



Kinder Goat Breeders Association NEWSLETTER

Winter 2008

MEMBERSHIP RENEWAL REMINDER

If you would like to continue receiving your Newsletter, and registering your Kinders at bargain prices, please be sure to renew your membership using the form included with this Newsletter. A second form is for your use to either renew your participation in, or join the Breeders List on the KGBA web site, www.kindergoats.com.

IMPORTANT ARTICLE FROM 'THE NATION' – 'USDA Bets the Farm on Animal ID Program'

by David E Gumpert & William Pentland - [posted online on December 14, 2007]

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In winter 2006, faced with a mandatory program that required him to attach electronic tracking tags on his animals, Michigan farmer Brad Clark sold his cattle herd, and nearly forty years as a cowboy-style rancher came crashing to a halt. Now he's a full-time electrician.

"Cows lose tags like crazy," said Clark. "They get caught in tree limbs. You get an 1,800-pound bull that doesn't want to be tagged, it's an ordeal."

In March, when Michigan became the first state to make parts of the [National Animal Identification System](#) (NAIS) mandatory, requiring farmers to attach radio frequency identification ear tags on cattle and dairy cows, Clark was already among the casualties.

NAIS, which the US Department of Agriculture has been rolling out in concert with many states since 2003, is stunning in its projected scope. Over the next few years each of the nation's 1.4 million farms (plus thousands of veterinary facilities, export/import stations, livestock barns and genetic facilities) will be affected, with all their approximately 95 million cattle, 1.8 billion chickens, 60 million pigs, 93 million turkeys, 6.3 million sheep, 2.5 million goats and every other livestock species, including bison, camelids, cervids, horses and llamas. In all, more than twenty-nine species and more than two billion animals are slated to be fitted with the ID tags or be injected with transponders that transmit, to a national network of databases, information as basic as date of birth and as sophisticated as DNA profiles and chemical-residue measurements in the bloodstream.

THE LETTER FOR THE YEAR 2008 IS 'Y'

(Continued from page 1 - 'USDA Bets the Farm on Animal ID Program')

NAIS, ostensibly intended to contain disease outbreaks among livestock, has sparked the most severe political backlash rural America has seen in decades. The controversy stems primarily from the backhanded way the government has imposed a deeply unpopular policy. By introducing NAIS as regulatory changes, the USDA has short-circuited the democratic processes designed to protect the public from government overreaching. Congress has never debated NAIS, and few elected officials have been held accountable for its consequences. The USDA has backed off the original plan to make NAIS mandatory and fully operational by 2009 and now describes the program as "voluntary." While it may be voluntary on the federal level, the USDA has pushed states to make NAIS mandatory for their local farmers.

"Farmers like us, we don't want handouts or disaster payments or loans," said Kim Alexander, who raises livestock in central Texas. "We just want to be left alone to raise clean and healthy food for people who will pay a premium because they know it's clean, healthy and local and not contaminated with a bunch of poisons."

A handful of industry stakeholders have cast their shadow over nearly every component of NAIS--past, present and future. A consortium of industry leaders--Cargill Meat Solutions, Monsanto and Schering-Plough, among others--pushed for NAIS for more than a decade and finally won the USDA's approval shortly after George W. Bush took office in 2001. The consortium, the National Institute for Animal Agriculture (NIAA), designed NAIS for the USDA and includes the USDA's NAIS coordinator, [Neil Hammerschmidt](#), among its alumni.

Critics contend NAIS will be the death knell for small farmers, some religious minorities and organic agriculture generally in America. Although the program will amplify American agriculture's influence in global markets, it will give commercial agriculture an unprecedented monopoly on the future of food--a brave new era of synthetic agriculture and genetically engineered animals.

This era is not beyond some remote horizon. It has already begun. On December 19, the leading cloned livestock producers [announced a program](#) designed to monitor meat and milk products from cloned animals as they moved through the food chain. NAIS is the "tracking system" the industry will use to commercialize cloned livestock on a mass scale.

