2015

For a valid assessment of any ration one must consider you are actually dealing with 5 different rations. This is especially true of TMR's (total mixed rations) for dairy cattle but also applies to other livestock including horses. The five different rations are:

1 The ration printed out by the computer is the "Holy Grail" of many nutritionists and is considered to contain the final output of our

accumulated nutritional knowledge coupled with the latest chemical analysis of the feedstuffs involved.

2 This second ration is what actually goes into the mixer. It rarely matches the print-out as accurate measurement of ingredients amounts becomes more difficult as the size of the mix increases.

3 Number 3 is what is actually delivered to the feed bunk. If the ingredients are not properly mixed there will be different feeds delivered to different parts of the feed bunk.

4 What the cow actually eats depends on many factors. The 'pecking order' in a group of cattle interferes with uniform consumption. Many cows will 'sort' feeds, eating only the more desirable fractions.

5 The final ration is what the cow actually digests and assimilates into her system. This one may bear little resemblance to the computer print out but in reality is the only one that counts.

Incongruity of the Day

October 13, 2015

According to the U. S. Food & Drug Administration,
there is no distinction between GMO and non-GMO.

- but -

According to the U. S. Patent Office,
GMOs are awarded patents because
GMOs are substantially different
than non-GMOs.

Go Figure!

Cholesterol

October 28, 2015

During my annual physical checkup yesterday I was admonished by a young Nurse Practitioner that my cholesterol was a little on the high side and I should avoid foods such as red meat and egg yolk. I told her egg yolks contained substantial levels of lecithin which compensated for the cholesterol. She allowed that she had never heard of anything like that; which is consistent with the abysmal state of nutritional education in our medical schools today.

I explained to her that when individual fractions were separated out of a natural product they could have adverse effects because they lacked the protective factors inherent in the whole product. Nature designed foods to be eaten as grown; and as fresh as possible. It can be troublesome to our health when we deviate from this principle.

A good example of this principle is the compounding of traditional Chinese Herbal formulas. Each formula has at least three herbs: a Master herb containing the main activity, a helper herb to enhance the activity of the Master herb and another helper herb to counteract any adverse effects of the Master herb. We could probably take a lesson from this as we plan our dietary menus.

Cholesterol is not all bad. It is, after all, a necessary component for life. For example, there is a strain of Holstein dairy cattle with a genetic defect called Haplotype for Cholesterol Deficiency (HCD). Calves homozygous for this gene have no cholesterol and live only a few months.

I'll continue having my usual breakfast of two or three scrambled eggs with Tabasco hot sauce.

Aberrant Animal Behavior

November 11, 2015

Laying hens (especially the common Leghorn breed) raised in confinement (housed but not caged) had the reputation of being nervous and flighty. It was common practice to knock on the door before entering the poultry-house. Suddenly entering the facility without this advance warning would alarm the birds and the flock would rush to the opposite end of the building. They would often pile up and some birds would die of suffocation. It would affect egg production for several days. Funny though: some canny poultrymen would add ground up coal or humates to the ration and the birds would settle right down and become calmer and more content, obviating the need to knock before entering.

Groups of pigs raised in confinement often begin chewing on one another's tail—tail biting. It's not

known why they do this but some speculate boredom or some sort of nutritional deficiency. It's probably a combination of the two. Conventional remedy goes something like this—"Let's cut off their tail when they are young so they have no tails to bite." Funny though: pigs raised with adequate protein and balanced minerals seldom engage in tail biting. Unfortunately, once they start this habit they will usually continue the vice even after conditions or nutrition improves.

Chickens in confinement have a similar problem—head pecking—also thought to be caused by confinement boredom or poor nutrition. Conventional remedy; "If you cut off the top beak they can't peck on each other." Funny though: if you feed them well and give them a little space they rarely pick up this vice.

The common thread to all of this is that malnutrition, dietary mineral imbalances and close confinement leads to all sorts of strange social behavior in animals. I believe this holds true for us humans as well. With much of our population crowded into stifling cities and subsisting on food with low nutritive value and high levels of toxic chemicals - is it any wonder crime and aberrant social behavior are rampant in our society?

Taking away our guns, the equivalent of debeaking–or enforcing political correctness, commensurate to tail amputation will not fix the problem.

Perhaps we need to add some coal dust or its mineral equivalent to our human diet. So say I, what say ye?

Flaxseed for Horses

November 28, 2015

The other day I was searching the Internet for information about cyanide poisoning in horses. I googled 'cyanide poisoning equine' and got 3,490,000 hits. It's safe to say one could find a wide variety of research to support any point of view on the relative toxicity, if any, of cyanide to horses. It brings to mind the old adage about even the Devil being able to quote scripture to his advantage.

Actually, I was trying to find information about any problems with feeding soaked flaxseed or linseed to horses. Freshly ground flaxseed is commonly fed to horses as a good source of omega-3 fatty acids. Uncooked seeds do contain small amounts of cyanogenic glycosides and enzymes that allow the glycosides to release cyanide. It's not a problem, though, because any glycosidase enzymes thus produced are

rapidly destroyed in the stomach and small intestine before they can trigger cyanide release. So, horse owners wanting to take advantage of flaxseed's omega-3 fatty acid content can rest easy when horses are fed raw flaxseed.

Some horses experience digestive problems from the accumulation of sand in the large intestines. (Yes, this actually happens - Veterinarians have reported cases where up to 50-60 pounds of sand were found in the right dorsal colon.) Soaked flaxseed is often used to treat this condition as it releases a viscous gelatinous substance able to trap the sand so it can be eliminated from the body.

If a person still has concerns about feeding flaxseed they can replace it with soaked psyllium seeds, which also aids in removing sand but have a different omega-3 content.

Cattle Calls

December 10, 2015

I read where a couple of scientists at the University of Nottingham and Queen Mary University of London have recorded proof cows and calves actually ‘talk’ to each other, thus exploding the myth they are "dumb" animals, lacking consciousness or feelings.

Using highly sensitive audio equipment, extensive recordings were made of the vocalizations of cows and calves. Analysis of the data took a year to complete.

Dr. Monica Padilla de La Torre, who led the research, summarized the findings thus; ”The research shows for the first time that mother-offspring cattle 'calls' are individualized—each calf and cow have a characteristic and exclusive call of their own. Calves calling out to their mothers had three types of individualized calls enabling mother cows to identify which calf was calling.”

I’m all for valid research that sheds light on the world we live in, but, in this instance, I take exception to the statement; “Research shows for the first time that mother-offspring cattle 'calls' are individualized”.

In the late 1930s, my Uncle Gustave taught me that same basic concept by pointing out how each calf would easily pair up with its

dam. I'm guessing this knowledge was also available to ancient herdsman soon after cattle were first domesticated over 8000 years ago. Any observant person that works with animals—livestock, horses, or pets—will soon realize they are sentient beings.

I'm curious to know how much this research cost.

A Unique Oral Vaccine

December 21, 2015

In the wake of a devastating epidemic of Porcine Epidemic Diarrhea virus (PEDV) a couple of years ago, swine producers are now successfully using a not so new technique to build immunity in their herds. They are deliberately exposing swine to the virus by adding the remains of infected baby pigs to the feed.

While distasteful to some, this mild exposure of the healthy animals results in a specific, long lasting immunity and is actually a pretty good way to stimulate immunity and lower the risk of future outbreaks.

Many view this practice as new and innovative but the concept is based on the principle that exposure builds immunity—an idea originally promulgated in the 1800s by early scientists such as Edward Jenner, Louis Pasteur, Robert Koch and Rudolf Virchow.

Equine Dehydration

December 29, 2015

Dehydration in horses may be caused by an imbalance of the primary electrolyte ions: sodium, chloride, potassium, calcium, and magnesium. Heavy training, hot weather and decreased consumption or availability of water may also contribute to the problem.

Signs of dehydration may include tying-up, muscle cramping, anhidrosis, Synchronous Diaphragmatic Flutter (thumps), or diarrhea.

Here is a quick and simple way to check for dehydration. Do a "pinch test" on the skin of the neck. Gently pinch, between thumb and forefinger, skin on the horse's neck and pull away from the body. When released, the skin should immediately return to its original position. Failure to do so is an indication of dehydration.

IONS™ Organic, produced by Advanced Biological Concepts, is an excellent source of the ions needed to avoid dehydration.

Check it out at: http://www.abcplus.biz/abc2.aspx?Id=Organic_Equine_Ions

Glucosamine and Equine Joint Health

December 30, 2015

Notwithstanding there is conflicting evidence regarding the use of glucosamine for the management of osteoarthritis in any species; glucosamine is a common ingredient in oral joint health supplements widely administered to horses with osteoarthritis. Their continued and successful use is a testimony to their effectiveness.

