



UNIVERSITY OF  
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EXTENSION

Institute of Food and Agricultural Sciences



# Animal Science Newsletter

January 2002

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## Dates To Remember

### January 2002

1	New Year's Day
4	Brangus Bonanza - Dunnellon
5	Horse Judging Coaches Seminar - Gainesville
10-11	2002 Ruminant Nutrition Symposium - Gainesville
17	19 <sup>th</sup> Annual Florida Cattlemen's Institute and Allied Trade Show - Kissimmee
18	Florida Association of Livestock Markets Annual Meeting
18-20	Breeding Management Short Course - Gainesville

## Prepared By Extension Specialists In Animal Sciences

- ❖ F.G. Hembry, Professor, Department Chairman
- ❖ R.S. Sand, Associate Professor, Extension  
Livestock Specialist
- ❖ E.L. Johnson, Associate Professor, Extension  
Equine Specialist
- ❖ W.E. Kunkle, Professor, Extension Beef  
Specialist
- ❖ S.H. TenBroeck, Associate Professor,  
Extension Youth Specialist
- ❖ R.O. Myer, Professor, Animal Nutritionist,  
Marianna
- ❖ W. Taylor, Coordinator Youth  
Education/Training
- ❖ A. Stelzleni, Research Programs/Services  
Coordinator

### February 2002

2	Southern Section Academic Quadrathlon Lab Practicum
9	State Fair Horse and Livestock Judging Events – Tampa



*This issue of the  
Animal Science  
Newsletter is  
dedicated to the  
memory of  
Dr. Fred W. Leak, Jr.*



## Dr. Fred W. Leak, Jr. (1957-2001)

Fred W. Leak, Jr., faculty member in the Department of Animal Sciences, died unexpectedly on Thursday, November 29<sup>th</sup>. He was 44.

Leak joined the Department of Animal Sciences, in 1984 as a teacher and extension meat specialist. He taught the popular undergraduate elective course "The Meat We Eat," to several hundred students over 15 years. He trained and coached several meat judging teams at the University of Florida and worked closely with several 4-H and vocational agriculture programs across Florida, in training meats judging teams and evaluating carcasses of animals shown at youth fairs.

A native of Jacksonville, Leak attended the University of Florida and received his BS degree in 1979 and MS in 1982. He continued studying in the meats area and received his PhD Degree from the University of Kentucky in 1984.

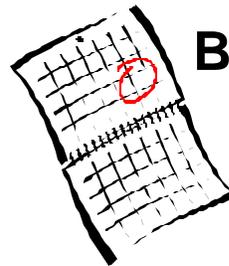
Leak worked with many meat packers, food wholesalers, supermarkets, and cruise lines on designing programs to improve meat merchandising, the eating experience, and food safety. He pioneered development of food safety programs for meat packers, food merchandisers, and cruise lines. He was a dynamic and engaging speaker, and made many presentations across the U.S. and other countries.

Expression of sympathy may be made through donations to the Fred Leak Scholarship fund at the University of Florida, Department of Animal Sciences.

Donations to the Scholarship Fund should be made out as follows:

University of Florida Foundation  
F.W. Leak Scholarship

Mail to:  
D.D. Johnson, Scholarship Chairman  
Department of Animal Sciences  
University of Florida  
P.O. Box 110910  
Gainesville, FL 32611



## Beef Management Calendar

### January

- Apply lime for summer crops.
- Check for lice and treat if necessary.
- Control weeds in cool season pastures.
- Begin grazing winter clover pastures when approximately 6 inches high. Rye should be 12 - 18 inches high.
- Check mineral feeders.
- Put bulls out for October calving season.
- Make up breeding herd lists if using single sire herds.
- Watch for calf scours.
- Give bulls extra feed and care so they will be in condition for breeding season.
- Make sure cow herd has access to adequate fresh water.
- Buy only performance tested bulls with superior records.
- Get taxes filed.
- Discuss herd health with your veterinarian and outline a program for the year. Review herd health program with your veterinarian regularly.
- Carry a pocket notebook to record heat, breeding abnormalities, discharges, abortions, retained placentas, difficult calvings and other data.

- Observe cow herd for calving difficulties.
- Watch for grass tetany on winter pastures.
- Increase magnesium levels in mineral mixes if grass tetany has been previous problem (if you are not already using a high magnesium mineral).
- Examine bulls for breeding soundness and semen quality prior to the breeding season.
- Vaccinate cows and heifers against vibriosis and leptospirosis prior to the breeding season.

## **February**

- Top dress winter forages, if needed.
- Check and fill mineral feeders.
- Put bulls out with breeding herd.
- Work calves (identify, implant with growth stimulant, vaccinate, etc.).
- Make sure lactating cows are receiving an adequate level of energy.
- Watch calves for signs of respiratory diseases.
- Cull cows that failed to calve while prices are seasonally up.
- Check for lice and treat if needed.