"The industry's proposal to track cloned animals ignores consumers' concerns about the offspring of cloned animals, creating a false sense of security, said Judith McGeary, founder of Farm and Ranch Freedom Alliance in Austins The entire NAIS plan is much the same, by creating a false sense of security instead of addressing the real problems. NAIS was designed as a marketing program to increase consumer confidence domestically and abroad, without changing any of the industry practices that have created the lack of confidence in our mainstream food supply."

The USDA compounded public skepticism by encouraging states, with the enticement of federal funding, to impose the program on local farmers. Several states have followed Michigan's lead and implemented various aspects of the program in different ways.

In May, Wisconsin required dairy farmers to register their farms (the step preceding registration of animals). Those with livestock are given a unique number keyed to a GPS monitoring system before they can receive dairy licenses. Many of the state's estimated 10,000 Old-Order Amish claim that participation would violate

their religious principles, which bar participation in government programs.

Scores of Amish farmers have abandoned dairy production and others have refused to participate, often forfeiting their licenses to sell milk as a result. Some of Wisconsin's most conservative Amish groups have reportedly considered a mass migration to Venezuela. The [Christian Legal Society](#) plans to challenge Wisconsin's registration law as an infringement on the Amish's religious rights.

"It's hugely painful to them," said Karin Bergener, an Ohio-based attorney and farmer who has spent two years raising awareness about NAIS among Amish communities and others. "The thing that comes to all of us is the brutality of treating these animals like widgets. That's probably the way large corporate confinement operations see the animals, but anyone who has raised them--even if you're going to slaughter them--knows that they're not widgets."

In Pennsylvania, a Mennonite poultry farmer sued Pennsylvania's Agriculture Department in June for violating his religious rights by registering him in a state NAIS program without his consent. The state settled the lawsuit a few weeks after it was filed. The settlement terms have not been made public.

Many farmers suspected NAIS would meet stiff opposition from the start, but few realized how aggressively the USDA and state agencies would pursue it anyway. When opposition blocked one means of implementation, some states merely changed tactics, often pushing registration through lower-profile policies. In 2006 hundreds of farmers and ranchers descended on a Texas Animal Health Commission hearing to protest a plan to make premises registration mandatory. A few months after the high-profile defeat, the commission notified farmers and ranchers in a press release that, due to a low-risk bovine disease incident, it would require "identifying all Texas dairy cattle--regardless of age--with an official or TAHC-approved identification device prior to movement within the state."

Similar stories have surfaced in Massachusetts, Missouri and Tennessee.

"What is really unique about the NAIS is that people from the far left to the far right find it appalling," said Bergener. "As long as you're a populist, as long as you believe in independent people running the country instead of big corporations with conflicts of interest, you find the NAIS pretty appalling."

The USDA dismisses many of the program's critics. "Folks tend to make it more complicated that it really is," said Agriculture Undersecretary Bruce Knight in an interview. "The important thing is to have a system whereby in the event of catastrophic animal disease, we can identify everyone in the community and let them know what's going on, and do it within forty-eight hours. It builds off a long tradition of cooperation between American farmers and the federal government."

But Knight acknowledges that NAIS isn't just about protecting livestock. Being able to guarantee in the global marketplace that American farmers can quickly track disease "is a desirable factor with some of our trading partners, certainly in the Japanese export market. Countries like Australia have been marketing their (animal) traceability to gain market share."

Some worry that NAIS technology may be good at tracking animals but not at preventing epidemics. In July

(Continued from page 3 - 'USDA Bets the Farm on Animal ID Program')

a [General Accounting Office report](#) said NAIS may not be able to achieve its stated purpose, largely because the USDA has raced to implement a system larger and more ambitious than any other in the world.