In a recent Canadian study by Laverty and colleagues, researchers compared the pharmacologic properties of two different forms of glucosamine--hydrochloride and sulfate. Test horses were administered clinically relevant doses of glucosamine hydrochloride or glucosamine sulfate (20 mg/kg) via nasogastric intubation.

At one and six hours after administration, they found significantly higher levels of glucosamine in synovial fluid samples from horses receiving the oral glucosamine sulfate than in those receiving glucosamine hydrochloride.

Laverty pointed out it is not clear whether these differences in synovial fluid levels will have a real, clinical impact on horses with osteoarthritis. Further research is required.

Learn more: http://www.thehorse.com/articles/20792/glucosamine-and-joint-health-pharmacologic-research-ongoing

A Better Dry-Cow Treatment

February 5, 2016

At a recent meeting of the National Mastitis Council (NMC) one of the discussion groups zeroed in on dry cow treatment. It was pointed out that although blanket dry cow antibiotic therapy was still recommended by NMC, and still allowed in the US, it was no longer acceptable in some countries because of ever more restrictive regulations.

Among the alternate strategies discussed were: taking a more whole-farm approach to prevention and restricting treatment to only the infected quarters as revealed by culturing.

Here is a better idea—a four-step program relying on the physiology of the bovine beast.

When it's time to dry off a cow just quit milking her. A cow must have a tight udder for five or six days for her hormonal system to get the message to

quit producing milk. Milking her out to relieve the pressure and discomfort before this time is up only prolongs the process.

- After five or six days, when the udder swelling begins to recede, sanitize the teats, and milk out some milk. Normal appearing milk indicates a healthy udder. If this is the case, completely milk-out the udder, sanitize the teats and rejoice in the knowledge that for now at least the udder is healthy.
- Occasionally at this time the milk will show abnormalities such as chunks, clots, watery, slimy, bloody streaks or anything not looking like normal milk. In that event, milk out the udder, begin your treatment of choice and rejoice that you have discovered the problem before it gets worse.
- Continue the treatment, check the milk and strip out the udder every few days for as long as necessary to clear up the problem. If you let her go completely dry while she has an infection, she will almost certainly have the same problem when she freshens.

I realize these procedures go against the grain of most dairy advisors. I am under no illusions that many will try this method. I do know the cows owned by the brave souls who do try it will greatly benefit.

Organic vs. Conventional: A Perennial Debate

February 15, 2016

An article in the journal *Nature Plants* claims organic foods contain less—or no—pesticide residues, compared to conventionally grown crops. On the other hand, a USDA report says 40 different synthetic pesticide residues were detected in organic food samples at levels similar to those seen in comparable conventional food samples. It's hard to know who to believe.

Pesticide contamination in organic crops is often attributed to accidental spray drift or cross-contamination in harvesting and storage bins. That may be true, but almost a quarter of the chemicals detected were insecticides banned for decades.

It helps to consider these 2 points.

- ✦ The term "organic" only designates food produced in soils without chemical exposure for a minimum of 3 years. There is a great variation in the amount of previous contamination.
- ✦ It takes years, decades, or maybe even centuries, for some of these chemical to degrade or to leach from the soil.—during which time the residues continue to contaminate crops.

Given the choice, I would prefer produce from a long-term organic farm to that from one barely meeting the 3 years requirement.

A last word of comfort: the USDA stated in either case the residue amounts are too small to be a health or safety concern.
If you believe that, well . . .?

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Accidental GMOs?

March 18, 2016

A couple of scientists -- one from Rutgers here in the US and one from the Max Plank Institute in Germany—have extensively studied plant grafting. They found some grafted plants could exchange chloroplasts, organelles that carry out photosynthesis and also mitochondria, energy-generating organelles – across the grafts.

They point out that farmers have been altering plants for thousands of years by grafting branches bearing delicious fruit into disease-resistant roots. They conclude that, since grafting has been widely used for millennia, it is an unintentional form of genetic engineering and we have accidentally been eating GMO's for centuries.

In my opinion, this is a thinly veiled attempt to legitimize the flawed "science" of genetic modification. Grafting fruiting branches of an apple tree to resistant roots is a far cry from irresponsibly mixing genetics from vastly different species.

I don't know what these guys are 'smokin' but they are now trying to use grafting to create new species, such as a tomato-chili pepper mix—which would undoubtedly be a great boon for mankind by making it easier to make salsa.

Who pays for this stuff?

Tools of the Trade

April 3, 2016

The other day when I had my van in for service, I noticed the fine array of wrenches and other tools available for use by the mechanic. Since I am a guy who feels fully equipped if I have more than one adjustable crescent wrench, I was impressed not only by the sheer numbers of the different tools but also by the specific applications for some of them. Given the necessary skills, the mechanic had all the tools he needed to take apart and reassemble the complex engines powering today's vehicles.

I remembered then some things I learned years ago from my good friend and veterinary colleague, Dr. Bob Scott. Bob had a unique way of looking at things and could translate complicated subjects into an easy to understand broad overview using simple analogies. Here is his view of the role of minerals in plants and animals.

Plants are made up of air and water. If you combine carbon, as from carbon dioxide, with oxygen and hydrogen (also from air or water), you have the basic building block of starch, sugar, or carbohydrates. Add nitrogen to this basic formula and you have an amino acid or a basic building block for protein.

If you burn a plant thus reducing it to ash you are left with the part of the plant that came from the soil -- usually around 5%. Therefore, 95% of the makeup of plants comes from air and water, combined by the sunshine generated miracle of photosynthesis.

Minerals are nature's "tools" that enable this process to proceed. They are basic to the enzyme systems that catalyze the storage of the sun's energy into the chemical bonds within the plant itself. The major elements are the big wrenches, and the smaller wrenches are the trace minerals. All are essential. Any deficiency or imbalance limits the production and the quality of the crops grown. If some elements are lacking in the soil, they will be lacking in the crop. If they are lacking in the crop, they will be lacking in the animal eating the crop.

When an animal consumes plants the same tools used by the plant to combine the CHO & N to store energy are needed to break down chemical bonds and release energy to power the metabolic processes of life and production. If the plant doesn't have enough built-in tools (minerals), extra tools must be provided. Most of our soils are so depleted in minerals it is almost a given that some mineral supplementation is necessary, especially to arrive at the high levels of productivity we strive for today. Without the mineral tools, proper digestion and assimilation of the energy in the feeds simply does not take place.

Even without computers, animals are smarter than man when it comes to balancing their individual needs for the elements of nutrition, especially the major, minor and trace minerals. Providing a choice in mineral supplementation allows the animals to pick the tools they need without being totally locked-in to only the tools recommended by the computer.

Most farmers probably wouldn't think much of a mechanic who tried to overhaul a tractor with a screwdriver, a pair of pliers, and a couple of crescent wrenches. Unfortunately, in their role as animal caretakers, some livestock men seem to think a cheap sack of high calcium minerals and a trace mineral salt block are all the tools needed by our livestock to utilize fully the energy stored in our feeds. They are wrong!

Yogurt for Livestock: Déjà vu, all over again!

April 18, 2016

It is well documented that antibiotics in livestock feed lead to the development of antibiotic resistant bacteria—a severe threat to human health. A researcher at Iowa State University is investigating the use of Lactobacillus acidophilus as an aid to reduce the use of antibiotics in livestock feed. Lactobacillus acidophilus is found in yogurt.

When I was just a kid, 75 years ago, I spent a lot of time on my Uncle Gustav's farm in Missouri. He and Aunt Anna seasonally milked eight or ten cows—by hand. The milk was 'separated' and the cream was sold to a company in St. Louis.

The skim milk quickly went "sour" as a result of the naturally occurring Lactobacillus acidophilus. He fed the clabbered milk to his pigs and chickens. They were all productive and healthy.

In the 1960s I started using and recommending lactobacillus products in my veterinary practice. I used a product called Kulactic - from a company in Mason City, Iowa. I prescribed it for diarrhea and other intestinal problems in animals and sometimes even in humans. Some folks ridiculed the idea, but those using it liked the results.

Commercial Lactobacillus products have been available for at least 50 years. I wonder why the universities waited so long to research a natural product. I'm guessing they were caught up in the antibiotic craze and totally enthralled by the lavish amounts of grant-money available for antibiotic research.

It is gratifying to see university scientists finally taking a look at the empirical technology of a bygone era.

Kudos to these researchers.

New Monsanto Technology

April 28, 2016

Monsanto says their people and Harvard University scientists have come up with yet another way to kill pesticide resistant pests. They claim they can use something called PACE (phage-assisted continuous evolution) technology, to quickly identify proteins having superior

properties to kill pests. Since this new method is 100 times faster, they hope to subdue the resistant pests before the culprits develop even more resistance. Good Luck, Monsanto. The bugs and weeds have outfoxed you at every turn so far. I bet they will do it again.

Their press release did not address the probability that newly identified "killer" proteins could and would probably have deleterious effects on other organisms besides the targeted species. Biological overkill has happened before. Will these new toxins be any different?