## **March**

- Prepare land for summer crops.
- Begin grazing warm season permanent pastures.
- Check and fill mineral feeder.
- Observe bulls for condition and success. Rotate and rest if needed.
- Deworm cows as needed.
- Make sure calves are healthy and making good weight gains.
- Hang forced-use dust bags by April 1<sup>st</sup> for external parasite control or use insecticide impregnated ear tags.
- Identify, vaccinate, implant, and work late calves.
- Put bulls out March 1<sup>st</sup> for calving season to start December 9.
- Remove bulls March 22<sup>nd</sup> to end calving season January 1.



# **Harvard Study Shows Very Low Risk of BSE in the United States**

The U.S. Department of Agriculture today released a landmark study by Harvard University that shows the risk of Bovine Spongiform Encephalopathy (BSE) occurring in the United States is extremely low. The report showed that early protection systems put into place by the USDA and Department of Health and Human Services (HHS) have been largely responsible for keeping BSE out of the U.S. and would prevent it from spreading if it ever did enter the country. Even so, officials outlined a series of actions to be taken that would continue strengthening programs to reduce that risk even further.

The risk assessment was commissioned by USDA and conducted by the Harvard Center for Risk Analysis. It evaluates the ways BSE could spread if it were to ever enter the United States. The report's purpose is to give agencies a scientific analysis to evaluate preventative measures already in place and identify additional actions that should be taken to minimize the risk of BSE.

“The study released today clearly shows that the years of early actions taken by the federal government to safeguard consumers have helped keep BSE from entering the United States,” said Agriculture Secretary Ann M. Veneman. “Even if BSE were to ever be introduced, it would be contained according to the study. However, we cannot let down our guard or reduce our vigilance. We must continue to strengthen these critical programs and today we are announcing a series of actions to bolster our protection systems.”

“Based on three years of thorough study, we are firmly confident that BSE will not become an animal or public health problem in America,” said Dr. George Gray, deputy director of the Harvard Center for Risk Analysis and director of the project.

In response to the report, Veneman announced a series of actions the USDA would take, in cooperation with HHS, to strengthen its

BSE prevention programs and maintain the government's vigilance against the disease.

First, USDA will have the risk assessment peer reviewed by a team of outside experts to ensure its scientific integrity.

Second, the USDA will more than double the number of BSE tests it will conduct this fiscal year, with over 12,500 cattle samples targeted in 2002--up from 5,000 during 2001.

Third, USDA will publish a policy options paper outlining additional regulatory actions that may be taken to reduce the potential risk of exposure and ensure potential infectious materials remain out of the U.S food supply. To ensure its decisions are science-based, options will be tested using the computer model developed through the risk assessment to determine the potential impact they would have on animal and public health.

The options to be considered will include: prohibiting the use of brain and spinal cord from specified categories of animals in human food; prohibiting the use of central nervous system tissue in boneless beef products, including meat from advanced meat recovery (AMR) systems; and prohibiting the use of vertebral column from certain categories of cattle, including downed animals, in the production of meat from advanced meat recovery systems. USDA will invite public comment on the options and then proceed with appropriate regulatory actions.

Fourth, USDA will issue a proposed rule to prohibit the use of certain stunning devices used to immobilize cattle during slaughter.

Fifth, USDA will publish an Advance Notice of Proposed Rulemaking (ANPR) to consider additional regulatory options for the disposal of dead stock on farms and ranches. Such cattle are considered an important potential pathway for the spread of BSE in the animal chain.

"We found that even if BSE were ever introduced, it would not become established," said Gray. "With the government programs already in place, even accounting for imperfect compliance,

the disease in the cattle herd would quickly die out, and the potential for people to be exposed to infected cattle parts that could transmit the disease is very low."

BSE has never been detected in U.S. cattle, nor has there been a case of the human form of the disease, variant Creutzfeldt-Jakob Disease (vCJD), detected in the United States. Since 1989, USDA has banned the import of live ruminants, such as cattle, sheep and goats, and most ruminant products from the United Kingdom and other countries having BSE. The ban was extended to Europe in 1997. To stop the way the disease is thought to spread, HHS prohibited the use of most mammalian protein in the manufacture of animal feed intended for cows and other ruminants. Should a case of BSE ever be detected in this country, an emergency response plan has been developed to immediately control suspect animals and prevent them from entering the food supply.

This summer, HHS Secretary Tommy Thompson announced an action plan outlining new steps to improve scientific understanding of BSE that incorporates a comprehensive approach to further strengthen surveillance, increase research resources and expand existing inspection efforts.

BSE is a chronic, degenerative neurological disorder of cattle that belongs to a family of diseases known as transmissible spongiform encephalopathies. Also included in that family of illnesses is vCJD, which is believed to be caused by eating neural tissue, such as brain and spinal cord, from BSE-affected cattle.

A complete copy of the Harvard Report can be obtained from USDA's official website at <http://www.usda.gov/>. For more information about BSE and the many efforts being taken to prevent its entry and spread into the United States, also visit <http://www.usda.gov/> or <http://www.hhs.gov/>.