Agribusiness Versus the Family Farm

Small farmers and ranchers share the USDA's concerns about animal diseases, and some say they might even support NAIS if they believed it would stop the spread of dangerous diseases that have emerged in the past decade. But many worry that NAIS will have the opposite effect. Factory farms are fertile breeding grounds for dangerous new pathogens. The food-borne pathogen responsible for the [spinach recall in 2006](#) and ground-beef illnesses this year originated in feedlots.

The risk of epidemics that spread between animals and humans has grown primarily because of the "inappropriate use of antibiotic drugs," which has fostered the evolution of "resistant forms of bacterial disease," according to a 2006 report by the Center for American Progress. An estimated 70 percent of antibiotic usage occurs in agriculture.

Considering how much noise owners of small farms and ranches are making, they haven't had much of an impact. Their biggest gain may have been the victory in the 2006 Missouri Senate campaign by Democrat Claire McCaskill over Jim Talent. McCaskill opposed NAIS while Talent supported aggressive implementation of it and attracted more money from agribusiness than any other candidate that year. Missouri farmers say McCaskill's position on NAIS was decisive.

But the issue has not raised much interest in Congress. The proposed five-year \$289 billion farm bill focuses mostly on subsidies and disaster aid. The only reference to NAIS in the farm bill is a provision that exempts NAIS data from Freedom of Information Act coverage and imposes potential criminal penalties on those who publish NAIS data.

Nebulous details about how NAIS will work have exacerbated resistance to it. According to USDA and state descriptions of the program, farmers will need to keep special records of their animals and update them whenever an animal leaves the farm. Informal arrangements that have long been part of traditional farming--such as trading a cow for a used piece of machinery--must now be reported to the government.

NAIS allows large factory farms whose animals spend their entire lives in feedlots to register large groups of animals as a single unit, but farms whose animals are not confined must register animals individually. As a result, most small farms could pay as much as \$20 or \$30 per animal to comply with NAIS, compared with \$1 to \$2 per animal for large farms.

"People don't realize that they're going to have to tag every single chicken," says Gail Damerow, a Tennessee farmer who is editor of [Rural Heritage](#) magazine. "When you look at the cost of a chicken or goat and the cost of a tag, it's not going to work economically." Indeed, if the radio frequency tags cost \$2 for a chicken that sells for \$3 or \$4, the thin margins that keep most small farms afloat will vanish.

Then there's the pesky matter of who will control the massive databases with farm and animal information. Although government officials say the tags will only include a limited scope of information related to animal location and movements, the government apparently does not have access to all the data collected under the NAIS program. The GAO report cited as a major flaw the USDA's inability to access information

essential for traceability purposes. The USDA has transferred control of the databases to more than a dozen private companies--AgInfoLink, Micro Beef Technologies, iSavent, Global Animal Management, GlobalVetLink and several others. Several of these companies belong to the NIAA consortium that pushed NAIS and most of those that don't have close relationships with consortium members.

"We can all spend time talking about who are the three guys sitting in a room trying to get rid of all the independent farmers," said attorney Karin Bergener. "Or we can try to understand that...a great confluence of interests is behind this thing.... Large corporations want to import or export without having to deal with anything like a quarantine at the borders. Microchip companies have pretty well maxed out their market in Europe for these reprogrammable chips. State bureaucracies need more money from the USDA, and the USDA, which has had its budget cut over the years, will get an astonishing amount of money from running this program. So you have these groups who are having their needs addressed by the program, and the problem is that nobody outside of those groups is involved in the decision-making process."

Global Scramble

Intentional or not, an uncanny number of cutting-edge animal biotechnology projects intersect at NAIS.

At a recent animal genetics conference in Switzerland, a team of geneticists described how NAIS-like animal identification systems had "huge potential for a genetic improvement programme where lack of individual identification is one of the main hurdles."

Agribusiness is in a global scramble to secure intellectual property rights over the next generation of biotechnology products. China, Brazil, India and many other countries have accelerated animal biotechnology research. In Canada, Aqua Bounty Farms has patented the first transgenic salmon, which grows to adult dimensions in half the time it takes conventional salmon. Regulators are considering whether to approve the salmon for sale.