One of their spokespersons said they wanted to help the farmer get the most out of every acre. Why don't they do research to try to grow toxin-free food on every acre and bring safe, healthy food to the consumer?

I guess you have to give Monsanto credit, though. They are persistent. They keep trying to fleece the public even while their empire is in a tailspin with sales down over 25 percent and most of Europe trying to kick them out.

Professional Evolution

May 17, 2016

Over the last 60 years, in my progression from conventional veterinarian to holistic veterinarian, I have advanced through three ascending levels.

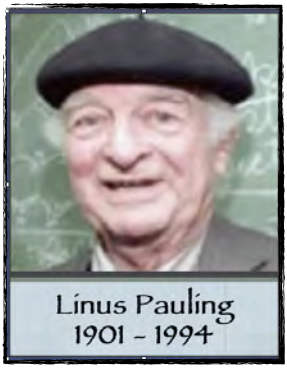
While in conventional veterinary practice, I was oft engaged in ripping ovaries out of dogs and cats, relieving horses, cattle, and pigs of their testicles, and dehorning cattle. When I was called to treat sick animals, I used conventional drugs which hopefully alleviated the symptoms but did not attack the cause. After about 15 years, as my awareness of holistic principles grew, I realized I was more of a drug pusher than a doctor. I was using pharmaceuticals to cover up symptoms caused by mismanagement or gross ignorance.

When I began working for the Impro Company, it was a step up. I had more opportunity to teach natural principles of animal health. But, I

was still recommending products to treat the symptoms—now with natural products instead of drugs.

My affiliation with Advanced Biological Concepts gave me the opportunity to teach and to recommend products and management strategies supporting animal health on the most basic level—balanced cellular mineral nutrition.

Working with the folks associated with ABC has been the high point of my veterinary experience. I am thankful to have had this opportunity and will be forever grateful to Jim and Gwen Helfter for providing it.



Linus Pauling was the only person to win two unshared Nobel Prizes. He said; "You can trace every disease and every infection to a mineral deficiency from unequally yoked energy fields."

Adaptation Curve

July 17, 2016

On one of our recent trips, we drove past a large confinement dairy. My wife, Ruth, opined that those poor cows probably never had the chance to eat grass in a pasture. She was correct. Organic dairies require some access to pasture but others do not. Some dairy cattle can spend their entire short lives eating only the ration prepared for them.

It's ironic though, if cows that have never grazed are suddenly turned out on pasture, they generally do not do well—at least for a while. The cows have to go through what Dr. Fred Provenza calls an "adaptation curve"—a variable time period of higher stress and lowered productivity while they adjust to the new situation. In other words, it takes a while for them to learn how to eat grass.

I believe recognizing adaptation curves is an essential part of a holistic outlook. Here are a couple of examples.

Feed flavors derived from what Mom eats are present in the amnionic fluid surrounding unborn calves and in the colostrum milk consumed by newborn calves. Newborn calves are slow to eat feeds whose flavors do not match those previously encountered. If a

dairyman wants to get his baby calves off to a good start, he should make sure the mother cow's ration in late pregnancy contains some of the ingredients (for the feed flavors) that will be present in the ration first offered to the calves. This avoids the unwanted effects of the adaption curve.

Individual cows and groups of cattle moved from one farm to another experience an adaptation curve. The stress of moving can exacerbate dormant health and production problems.

Anticipation of these effects and timely remedial action can be of great benefit.

The Semmelweis Reflex

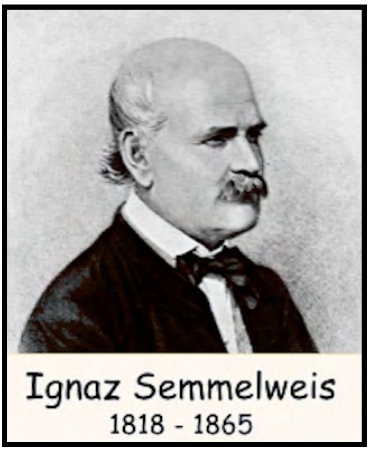
July 27, 2016

My friend and former colleague, Robert "Dr. Bob" Scott, DVM would often lecture students and scholars alike about the importance of seeing everything you look at. This is a corollary to the scriptural admonition found in Matthew 11:15; "…he that hath ears to hear, let him hear."

Laying aside any spiritual (or political) aspects of that concept, what are some things that we commonly look at but do not see?

One example; in spite of a broad array of research revealing evidences of animal intelligence, most livestock owners still scoff at the notion that our domestic animals have nutritional wisdom. Perhaps, they equate the eating behavior of animals in a CAFO with that of relatively unconfined animals allowed at least a modicum of choice to satisfy their individual needs for energy, protein, fiber, and minerals.

When promoting the benefits of cafeteria-style mineral feeding, I am often reminded of Dr. Ignaz Semmelweis, a mid-nineteenth century Hungarian physician who practiced in a birthing clinic in Vienna.



Appalled by the high incidence of, the often fatal, childbed or puerperal fever in his patients, Dr. Semmelweis developed techniques that lowered the incidence from over 30% to less than 5%. When he strongly suggested his colleagues at the clinic use the same technique, they ridiculed the idea. Dr. Semmelweis accused them of being murderers if they did not implement his procedures. The strife escalated. A preconceived concept of reality coupled with professional arrogance did not allow the other doctors to see what they looked at. Dr. Semmelweis was eventually committed to an insane asylum and was beaten to death by the guards.

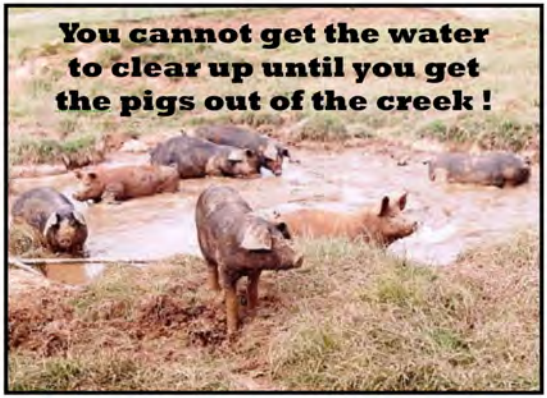
Oh, I almost forgot! The earth shaking sin Semmelweis advocated was that doctors should wash their hands between examinations of obstetrical patients in the clinic.

In spite of all this, Dr. Semmelweis' legacy is to be remembered as the ***Savior of Mothers*** and for the Semmelweis Reflex, a metaphor for the tendency to reject new evidence or new knowledge because it contradicts established norms, beliefs for paradigms.

When does your Semmelweis Reflex kick in?

An Apolitical Political Statement

August 31, 2016



A Case Study

September 7, 2016

One of our ABC consultants called me the other day with a problem. One of his client's buffalos had died. The Vet did some blood work and reported low iron, copper and selenium levels.

The entire herd—over 100 head—was on the cafeteria-style mineral program. The customer wanted to know which of our products to add to overcome these deficiencies.

Whoa! Back up the truck. Blood analysis from one animal that died of unknown causes is not a good reason to change the mineral program.

Many disease conditions, not necessarily related to mineral consumption, can cause aberrations in blood mineral levels. I'm skeptical of the value of a single blood analysis to gauge mineral levels. A blood test is like a 'snapshot picture'; it shows only the immediate, transient situation. Hair analysis gives a better indication of mineral balance over a period of time.

The first priority in this case would be do get an accurate diagnosis of the cause of death. I doubt the animal died of a mineral deficiency, as the rest of the herd appeared healthy. Iron deficiency is rare in animals. In fact, many minerals contain an excess of iron, which ties up copper, cobalt, manganese, and zinc. High iron in the water can also be a problem.

There appears to be some issues with their water. The owner reported the animals preferred rainwater out of puddles to the well water. Excesses of some minerals in the water could tie up other minerals.

It would be interesting to know if they were feeding other mineral products and if the minerals were always available to all animals or if some were consumed and not replenished in a timely manner - especially Copper and Selenium.

I don't know how all this will evolve until all the facts are assembled, which may not ever happen. However, the situation should encourage us to not only ***"see everything we look at,"*** (previous blog post)***, but to also look for solutions beyond the obvious.***

Feedstuffs Analysis

October 11, 2016

The ***Feedstuffs*** magazine I received recently contained the Feedstuffs Ingredient Analysis Table: 2017 Edition. This summary is published every year and contains basic nutritional data on most commonly available feedstuffs. I knew I had the 1977 Edition in my files and surmised that a comparison of some of the data would be interesting. Little did I realize it would raise more questions than it answers.

Here is a comparison chart of three common feedstuffs.