The National Animal Genome Research Program, which pioneered the first disease-resistant transgenic cow in 2001, describes NAIS as "a key user" of its national network of genomics resources.

"I'm not really at liberty to say anything about [NAIS] because I don't know how they will be using the databases," said Muquarrab Qureshi, USDA-CSREES program leader for the National Animal Genome Project. "The genome information could be used to identify all the animals there and all the way up to the meat you buy at the grocery store."

Qureshi's comments capture the most maddening aspect of NAIS: it's so vague that it's hard to pin down exactly what it will do or how or even why. The USDA has left NAIS open-ended so stakeholders can maximize the program's potential value by using it as a platform to develop additional processes or systems. NAIS is a set of open-ended standards and protocols that can support a wide range of operations and processes--including genetic tracking--many of which have nothing to do with disease surveillance.

Some NAIS databases may already be tracking genetic data. In 2005, AgInfoLink partnered with Viagen, an animal genomics company that cloned the first dairy cows, to develop a NAIS-compliant data system for the beef industry. In addition to meeting NAIS requirements, the system allows producers and ranchers to "collect, sort, analyze and store genetic information instantly." This information can then streamline

"documentation of age and source verification information being demanded in the marketplace today," according to an AgInfoLink press release.

Also in 2005, MMI Genomics, a company affiliated with Cargill and Monsanto, described, in a presentation at an NIAA conference in Kansas City, how NAIS could create "forensic barcodes" for meat products with DNA samples. The samples of every production animal could then be stored in a long-term DNA archive. Other companies have designed radio frequency chips that allow genetic tracking.

"NAIS is going to truly coalesce the food supply," said Bergener. "All the people who like to go to a nice farmers' market so they can buy fresh eggs and chickens from a farmer they can look in the eye won't have anywhere to go. We won't be there anymore. We won't exist."

But NAIS might destroy far more than farmers' markets. In the past fifty years, industrial agriculture has promoted a handful of high-performance breeds so aggressively that the genetic diversity of livestock has been decimated in developed economies and is rapidly accelerating in developing countries, according to a recent report by the Food and Agriculture Organization.

Since 2000, at least one livestock breed has disappeared every month, and roughly 20 percent of the world's livestock breeds are at risk of extinction, according to the report. Perhaps the cruelest irony of NAIS is that by hastening the demise of genetic diversity it may ultimately expose the food supply to catastrophic and irreversible risks.

"The security of America's food supply and the resilience of livestock in the face of diseases are best served by the decentralization and dispersal of food production and processing," said Mary Zanoni, during testimony against NAIS before the Texas Animal Health Commission. "[T]he agricultural sciences have demonstrated time and again that the least-cost and least intrusive method is the most effective and protective of health."

NOTE FROM YOUR PREZ – This issue of the Newsletter is heavier reading than usual because of the seriousness of the issues that are facing us. There are still many who don't believe that there is anything about which to be concerned, but hiding one's head in the sand and trying to wish things away is not an option. The survival of the KGBA, even the survival of the Kinder goat as a breed is in jeopardy. In the latest document recently published by the USDA, 'A Business Plan to Advance Animal Disease Traceability (12-12-07) it states on page 7:

Strategy 6: Collaborate with Industry

Achieving traceability objectives requires a partnership between the production sector and animal health officials. **Producer organizations, representing member interests, can accelerate the adoption of practices that advance traceability. USDA has entered into cooperative agreements with non-profit industry organizations to promote premises registration within various species groups.** Collaboration with USDA accredited veterinarians will enable the delivery of accurate information to producers, as well as facilitate the adoption of animal identification data elements in everyday production management systems and disease program activities at the producer level. Additional partnership efforts with industry alliances, service providers, auction markets, feedlots, harvesting facilities, and other industry sectors are a priority for USDA.