Selected Feedstuffs change from 1977 to 2017

	Crude Protein	Ruminant Digestible Protein	Ash	Ruminant TDN	Calcium	Phosphorus
Alfala Meal1977	20	14	10.5	58	1.5	0.27
Alfalfa Meal 2017	20	14	10.5	58	1.5	0.27
Corn, Grain 1977	8.9	5.8	1.5	80	0.01	0.25
Corn, Grain 2017	7.5	5.8	1.1	80	0.01	0.28
Wheat, Hard 1977	13.5	10.9	2.0	76	0.05	0.41
Wheat, Hard 2017	10.9	10.9	2.0	76	0.05	0.41

I anticipated there would be some changes in nutritive value, but found only four in this admittedly small sample.

- There was a 10 percent increase in phosphorus levels in corn.
- There was a 16 percent decline in crude protein in corn.
- There was a 19 percent decline in crude protein in wheat.
- There was a 27 percent decline in ash or mineral content in corn.

The most astounding thing to me was the absence of change. In 40 years, the analysis of dehydrated alfalfa meal was exactly the same — ditto for all the rest of the data in the chart.

Specifically, I am curious to know how crude protein in corn and wheat can decline 16 to 19 percent respectively and the ruminant digestible protein not vary at all?

I know there could be some difference because of changes in analysis techniques and I know they are averages—but almost everything being identical after 40 years makes me suspicious of the validity of this data. If at all possible, we should rely on individual testing of any feedstuffs included in our livestock rations.

Selective Dry-Cow Treatment

October 20, 2016

Many folks in the dairy industry are beginning to question the almost universal practice of dry-cow treating all their cows with intra-mammary antibiotics. This is done in the hope that it will cure existing cases of subclinical mastitis and to prevent new cases from occurring at calving.

Probably the main reason for this change in thinking is the growing evidence that antibiotics used in livestock can result in antibiotic resistant strains of bacteria difficult to treat in humans.

It doesn't take a rocket scientist to figure out that one way to reduce antibiotic exposure is to only treat the animals needing treatment. Duh! Research has indicated as many as 70% to 80% of quarters are not infected at dry-off, and thus may not require dry cow therapy.

The key to selective dry cow therapy is to identify the cows and quarters needing treatment. There are several options recommended to accomplish this, including: The California Mastitis Test (CMT), somatic cell count (SCC) tests, veterinary lab culturing of milk samples, and using on the farm culturing labs. The sensitivity rate of these procedures varies from 50% to 90% accuracy.

All of this costs time and money. The University of Minnesota has estimated the payback for selective dry-cow therapy is $2.62 per cow.

For dairymen who are unable or unwilling to do this, there is a tried and true, low-tech way to identify the infected cows. When it's dry-off time quit milking the cow. It takes five or six days for the cow's hormonal system to switch from milk production to no milk production. After this five or six days, sanitize the udder and milk out some secretion. It should look like regular milk—maybe just a little darker or thicker. Any abnormal signs in this secretion—watery, clotting, bloody, snotty, off color, bad odor—is an indication of infection necessitating the treatment of that quarter. Whether the milk is normal or not, a good practice is to milk out all quarters at this time to aid in the involution of udder tissue.

Conventional dairymen will probably treat affected quarters with antibiotics. It is also recommended to infuse teat sealants into all

quarters—a procedure that can introduce infection into the unprotected mammary gland.

Holistic or organic dairymen have more choices; colostrum-whey products, herbs, homeopathy and others. If using these products. it is best to check the milk every four or five days and treat again if indicated. This method supports and enhances immune response and works with the innate physiology of the animal. These treatments generally work well in animals whose immune system is not already greatly compromised by stress, malnutrition, or exposure to toxic agricultural chemicals in their environment.

Laboratory Testing for Trace Minerals

October 25, 2016

An article in a recent issue of a prominent dairy magazine dealt with the problems of trace mineral deficiency diagnosis. One of the problems associated with testing for trace minerals is that some are found in the 'transport pool' in the blood and other are in a 'storage pool' in the liver.

Unfortunately, serum concentration of most trace minerals can vary for many reasons, including; pregnancy, lactation, inflammation, weather, etc. Bioavailability can also be affected by the presence of mineral antagonists.

The author pointed out there are new testing techniques available that are sensitive and accurate. Samples of blood, serum, liver tissue, milk, and urine can be tested, but databases of 'normal' parameters are lacking.

With so many variables involved, I am skeptical of blood testing for mineral content. It may be extremely accurate, but is, at best, only a 'snapshot' of what is happening at that particular instant in time. Hair analysis would provide a broad panorama of mineral metabolism.

As I read the article, it seemed that laboratory diagnosis of trace mineral imbalances was a daunting task and not all that accurate. Applying the results of individual or small group testing to large groups negates any allowance for individual variation in mineral needs. Force-feeding a computer-generated mineral ration has a good chance of adding to the problems rather than reducing them.

There is, of course, a better way. Take advantage of the animal's innate nutritional wisdom, and provide a broad array of individual minerals for their individual evaluation. It's the natural way—and it works.

Personality-Plus Pigs

November 17, 2016

Researchers in the UK claim to have demonstrated the outlook of pigs is influenced by their mood and personality.
The test pigs had access to two different feeding bowls—one with sweet feed (representing a positive outcome) and one with bitter feed (a negative outcome). The reactions of these pigs were observed when a third "ambiguous" bowl of feed was introduced and then classified as proactive/optimistic or reactive/pessimistic.

One of the researcher's opined: "Pigs living in a worse environment were more pessimistic, and those in a better environment were much more optimistic". The details of how these assessments were made seemed vague and did not specify what constituted a "worse" or "better" environment.

It is an intriguing concept. I know pigs are smart—maybe the smartest of all our domestic animals. The idea that pigs have personalities and moods and experience optimism and pessimism is a little bit of a stretch. But, I do believe most animals are smarter than we give them credit for.

If research like this continues and becomes part of the animal rights movement it might open up many new avenues for the practice of veterinary medicine.

I can see it now—large pig farms and perhaps even dairies and feedlots would be required to have veterinary psychiatrists on staff to identify and alleviate the physiological stresses of domestic animals. Pig Shrinks? Cow Shrinks? It boggles the mind!

Many years ago I explored the possibility of starting a canine psychiatry practice — but then I realized most dogs aren't allowed on the couch. <VBG> Very Big Grin

To read more about this fascinating report, check out:
http://feedstuffs.com/story-mood-personality-affect-decisions-pigs-171-149410-nl_88_nlr_108?utm_source=newsletter&utm_medium=email&utm_campaign=17+November+2016&YM_RID=214220387

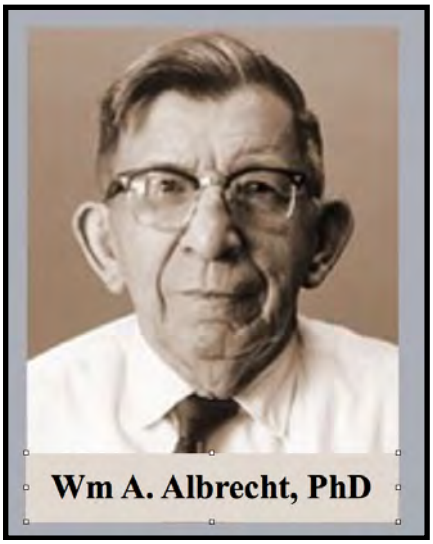
Why Organic?

December 12, 2016

Kudos to the staff of Acres, USA for another great conference held at Omaha Nebraska from November 30 to December 2. It was gratifying to see and visit with old friends and acquaintances we have known and worked with for many years. It was inspiring to feel the positive energy of the group. It is enlightening to visit with folks who have been involved in the organic movement as well as those just getting started.

When meeting new folks at these meetings I like to find out what prompted them to join the organic crusade—what was the turning point or the catalyst that influenced their decision.

As you could imagine, the answers to my questioning are varied, fascinating, and covered a wide spectrum. Many of the younger set grew up on an organic farm. Some folks made the switch because of bad experiences with toxic farm chemicals. A common thread is the concern about the quality and purity of our food supply. Most are committed to the concept, originally promulgated by Dr. William Albrecht, that it takes healthy soil to have healthy crops, and healthy crops to have healthy animals and people.



Unfortunately, some admit to being in the organic market just for the extra money. I believe this to be the least desirable reason. Without a strong dedication to basic natural principles it is easy to 'fall out of the boat' when financial tides get a little rough.

I can remember back in the early 1970s when I first encountered what we now call "organic" producers. Many of these old-timers were 'organic' because they had never bought into the NPK fiasco and its related rescue chemicals. Some tried chemical farming for a while and then quit early on as they saw the deleterious effects on soil, crop, and animal health. The lower inputs and increased animal health experienced by these early natural farmers resulted in profitable enterprises even though they competed—without premiums—in the same market as conventional farmers.

Magazines such as *Acres, USA*, *Organic Gardening and Farming*, and *The Mother Earth News* were a great help to those transitioning to a better way.

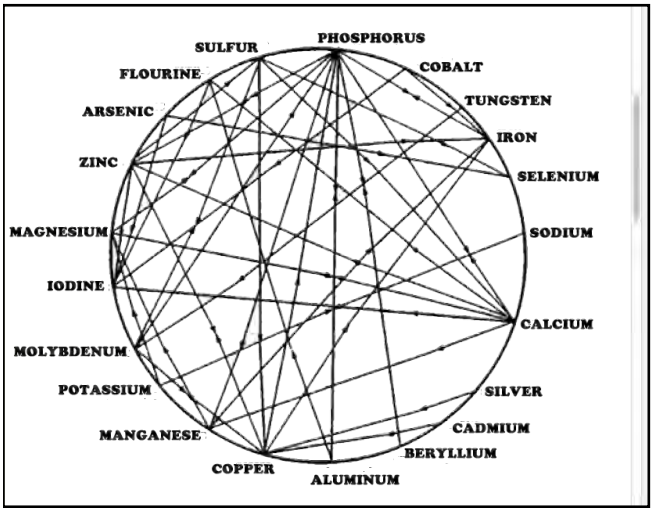
Why are you organic?

Minerals Are Team Players

December 20, 2016

A fellow approached me with a question about one of ABC's products. His nutritionist had recommended he add some B vitamins to his rations. He was wondering if the BVC-Mix would be suitable. I'm sure I shocked him when I told him that there were probably other and better choices. I went on to explain. BVC-Mix was not designed to be a stand-alone ration additive. It was formulated to be one part of a specialized group of minerals and vitamins to be separately self-fed to livestock in a cafeteria setting.

The BVC-Mix was specifically designed not only to provide a source of B vitamins but also to provide other ingredients that support the production of essential vitamins in the gastrointestinal tract of the target animals. It is part of the team with 14 or more other players. The players on the team, working together, supply balanced vitamins and minerals to the animals.



Consider Mulder's Wheel. This mineral wheel shows interactions of 21 minerals out of a total of 118 that have been identified. Any change to one element affects at least two more and each of those affects two more, etc. Deficiencies or excesses of some elements alter the availability of other elements. These are individualized with regard to what the animals eat on a daily basis and further modified by individual variations in daily requirements of each separate mineral. I doubt even a modern computer could sort it out; but an animal, with the help of a team of minerals and vitamins, can make the adjustment to its daily requirements.

What would happen if you pulled a couple of key players from a baseball or basketball team?

What would it sound like if you silenced every 12th instrument of a concert orchestra or every 12th singer in the Mormon Tabernacle Choir?

What would happen if you disconnected the wires from two or three of the spark plugs in the motor of a @1930's V16 Cadillac?

What happens to animals when they do not have the 12 or 15 member mineral and vitamin team available to them?

Go Team !

The Stable

December 23, 2016

I wrote this little essay in the early 1970s. It was published around Christmas time in the local newspaper, T***he Chillicothe Missouri Constitution Tribune***

In the summertime my stable hibernates. Its life-flow is at low ebb. Seemingly dead, it is kept barely alive by the flutter of swallow's swift wings, the scurry of mice, and the occasional intrusion of a stray cat. Except for these interruptions, its sleep is sound. The horses won't come in, for to them the summer stable means saddles, sweat, and separation from their beloved shade tree next to the pond in the upper pasture. The cattle stay away because…well, cows are beyond comprehension…they are very independent when their bellies are full of good green grass and their udders are full of sweet, rich milk to nourish the fat little darlings at their side.

Nature can change all this in only a few hours. Her tools are snow sleet, blizzard winds, and temperatures that drop as quickly as a skier on a steep, snowy slope. Science tells us that activities slow down as the temperature falls, but then they may never have visited a stable on the magic night of the first cold snap of winter.

Tonight was such a night. My stable was suddenly alive and I knew it even before I opened the door. I hesitated as I groped for the light-switch and stood in the dark for a moment or two to savor the scents and sounds of a stable returning to life. I listened to the soft whicker of remembrance as the horses acknowledged my entrance — my nose sensed the acid-sweet aroma of cattle's breath. Even the penetrating odor of fresh manure was a refreshing signal that life had returned. I turned on the light! The suspicious calves kept darting in and out, as if unable to decide if their dam provided security enough to protect them from the unfamiliar glare of lights. The older cattle were arrogant in their unspoken demands for something to eat besides the bitter, frosted grass in the now snow-covered meadow. The soft, brown, blinking eyes of the horses were almost apologetic as they begged for sugar, or oats, or anything to show that they were forgiven for a summer of rebellion.

It was good to have them back. After a pat for some, a soothing word for others, and a handout of feed for all, I started back to the warmth of my living room fireplace. The northwest wind was bitter cold. Even the normally boisterous Collies were well behaved as they pranced at my side. I think they sensed, as I did: "What a perfect place a stable is for the Son of God to enter his Kingdom!"

It Costs Too Much!

December 29, 2016

People occasionally tell me they like the concept of the cafeteria-style mineral program but it costs too much. This automatically triggers my mental rebuttal —"Compared to what?"

When I have the chance to actually engage them in a conversation about price their responses range from a forceful; "I (or someone they know) tried, it but the animals ate so much of a couple of items it was more than I could afford" to a timorous; "Well, . . . well . . . well, it just does cost too much!" Rarely have I encountered anyone who knew the approximate cost per head per day of any mineral program.

It is difficult to arrive at an average cost for minerals. There are many variables influencing both need and consumption. In my experience, when properly presented under normal conditions, the cafeteria-style self-select mineral program is no more expensive than conventional feeding practices—and probably a lot more economical in the long run. **Being fixated on cost alone overlooks the more pertinent question; "Is it cost effective?"—a much better gauge of value than price.**

Animals will eat minerals and vitamins to meet their needs. If they are eating what appears to be excessive amounts it is almost always the result of

poor nutritional management, environmental variations, or both. For example, high protein rations, feeding urea or other non-protein nitrogen, water or feed high in nitrates, all tie-up Vitamin A. Feeding old hay, usually deficient in Vitamin A, contributes to the problem. The resulting Vitamin A deficiency also causes stress which increases the need for B Vitamins. The end result is the animals will need and eat larger amounts of Vitamins A and B. It can become expensive — but not as expensive as ignoring the problem. Attention to the underlying nitrate problem will lower consumption

The real issue is not what it costs to use, but what it costs if you don't use it.

"If you want to reduce human or veterinary medicine to a common denominator, you have to remember that when the animal's physiology is deranged, it doesn't make much difference what you call the problem—but it is very probably a mistake in nutrition often founded on the attempt to be economical."

William A. Albrecht, PhD

Too Many Horses

January 23, 2017

A formerly satisfied user of the cafeteria-style mineral program told me he could no longer use it because he now has too many horses. He explained; it was easy to provide individual access to minerals on a daily basis when he only had a few horses, but with almost 50 head it was impossible. Many have this problem because they do not understand that animals do not need continuous access to minerals.

In the wild, horses, cattle, bison, and other grazers did not have a steady daily exposure to all minerals. They would graze over wide areas, giving them access to a multitude of plants —each with a different array of nutrients and minerals. When available, they utilized natural occurring minerals licks to augment the plant sources.

During good grazing seasons, they could more than meet their immediate mineral needs. Any excess was put into a “storage pool” in the liver as a reserve for use during the seasonal lean times.

I suggested the herd owner install a feeder set-up in one central location, perhaps an exercise paddock or any area to which all his animals had occasional access.
Animals can meet their mineral needs if they can get to a cafeteria-style mineral feeder once or twice a week.

Chewing on Wood
February 8, 2017

A recent article in a popular equine magazine addressed a question about horses chewing wood. A subscriber had written in wondering why her mare would chew on wood, and eat shavings and poop when her access to pasture was restricted.

The author opined the problem was most likely low dietary fiber, because of the low forage intake when not on pasture. It was recommended to provide extra hay to compensate for the lack of pasture forage.

Confinement, boredom, and lack of activity were also mentioned as possibly contributing to the problem. . I have no doubt these factors—and probably others—are implicated in abnormal appetites for non-food items.

I was dismayed that a lack of minerals was not considered as a possible cause. Mineral imbalances are often associates with aberrant appetites if not the primary cause of many,
With today’s twin problems of low-mineralized feeds and limited access to pasture, most domestic animals need some extra mineral supplements.

In an earlier time, a phosphorus deficiency was thought to be the cause of chewing wood. but with the decline in soil fertility other deficiencies can also cause pica.

It is prudent for all horse owners to provide a supplemental source of minerals. Given the choice of a variety of mineral formulas, horse will balance their mineral needs and avoid at least one cause of chewing wood or eating dirt. As shown in the image, the feeder need not be elaborate.