On page 59, from the 'Key Outcomes' chart, here's what is expected of goats:

(Continued from page 6)

Goats

Objectives/Target Dates - Ability to identify and determine the birth premises for 90% of the breeding animals within 48 hours of a disease event. Dec. 2009

Key Benchmarks - Achieve 90% of the producers assigned a flock identification number *through the scrapie eradication program* with all flock numbers cross-referenced with a standardized PIN.

And how does the USDA expect to accomplish this? They will be 'encouraging' breed associations (like ours) to 'harmonize' their numbering systems with the NAIS requirements, and asking them to 'encourage' their membership to sign up for the system. Right now they are offering Cooperative Agreements and grants, but how long before organizations that resist will be penalized in some way? They want cooperation, and if 'financial incentives' don't bring organizations to cooperate, then 'coercion' may be next.

...AND THERE'S MORE 'GOOD' NEWS – THE 2007 CENSUS OF AGRICULTURE

The author's (Pat Showalter) comments and highlights are in italics.

Here's their trumpet call: Your Voice. Your Future. Your Responsibility. (Your Destruction.)

<http://www.agcensus.usda.gov/>, www.nonais.org, www.nonaiswa.org

Part of their list of FAQ:

What is the Census of Agriculture?

The Census of Agriculture, taken every five years, is a complete count of U.S. farms and ranches and the people who operate them. The Census looks at land use and ownership, operator characteristics, production practices, income and expenditures and many other areas. *For America's farmers and ranchers, the Census of Agriculture is their voice, their future and their responsibility.*

Why is the Census of Agriculture important?

The Census provides the only source of uniform, comprehensive agricultural data for every county in the nation. Through the Census, producers can show the nation the value and importance of agriculture and they can help influence decisions that will shape the future of American agriculture for years to come. *By responding to the Census, producers are helping themselves, their communities and all of U.S. agriculture.*

In truth, the small farmer is not likely to be helped much, if at all. The benefits go to the factory farms and global agriculture outside of the U.S. Note how frequently the word 'producer' is used? A 'producer' is judged by quantity, and if a certain standard is not maintained, one could then be labeled an under- or non-producer, so not worthy of controlling any resources, including one's own 'private' property.

Who uses Census of Agriculture data?

Census data is used by all those who serve farmers and rural communities – federal, state and local governments, *agribusinesses*, trade associations and many others. For instance, companies and cooperatives use the information to determine the locations of facilities that will serve agricultural producers. Community

(Continued from page 7)

planners use the information to target needed services to rural residents. USDA uses the information to ensure that local service centers are staffed at appropriate levels. Legislators use the information when shaping farm policies and programs. And, of course, farmers and ranchers can use Census data to help make informed decisions about the future of their own operations.

How is the Census conducted?

Report forms for the 2007 Census of Agriculture will be mailed to farm and ranch operators on December 28, 2007 to collect data for the 2007 calendar year. Completed forms are due by February 4, 2008. Producers can return their forms by mail or, for the first time, they have the option of filling out the Census online via a secure web site. *Note: There are 4 legal-size pages of instructions and 24 pages of questions to the Census!*

Will my information be kept confidential?

Absolutely **[NOT!]**. Respondents are guaranteed by law ([Title 7, U.S. Code](#)) that their individual information will be kept confidential **[a hollow promise that even a brief preliminary bit of research will show to be untrue]**. NASS uses the information only for statistical purposes and publishes data only in tabulated totals. The report cannot be used for purposes of taxation, investigation, or regulation. ***The privacy of individual Census records is also protected from disclosure through the Freedom of Information Act.***