Earthworms - Nature's Soil Builders
February 16, 2017

Other than for fishing, I first became aware of the value of earthworms back in the 1960s. Many farmers were then beginning to transition from harsh NPK fertilizers to more natural soil amendments —lime, gypsum, rock phosphate, and manure. With the renewal of health in the soil, great numbers of the dormant earthworm eggs hatched. I recall one incident where the migration of newly hatched earthworms onto the roads bordering the fields resulted in slick roads as the worms were crushed by the traffic.

Some points to ponder about earthworms:

- Earthworms are damaged by deep cultivation, drought, toxic fertilizers, heavy metals, and most agricultural chemicals.
- Populations of earthworms may vary from 30/m2 in intensively farmed fields to 450/m2 in organic soils. 250 per square meter equals about a million per acre. A thriving earthworm population is an indication of healthy soil. Healthy soil contains more life under the surface than can be grown above the surface.
- Earthworms replenish the soil with their excrement. Earthworm castings—the little piles of poop on the soil surface—are estimated to be tons per acre. These castings contain 3 times more available Calcium; 2 times more available Magnesium, 5 times more available nitrogen, 7 times more available phosphorus, and 11 times more available potassium than the soil they inhabit.
- Earthworms burrow through the top layers of soil to reach a stable, damp depth. These burrows aerate the soil and allow deeper penetration by plant roots.
- A healthy soil full of earthworms can absorb up to 150 liters of water per square meter per hour thus helping to prevent soil erosion.

The common earthworm feasts on rotting, bacteria-rich plant matter it finds on the soil's surface. To encourage earthworm populations farmers should leave some plant residue after harvest and use a cover crop such as grass during winter to provide food for the worms.

Nature's soil builders and rejuvenators—earthworms—are under threat. Their population continues to dwindle because of industrial agricultural practices.

Protecting these unsung heroes of the soil as they work unseen and underground should be an agricultural goal

Milk Fever
February 26, 2017

Each incident of milk fever in dairy cows is estimated to cost the dairyman about $335.00. This figure does not include the cost of subclinical hypocalcemia, or other often associated conditions such as dystocia, retained placenta, metritis, and displaced abomasum. Milk Fever or peri-parturient hypocalcemia is caused by failure to maintain adequate levels of blood calcium at calving time.

Several recent internet articles dealt with strategies to lower the incidence of milk fever in dairy cows. All were written by University folks and all contained pertinent information. They all recommended the same old standard fixes: feed pre-fresh cows low calcium and low phosphorus rations and forages (limit pre-fresh cows to no more than 20 g/day of calcium and 80 g/day of phosphorus), feed anionic salts for 21 days before calving, and treat affected cows as soon as any symptoms are noticed.

The common thread seems to be to micro-manage the mineral consumption of all animals to conform to commonly accepted parameters. Given the variability of forages and feeds this may be difficult to implement on many farms. One writer warned against allowing cows "selective consumption" of forages and advised to discontinue free-choice mineral feeding and to force feed all minerals. This mind set disregards individual variation of needs. If all minerals are force fed in a TMR, some cows get too much, some get too little, and only a few get what they need.

One author did point out that high levels of calcium and potassium in the blood caused the 'bone to blood pathways' of calcium mobilization to shut down. After calving, it takes about 72 hours to reestablish this process—during which time the fresh cow is prone to milk fever.

I was disappointed no one mentioned the role of maintaining a proper dietary calcium/phosphorus ratio in the last three weeks of

pregnancy. Mineral balance is oft times more important than absolute amounts.

The 'keystone concept' they all missed is this. If dairy cows have free-choice access to separate calcium and phosphorus sources, they will self-adjust their individual Ca/P ratios and not disrupt the calcium mobilization pathway mentioned above. When they calve they are less susceptible to milk fever.

I guess until dairymen, and nutritionists, discover the nutritional wisdom of cows they will have to accept the current incidence of milk fever—estimated to be 25 percent calving with clinical milk fever and another 25 percent calving with sub-clinical milk fever.

You might want to check out my article, "Addressing Milk Fever in Your Organic Dairy Herd." —originally published in Holistic Veterinary Practice Dairy Herd Network July 30, 2009.
It can be viewed at: http://www.dochollidaysblog.com/article-index/milk-fever.html

525,000 Dead Calves

March 16, 2017

On March 23, 2015 I posted a blog entry entitled "Inbreeding" in which I pointed out 49% of today's Holstein genetic lineage go back to a famous bull known as Chief (Pawnee Farm Arlinda Chief). I commented one of the pitfalls of inbreeding was diminished reproductive efficiency.

Now, a recent article in Progressive Dairyman reports genomic research has found a genetic defect in Chief and some of his sons. This defect has been linked to decreased conception rates and increased stillbirths. It is estimated to be the cause of 525,000 stillborn calf deaths worldwide. One of the researchers opined the reason it took so many decades to find the problem was because most abortions are blamed on the cow rather than the bull.

The PD article states Chief is responsible for 14 percent of the current Holstein genome in the U.S. The difference between this figure and the 49% quoted above is due to differences in the time period and the degree of relationship sampled.

Chief's offspring include more than 16,000 daughters, 500,000 granddaughters, and 2 million great-granddaughters, as well as several sons that became popular sires.

Mark, one of Chief's sons is pictured above.

This discovery confirms my belief in a more restrained approach to meddling with genetics. Chief's problem arose from the relatively benign selective breeding techniques practiced for centuries. I fear the current craze to indiscriminately mix genetics from different species will someday come back to bite us in the butt.

Hopefully, one day soon, we will collectively experience a moment of lucidity, slap ourselves on the forehead and say; "Maybe we ought to be more careful fooling around with Mother Nature". . . . but I'm not holding my breath while waiting for it to happen.

Learn more about Chief at: http://www.progressivedairy.com/topics/a-i-breeding/genetic-mutation-from-one-bull-caused-loss-of-500-000-calves

Epigenetics: Tracing the health of embryos through the generations

March 30, 2017

Many livestock experts are prone to pontificate on the importance of the first 60 days of a calf's life. They claim a calf's highest genomic potential is the day it is born and it has 60 days to reach its full genetic potential. They are right, of course, but it is also helpful to take a look backward in time and examine previous generational factors influencing a calf's health at birth.

Epigenetics is the study of changes produced in genetic expression without changes in the underlying genes or DNA sequence. The genes are like switches that can be turned on or off by diet, toxins, stress, behavior, and other factors. These changes — both good and bad — can be inherited by future generations. If you think of a computer as a collection of genes (hardware), then epigenetics would be the computer program (software) that runs the computer.

In light of the above, the health of a calf at birth is the end result of a series of events beginning at least a generation ago —and possibly as far back as three or four generation.

Simply put, this newborn calf was a dormant ovum in its mother's immature ovary when its mother was an unborn calf in its mothers uterus, who was, in turn, a calf in its dam's uterus, and so on back through several generations. (See chart) Anything you do or don't do for the mother cow will affect future generations of her offspring.

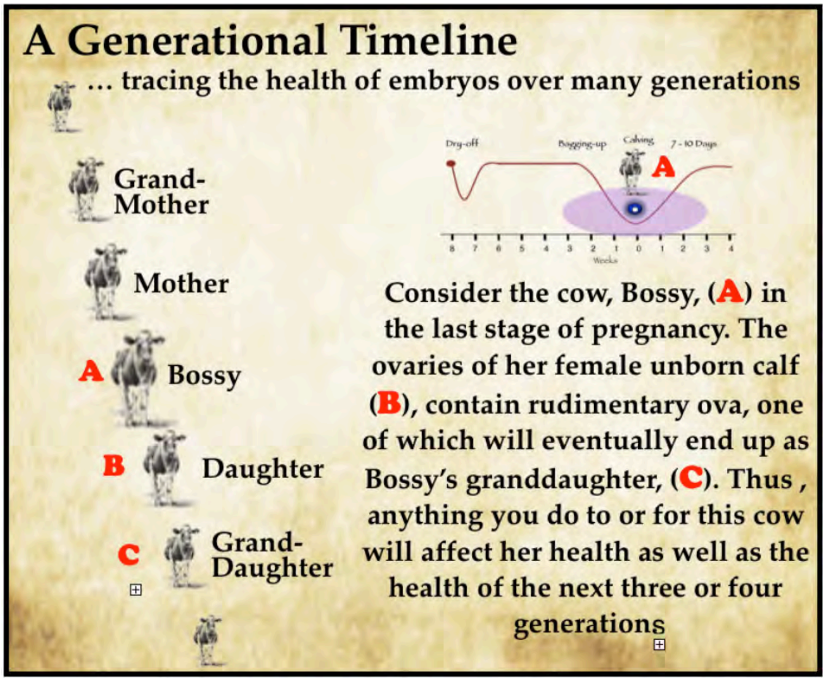
One real-life example of epigenetics is the better health and production seen in dairy cattle a generation or two after switching to organic. Nutritious, toxin free organic crops affects genetic expression in a positive way.

Applied to humans, ". . . if you are of reproductive age, what you eat, drink, breathe or experience can affect the health of your great-grandchildren in the same ay that as you may be experiencing the

effects — good or bad — of your great-grandparents experiences and environment."

You can't change the past but you can use epigenetic principles to manage the diet and environment of your animals to insure optimum genetic expression.

Providing adequate, balanced minerals to all breeding animals, at all times, is the keystone to good nutrition and to the preservation and improvement of genetic expression for future generations.



Colostrum Revisited

April 11, 2017

Most cow-calf producers are aware of the importance of colostrum to the immediate health and immunity of newborn calves.

Colostrum does more than just help prevent disease in young calves. There is now evidence colostrum has a long-term impact on health—and the effects persist well into the productive years. Colostrum transfer is one of the best indicators of how your calves will perform as they reach maturity.

In addition to the immune factors in colostrum, research indicates there are also concentrated hormones present which influence feed and reproductive efficiency, gain, appetite and how the animal perceives stress long-term.

Calves that experience scours or respiratory disease at a young age rarely reach their full genetic potential and do not do well as calves or adults. When calves are treated for early respiratory disease before three months of age, they are more likely to die at an early age and to have more calving problems later in life. As adult's both males and females exhibit lower reproductive performance. Then too, the use of antibiotics has deleterious long-term effects on feed efficiency.

Bottom line: Savvy herdsman know that calves sick at an early age —even if they respond well to treatment—never catch up and should be culled from the herd as soon as feasible and not considered as prospective future replacement.

Learn more: http://www.progressivecattle.com/topics/herd-health/7765-a-calf-s-future-is-shaped-in-60-days?utm_source=E-newsletters&utm_campaign=178d4b3320-032117_Cattleman_Extra&utm_medium=email&utm_term=0_ce73e33a7d-178d4b3320-87051758

A Quantum Leap?
April 26, 2017

On our recent trip to Missouri, we stopped to look at some friend's 'new' 1936 Buick sedan — a beautiful automobile. It has an inline 8 cylinder reciprocating engine, using gasoline as fuel. It rides on pneumatic, air inflated rubber tires. It is stylishly aerodynamic. The doors have a solid thunk when closing. All in all, it truly a classic car.

As I stood there admiring the vintage Buick, I glanced over at my 2015 Toyota Sienna. I realized even with a technological span of 80 years. there were more similarities than differences between the two.

My Toyota has a V-6 reciprocating engine with gasoline as fuel. It has air-inflated rubber tires. The brakes, suspension, and steering mechanism are similar. There have been many improvements and innovation over the 80 years— but no quantum leap in automotive technology.

In contrast, I call your attention to the Dick Tracy comic strip — written by Chester Gould and first published in 1931. In 1946, the author added some innovative technology to the detective's armamentarium — the 2-Way Wrist Radio.

This fictional device became the defining icon of the comic strip and may have inspired the smart watches and smart phones in common use today. Truly a quantum leap in electronic technology.

Some folks claim GMO and GE technology is a quantum leap in agricultural science and I guess they are right. Seems to me, though, it's a quantum leap in reverse. The false technology does nothing to relieve world hunger — as it was touted to do — and has added million of pounds of toxic pesticides to the environment. It has replaced good healthy food with toxic 'frankenfood' that looks like food but has lower nutritive value.

Artificial Food

May 20,2017

As if GMO's and genetically engineered crops were not enough, we are also being inundated with fake food being foisted upon us by commercial scientists. We have hydroponically grown vegetables, grown without soil but still approved as certified organic. Soy milk and coconut milk is sold as a substitute for real milk. To top it all off, we have laboratory grown chicken.

The latest addition to the list is "Perfect Day", said to be "a cow milk made without cows." Two young biomedical engineering scientists claim to have perfected a process to create a synthetic milk that didn't come from cows but tasted just like it and had all its nutrients. I wonder who says it tastes just like cows milk?

In the process, a 3D printer uses a cow's DNA blueprint to create a DNA sequence which is inserted into a specific location in the regular yeast. When fermented, the genetically engineered yeast produces

what the company refers to as “real milk proteins (casein and whey).” These proteins are then combinesd with other plant based substances to create the lactose-free milk, which is claimed to be the same as cow’s milk in every meaningful way,” and tastes almost exactly the same. I question the meaning of the phrases ‘in every meaningful way’ and ‘almost exactly.’

The Perfect Day website states. “Our products are made from real milk proteins combined with plant-based (lactose-free) sugar, healthy plant fats, vitamins, and minerals, they have the same taste and texture as cow’s milk, but pack in more nutrition with no food safety or contamination concerns.” I believe the statement “…made from real milk. …” is misleading when referring to laboratory modified yeast.

Seems to me there are a lot of ambiguities in these claims. I doubt it’s the same exact thing found in cow’s milk

I wonder what’s next?

God save us from running amok scientists!

Learn more: http://www.odditycentral.com/foods/this-startup-makes-cow-milk-without-the-cow.html

Does Anybody Remember Posilac?

June 5, 2017

A recent article in a major dairy publication bemoaned the fact that very few dairymen still used rBST. To refresh your memory, rBST was a controversial hormonal product sold by Monsanto in the 1990s. Marketed under the brand name Posilac, the product was alleged to increase milk production in dairy cattle'

The author stated the product was driven from the commercial market by consumer … “ignorance, misinformation and fear.”.

Let’s examine the facts!

It was known as early as 1937 that a pituitary hormone known as bovine somatotropin (BST) or bovine growth hormone (BGH) increased milk production of lactating dairy cows.

In the late 1970s the biotech company, Genentech was able to clone the gene for BST, now known as

recombinant BST or rBST. This opened the door for the production of marketable amounts of the hormone —

Monsanto teamed with Genentech for commercial development of the product. Their first trial results were published in in 1981. The FDA reviewed the product in 1986 and deemed it safe for human consumption. In 1994 Monsanto received approval and began marketing rBST under the brand name Posilac.

Despite industry hype that Posilac would mean cheaper milk, there were many concerns. The dairy industry was thought the expected flood of milk might depress milk prices. Consumers worried about the effects on human health. Dairymen worried about health side-effects in their cattle. Critics called for more investigations. Some Milk companies forbade the use of the product. In the US, public opinion led some manufacturers and retailers to market only milk that is rBST-free. Court battle were fought over such labelling. It was a mess.

The FDA, WHO, and NIH all claimed diary products and meat from [BST-treated cows are safe for human consumption. However, a European Union report on the animal welfare effects of rBST states that its use often results in "severe and unnecessary pain, suffering and distress" for cows, "associated with serious mastitis, foot disorders and some reproductive problems"

I believe these effects on animal health were the actual reason producers began to shun the product — the negative effects on animal health wiped out any elusive profit from increased production. It was not a great loss to the industry. It is estimated only about one fourth of US dairies ever used Posilac. Former Posilac using dairymen soon made up the slight decrease in production by paying more attention to basic good management. Within a year or two, they were producing just as much milk per cow as before — without the side effects.

This whole episode is a good example of companies trying to foist off technology on us that we do not need, that does not work, and may be deleterious to human and animals health and to the environment in the long run. Think glyphosate here. When these products are rejected by the consumers, they blame consumer ignorance.

I think it's time for some technocrats to come down from their industry sponsored ivory tower and realize that not all technological advances result in something we need — most have no benefits, only risks. They accuse us natural minded folks of rejecting science while they, in turn, reject the possibility they could be wrong and their science may be fraught with unintended consequences.

Oops, wait a minute, I guess I was wrong — Monsanto shareholders do benefit from their toxic technology.

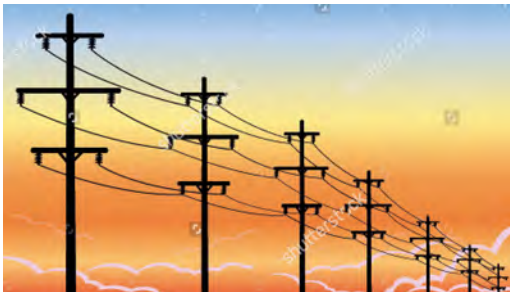
Stray Voltage
June 22, 2017

Sam Milham, an 85 year old physician and an epidemiologist, has authored a book entitled "Dirty Electricity: Electrification and the Diseases of Civilization." He claims many diseases of civilization (ranging from from cancer through many chronic diseased to early death) are related to electromagnetic interference (EMI) — dirty electricity.

He is probably right. Stray voltage, a common name for EMI exposure, is common in dairy cattle. Over the years, I have seen many herds with EMI exposure. Stray voltage can be easily measured with a standard volt meter by measuring the voltage from "cow contact" to ground. Fluorescent light fixtures and electric fly-zappers were often the culprits. Old or damaged wiring with poor grounding is frequently at fault. Premises located between a power substation and a heavy user of electrical power are subjected damaging electrical ground currents.