In truth, it is the farmer who cannot access the information. Any number of A-B-C agencies can do so under numerous Cooperative Agreements (CA's) and Memorandums of Understanding (MOU's) that essentially make them all one. In the latest document from the USDA, the NAIS Business Plan, every disease prevention program and many breed registries and other agricultural organizations have been and are rolling all of their supposedly 'confidential' information into the NAIS data base. Do you really believe that the USDA's own NASS will do differently with their Census and Survey data? From personal experience I discovered after the previous Agricultural Census that the promise of confidentiality was worthless. Someone – a stranger to me – had accessed my personal farm information, which could have come only from my census form, and made a very disturbing, harassing phone call to me. I was threatened with 'the sheriff on my doorstep in the morning'. I reported the incident to NASS immediately upon hanging up, and was told by two different people that 'it was impossible – that couldn't have happened'. No one would take my complaint, I was labeled a liar. I have since learned to be more aggressive in such a situation, but, never again will I allow the opportunity to arise. How many times over the last year or so have government data bases been hacked, stolen, or otherwise compromised? The form asks every detail about your home, personal information, financial business whether it is farm-related or not.

Must I respond to the Census?

Yes *[they tell you]*. United States law ([Title 7, U.S. Code](#)) requires all those who receive a Census report form to respond even if they did not operate a farm or ranch in 2007. ***(following is an excerpt from the law)***

(d) Enforcement

(1) Fraud

A person over 18 years of age who willfully gives an answer that is false to a question, which is authorized by the Secretary to be submitted to the person in connection with a census under this section, shall be fined not more than \$500.

(Continued from page 8)

(2) Refusal or neglect to answer questions

A person over 18 years of age who refuses or willfully neglects to answer a question, which is authorized by the Secretary to be submitted to the person in connection with a census under this section, shall be fined not more than \$100. (Next line of inquiry, are the fines per question or in total?)

What if I only have a small operation or do not participate in government farm programs?

The Census of Agriculture is the responsibility of *every* farmer and rancher, regardless of the size or type of operation. For Census purposes, **a farm is any place from which \$1,000 or more of agricultural products were produced and sold, or normally would have been sold**, during the Census year.

That could include a little backyard hobby farm with a goat or two that provide milk for your goat milk soap, or where an avid gardener might start and sell bedding plants, herbs, or surplus veggies, or have a few laying hens and think about selling the extra eggs! This Census is monstrously invasive, and wants answers that government has no business having. I can't advise you what to do about it, but NASS will not get answers from me. Actually, I am one of the 'fortunate' 1 in 63 farmers who has received a...

2007 AGRICULTURAL RESEARCH MANAGEMENT SURVEY (ARMS)

This 36 page gem comes with a letter that explains "As you may know, NASS is also conducting the 2007 Census of Agriculture. Conducted every 5 years, the Census covers virtually every aspect of U.S. agriculture at the county, state and national levels. It provides a complete count of the nation's farms and ranches and the people who operate them. To help reduce your burden (*how kind and thoughtful of them!*), completing the ARMS form will also fulfill your obligation of responding to the Census of Agriculture". Included in the package was an additional "**Thank You** in advance for completing your Agricultural Resource Management Survey Questionnaire" \$20 gift card! Aaah – financial incentive! The form is 12 pages longer than the Census and they want it returned several days sooner than the Census. They won't get this one back completed either, but I will **respond** in some manner as yet undecided.

2007 ELECTION CONFIRMS YOUR KGBA BOARD FOR 2008

President – Pat Showalter, Snohomish, WA
Vice President – Sue Huston, Miami, MO
Secretary – Linda Nygaard, Snohomish, WA
Treasurer – Duggan Kinne, Matlock, WA

Member-at-large – Ramona Birdsall, Bevier, MO
Member-at-large – Dawn Leaming, Nevada City, CA
Member-at-large – Lisa Lamm, Columbia, MO

Thank you for your participation in the balloting. It is not any too soon to be thinking about elections for 2009 Board positions. I'm sure that there are some good potential candidates out there – would you be willing to run for office? Your Association needs you! Please be thinking about it over the next several months.

THE KGBA NEWSLETTER NEEDS ARTICLES, IDEAS, FARM PROFILES, PHOTOS

Let us know what you would like to see in the Newsletter – and yes, I know that more frequent publication is one of the desires. Would you want a Q&A column? Stories of how breeders have had problems and discovered solutions? Let us know about Kinder activities in your area – exhibits where Kinders are included, fairs, parades – we need roving reporters! Some items just for fun would be welcome too. KGBAssn@aol.com is the place to send your ideas.

WOULD YOU BELIEVE KINDERS IN FINLAND?

Well, not quite yet, but we have received a note from Sade Kondelin of Laitila, Finland. She and her husband have just recently purchased a pair of Pygmy Goats (the doe is expecting soon) and are looking for Nubians so that perhaps they can start some Finnish Kinders. They are enthusiastic about what they read about the Kinder and think that's the direction they would like to take.

BOOK REVIEW – THE RAW TRUTH ABOUT MILK: The Milk of Human Kindness Is Not Pasteurized, by William Campbell Douglass II, MD

“How Science Is Destroying Nature’s Nearly Perfect Food And Why Raw Milk, Animal Protein And Animal Fat In Your Diet Can Save Your Life”

This is a revised and expanded version of what was formerly titled THE MILK BOOK. It is a thorough and rather disturbing history of the milk industry, and the true facts about milk, written by a doctor who believes wholeheartedly in raw milk. He is careful to specifically say “**Certified Raw Milk**” because of the liability, and he doesn't have a lot to say about goat milk because his historical focus is on a particular cow dairy in California that has suffered bureaucratic injustice for decades, but it is a fascinating read. He does admit that goats are cleaner than cows – his comment, “Goats are Neat. Cows don't Care.” The bad news about the industry is lightened somewhat with his tongue-in-cheek humor, particularly in his many footnotes. He pokes a lot of fun at so-called science, various government agencies, the CDC, vegetarians, environmentalists – no one is exempt if they are making bad decisions for the rest of us (example: “So with the blind leading the deaf and dumb, the august legislature of Texas contracted...”).

Dr. Douglass explains just what pasteurization and homogenization does to milk, and further, what happens in the body when the product is ingested. He explains the differences in fats, and why what he calls “The Greasy Counterfeits” are such a problem to the human body. He even has a chapter on ice cream, about which he says it is “So delectable as to be near a sin.” – Anonymous, probably God. The final chapter is a scary one titled SOY AND INTERNATIONAL CONTROL OF YOUR DIET AND YOUR HEALTH, which, along with the rest of the book, is very well documented. You may never want to touch another soy product. The doctor packs a lot of important information in the book's 319 pages, and it is definitely well worth your time and effort. The copyright is 1984-2007, published by Rhino Publishing, www.RhinoPublish.com.

REMEMBER THE ‘SPIDER GOAT’ STORY?

A number of years ago there was a series of stories about the genetic modification of goats being done by a company in Montreal, Quebec – Nexia Biotechnologies, Inc. It was a very close call for the Kinder goat – we very nearly became involved, but thankfully we were saved from that bad decision when we were unable to get enough Kinders together in time to meet their need (they went with Nigerian Dwarves instead). The project goal was to develop goats with spider genes in them so that the protein in their milk could be spun into spider silk. Yes, they have accomplished that, and if you do a web search, you can find all the way-out products that can be made with the silk (named BioSteel), which is incredibly strong. What I hadn't seen until just recently is the more recent wrinkle on the spider goats:

University of Wyoming Scientist Will Examine Spider Silk Use for Sutures

June 27, 2006 -- A University of Wyoming molecular biologist will use the renewal of a half-million-dollar Air Force grant to develop

(Continued from page 10)

spider silk for military and medical applications.

College of Agriculture Professor Randy Lewis said the research will examine using spider silk as sutures. There is also interest in using spider silk technology as scaffolding for regenerating ligaments or tendons in humans.