Common symptoms include lower milk production, lower reproductive performance, and foot and hoof problems. Other symptoms indicative of a damaged immune system may be present. Animals are about 10 times more sensitive to EMI than humans. Animals are often hesitant to enter an area with high levels of exposure.

Correction of stray voltage almost always involves major revisions to the electrical system. It can be expensive and sometimes not even possible.



EMI can obviously affect any species — animals as well as humans. I have occasionally seen EMI problems in confinement swine facilities. Given the chance, most animals will avoid areas with high levels of EMI. Any animal - including horses - confined to an area of stray voltage will be affected.

Given the pervasive presence of electricity in our environment — from cell phones to overhead power lines — it is impossible to avoid the effects.

If you, or any of your animals, are showing symptoms of immune depletion unresponsive to treatment I would recommend you have the premise checked for stray voltage or EMI.

How Hot Is It?

July 12, 2017

A recently published report may blow the lid off the climate change controversy. The peer reviewed analysis is authored by a group of scientists and statisticians who took a closer look at the data used by NASA, NOAA and the Met Office in the UK in their assessment of global average surface temperature. They found "nearly all" of the alleged 'warming' effect was the result of changes made to the data after the temperatures were recorded. The data had been changed to account for other heat sources such as the heat generated by big cities.

The question is: "How much of the data manipulation is real science and how much is political fantasy." Many folks think the changes were designed to incriminate humans as the cause of global warming. After examining other historical data, cyclical patterns, and satellite data, the researchers concluded the three data sets mentioned above, "are not a valid representation of reality."
(Check out the full report at: https://thsresearch.files.wordpress.com/2017/05/ef-gast-data-research-report-062717.pdf)

The city of Phoenix recently reported a high temperature of 117 degrees, breaking a record set in 1905. — over a century ago. My wife's mother was born in 1898 and lived in central Missouri all her life. I remember her telling us she remembered one year when she was a young girl that it snowed in every month of that year — again, over a century ago. These two events confirm to me, even thought we may be in a cyclical warming trend at present, there are widely variable weather patterns going back for centuries. Whether the climate change is man-made is, in my opinion, still a matter of conjecture.

Some people are, by nature, short sighted, gullible, and easily swayed by so-called scientific data. Individuals relate mostly to their life experience. Anything that happened before they were born is ancient history. Maybe this is why older people are less apt to be taken in by the faddish 'hula-hoop' predictions of the global warming crowd. It's scary to think the median age of the US population is only 38 years old.

I suggest we should be worrying about the present pesticide poisoning of our planet rather than some nebulous event that may or may not occur in the future.

Happy Cows Give More Milk

July 31, 2017

In the early 1990s I was employed as a Technical Service Veterinarian by the Impro Company of Waukon, Iowa. A big part of my job was to provide education meetings on holistic dairy management for clients and potential customers. The title of one of my talks was *"Happy cows give more milk."*

The basic premise was that stress free cows were happy cows and could turn their energy to milk production rather that fighting stress. The presentation centered around standard holistic management strategies to reduce stress. I still think this concept has much merit.

On a whim, I submitted a post on the "Happy Cows" concept to a dairy discussion group I followed on the internet. The response from the list owner, a University professor, was a strong request for me to never again send such unscientific and frivolous posts to the list. I was appalled at this example of a closed-off, educated scientific mind.

A few weeks ago I reviewed an article entitled Researchers say happiness turns dairy cows into cash cows (http://flipboard.com/@flipboard/-researchers-say-happiness-turns-dairy-c/f-c77d7d29a1%2Fapnewsarchive.com) The author clearly stated that Happy Cows give more milk. I was vindicated. At last someone in academia had stumbled onto the Happy Cows idea.

I was so thrilled I looked up my old notes on Happy cows from 1992, and with only a little revision and polishing they are presented below.

Top 10 Steps for Happier Cows and More profitable Dairying

Genetics: Choose genetics for production capacity and not 'show ring" conformation. Too straight legs predispose to lameness problems. Cow have better reproduction if the pin bones are lower than the hip bones. The rumen is about the same size in any size cow. Larger cows have more abdominal space than the rumen needs and are more prone to displaced abomasums.

Nutrition: Beware of excess protein. Do not feed unnatural feedstuffs such as urea, NPN, fat, or dried manure. Check for moldy

feed, aflatoxins or mycotoxins. Support the rumen with prebiotics, probiotics, lactobacillus and enzymes. Manage feeding interval and bunk space. Self feed a variety of individual minerals so animals can balance their mineral needs.

Water: Check water for nitrates and livestock suitability and culture for Aerobacter and Pseudomonas bacteria. Clean drinking water cups and troughs frequently. Install water meter to measure consumption.

Stray voltage: Check regularly for stray voltage in all areas of cow contact.

Milking equipment: Check frequently for vacuum levels at the inflations. High vacuum levels at the teat ends or too harsh teat dips can predispose to staph mastitis.

Milking Procedures: Insure a good let-down and timely milker attachment.

Ventilation: Especially important for calves. A calf should never have to breathe air that has been in a cows lungs.

Care of the udder: At dry off time, just quit milking, after 5 or 6 days, when the swelling begins to recede, check the milk in the udder and milk out completely. Normal looking milk indicates successful dry-off. If milk appears abnormal begin treatment of choice.

When the cow begins bagging - usually a couple weeks pre calving, check the condition of the milk. If the milk is abnormal begin milking twice a day and begin treatment. Pre-partum milking in good for all cow's udder health.

Culturing flare-ups may indicate patterns of infection. Staph infection is frequently caused by high teat-end vacuum and strep infection by not getting a proper letdown.

Reproduction: Avoid infusing anything into the uterus that you would not squirt into your own eye.

Give calves the best start you can: If a calf gets sick in the first few months it will never reach its full potential. At birth, saturate the navel with iodine — milk out the colostrum and feed it to the calf — Dose the calf with a good lactobacillus product. Raise the calf in a hutch to benefit from limited isolation.

Dairy Cow Mortality On the Rise

August 30, 2017

A recent article in a national dairy magazine bemoaned the fact that dairy cow mortality is on a steady rise. Death losses in the 1970s ranged from 1% to 5 %. It now average from 6% to 8% — with a high of 15% in some dairies.

The author opined that this industry wide increase suggests veterinarians and producers do not have the information needed to manage the problem. Most dairymen do not necropsy dead cows. They may have a reasonably accurate total death count but not accurate records of the cause of death.

To remedy this lack, two veterinarians from Colorado and Washington State Universities have put together a protocol to help dairymen accurately record and codify all deaths — they even have a nifty Cow Death Certificate upon which to record the pertinent information. I think this is a great idea — information is needed to make a diagnosis.

However, I am concerned it may be too easy to make a casual diagnosis and not delve deeply into underlying causes of death — we need to look deeper that the obvious and not record the "straw that broke the camels back" as the cause of death rather than the weight and content of the full load being carried.

Since about half of dairy cows calve with either a metabolic or an infectious disease, I'm betting a lot of the causes will be listed as mastitis, pneumonia, metritis, hypocalcemia, ketosis, or other common "diseases" that are actually symptoms of stress or an impaired immune system.

Is it really any wonder dairy cows average only two lactations? We have taken an animal that evolved as a forage grazer that had a multitude of plants to chose from as it roamed ove, wide areas. We have genetically modified this animal to produce an inordinate amount of milk — we feed it a ration composed or only four or five ingredients, mostly legume hay and grain. As a final insult we confine her to small, cement floored spaces with little opportunity for exercise.

She can accommodate adverse conditions for a while, but soon is overwhelmed and stressed out, She gives up and checks out. It will probably be recorded she died because of a bacterial infection.

Go figure!

Carbon Sequestration

October 5, 2017

I recently had a conversation with my Idaho daughter — a Master Gardener with a BS in Horticulture from BYU. She was telling me about her current project in her garden. She and her husband had mowed down some heavy vegetation on one of her garden plot and were now planning to till the residue into the soil. She said she was "building soil organic matter", and I agreed. Jokingly though, I told her it wasn't called that anymore and was now known as "engaging in carbon sequestration." She was impressed.

Years ago, when I first encountered what we now call organic production the emphasis was on building the OM in the soil so you would not need the chemical amendments. This is a far cry from the emphasis today where the regulations are based on 'don'ts' rather than 'do's'. My concern has always been that we do not spend enough time and effort building soil organic matter.

Thus, I was gratified to see an item about soil organic matter in the recent MOSES online newsletter. Researchers at Northeastern University and The Organic Center analyzed over a thousand soil samples from across the country. They found soils on organic farms had larger amounts of soil organic matter (SOM) and carbon than conventionally farmed soils. The research also found that organic soil has 44% higher levels of humic acids than conventional soil.

To me, high SOM is more important than some slight infraction of NOSB standards. After all, the NOSB appears to be more interested in the continued certification of hydroponically grown (without soil) vegetables than they are about levels of SOM in organic fields.

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