The grant will continue research by his team into production of spider silk for various commercial purposes. But first, spider silk has to be produced in sufficient quantities. For that, the specific spider silk gene has been placed into the goat genome and the protein then extracted from milk and spun into fibers. Canada-based Nexia Biotechnologies Inc. in Montreal, Quebec, has been using the process in transgenic goats.

UW will begin processing the goat's milk containing the spider silk protein for the production of recombinant spider silk -- BioSteel -- for Nexia. About 5,200 pounds, or about 600 gallons, has been delivered, says Lewis, who has built an international reputation for his spider silk research.

The purified BioSteel is provided to companies and institutions that have an interest in developing Nexia's technologies, according to the company. Nexia recently renewed its exclusive spider silk gene licensing agreement with UW for all commercial fields relevant to Nexia.

Lewis also recently received a \$200,000 Department of Army grant to provide equipment to further purify spider silk proteins. The grant will develop fibers for use in bulletproof wear. About 600 gallons of goat milk is needed to produce a 5-pound bulletproof vest. Because of the volume needed, Lewis and his team have conducted research introducing the spider silk protein in alfalfa, but quantities produced are not yet at commercially useful levels.

A possible \$1.5 million National Institutes of Health grant would examine placing spider silk in a body for use as a scaffolding matrix for growth of a new ligament as opposed to growing a ligament in a biobath using silkworm silk. A researcher discovered that cells used to rejuvenate ligaments act differently when stretched and relaxed.

Silkworm silk is not flexible, Lewis says. No such problem with spider silk.

"The implication is that we could do this in the body and not have to do it outside," says Lewis. "If they use silkworm silk, they have to make the ligament work to the point it can be implanted as the silk is too weak and has no elasticity to function as the ligament replacement. With our silk, we would just start the process and then implant the ligament. The natural motion of the silk ligament would provide the stimulus for the cells to fill in and generate the new 'natural' ligament."

The spider silk research has drawn scientists to UW. Lewis says more than three postdoctoral students have come to UW from larger institutions to conduct research, and five graduate students have contacted him prior to applying to graduate school to ensure there would be positions. He has seven undergraduates working fulltime this summer.

The work (and honors) continue:

January 25, 2007 - UW Professor's Spider Silk Research Presentation Earns International Honor

April 5, 2007 - Spider-Man Demystified -- "Lewis recently provided laboratory details for a "CSI New York" television program that featured spider silk from goat's milk as part of the storyline."

September 28, 2007 - Former UW Postdoctoral Fellow Wins MacArthur Award -- "She was interested in how the different spider silks had evolved, and she used the molecular techniques we were developing to study that." Her research has the potential to influence the development of biomimetic material for a variety of applications, including biodegradable fishing line, medical sutures and protective body armor.

You may ask why I am so thankful that the Kinder goat did not get involved? I don't know what other breeders may think, but this kind of research also has its nightmare side. It can be counted on that genetically modified animals such as these spider goats will be accidentally or intentionally released into the general goat population. I doubt that anyone knows for sure what the modification does to the milk -- or the meat of the goat, for that matter -- as far as the safety of it for consumption. It is another one of those 'Pandora's Box' scenarios where once something is changed like this, there is no undoing it even if it proves to be dangerous. There is that old warning about the 'law of unintended consequences'!

NEW KINDER GOAT BLOG

One of our newer members, Karilee Valeriano, of Crazy Mountain Goats, in Montana, has graciously set up a Kinder goat blog for the KGBA. There has been some information posted, but it is up to members to write letters, send photos and stories, make comments, etc. to keep it going. Soon there will be a set of photos up there depicting the normal progression of the birth of a set of Kinder kids. Right now the photos are in the hands of my veterinarian who has kindly agreed to add some helpful commentary. Anything that you would like to share - for fun, for instruction, share ideas, make special requests - here's the ideal place to do it. Thanks Karilee for taking the time to create the blog for us - let's see how lively and helpful we can make it! Take a look at <http://kgba.wordpress.com/>.



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