**SOURCE:** Alisa Harrison  
USDA  
(202) 720-4623  
Release – November 30, 2001

**-RSS-**



## “Factors Affecting Calf Crop: Biotechnology of Reproduction” is now available for purchase

Get the combined expertise of over 25 leading scientists – Edited by Michael J. Fields, Robert S. Sand, and Joel V. Yelich

In today’s world, we are witnessing simultaneous breakthroughs in reproductive technologies, genomics, and molecular biology. Advances in molecular genetic technology and understanding of the bovine genome have led to the development of tools that can be used to enhance profitability on cow-calf enterprises. **Factors Affecting Calf Crop: Biotechnology of Reproduction** provides a detailed compilation of current and forthcoming technology for managing reproduction in cattle.

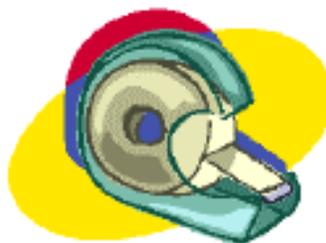
The book discusses topics such as: approved techniques for controlling the estrous cycle in cattle; managing follicular growth with progesterone, estrogens, and prostaglandins; freezing, thawing, and transfer of cattle embryos; application of embryo transfer to the beef cattle industry; embryo transfer in topically adapted cattle; new factors affecting bull fertility; embryo collection and utilization technology, in vitro fertilization, somatic cell cloning and genetic technologies; uses of real time ultrasound; and sexed semen.

Over 25 leading animal scientists have combined their expertise to produce the first single-source reference that covers successful reproductive techniques that will, most likely, be the wave of the future. Expansive in scope, the book addresses current biotechnologies as they impact the production of beef cattle. Written at a level to appeal to the researcher, commercial producer, or student, **Factors Affecting Calf Crop: Biotechnology of Reproduction** presents you with a wealth of technologies applicable to animal agriculture.

The features include:

- ❖ Different approaches to estrous synchronization and artificial insemination.
- ❖ Methods for cloning, sequencing the bovine genome, marker-assisted selection, ultrasound sexing of fetuses, and improving the pregnancy rates.
- ❖ Contributions from experts in the rapidly emerging practice of applying biotechnology to production agriculture.
- ❖ Addressing all of the current biotechnologies and their potential impact on the production of beef cattle.

You may purchase **Factors Affecting Calf Crop: Biotechnology of Reproduction** (Catalog no. 1117) through CRC Press for \$109.95, by going online at [www.crcpress.com](http://www.crcpress.com) or phone (800) 272-7737.



## Pop-Up Adhesive Tape Aids Scientists in Monitoring Microbes on Meat

Believe it or not. A major manufacturer of adhesive tape discovered a way to facilitate gift wrapping, and this method ultimately turned into a way to expedite scientists' sampling for bacteria on meat.

Sounds strange, but it's true. Laboratory personnel monitor the population of microbes on meat to learn about the potential of spoilage. It just so happens that applying a piece of adhesive tape to the surface and then examining it for bacteria is one of the simplest ways to accomplish this goal, according to a news release from Food Safety Consortium.

### No longer an awkward method

"One inconvenience in the tape method was having to use both hands to peel the adhesive tape from the protective material before placing the tape onto the meat surface for removal of microbes," said Daniel Fung, a Kansas State University food scientist and Food Safety Consortium researcher.

After pondering this dilemma, Fung found his inspiration in a television commercial. 3M, the manufacturer of Scotch tape, was promoting its pop-up tape dispenser as a way for people to wrap gifts without feeling the need for a third hand. Pull a piece of tape out of the dispenser, and the next piece pops up ready to be pulled.

"They (3M) had no idea this [tape] can be used for microbiology," Fung said. But Fung did, and he tried it. He found the method to be effective and cheap, costing about 1 cent per test, excluding the agar plate.

"Let's take a piece of tape and put it on the surface of the meat for 15 seconds," Fung said.

"Peel it off and put it on the surface of agar [a gelatin-like substance used as a base for culture media that grow bacteria] for 15 seconds. Peel it off and you're done. Incubate the agar for 12 to 24 hours. Count the colonies. You don't have to do any dilutions."

In conventional swab-and-rinse methods, scientists would swab the meat surface, place the contents in a tube, shake it up in a mixture diluted by a ratio of one to 10 and incubate the dilution for 24 hours. The procedure costs about \$2 each time -- considerably more expensive than the pop-up tape method.

"Each sheet of tape along with part of an agar will provide information equivalent to one swab procedure, which utilizes diluents, sterile pipettes, sterile swabs, agar and petri plates to make viable cell counts," Fung said.

Using the tape is versatile not only because the pop-up method allows a scientist a free hand, but the tape itself can be applied to curved and flat-meat surfaces.

Although adhesive tape has been used in meat sampling for about 30 years, the procedure hasn't been promoted in an organized way, Fung said.

His experiments with the tape involved only beef surfaces, but the method can also be used on surfaces of poultry, fish, pork, fruit, tabletops and bench tops, according to the news release. Agars can be used to study the prevalence of organisms such as salmonella, listeria, and lactic acid bacteria.

"This may be the one [method] we can push," Fung said. "This is so simple and efficient. This will be the easiest possible way to do microbiological sampling for meat surfaces."

**SOURCE:** Bryan Salvage  
Meatingplace.com  
Release – November 26, 2001

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## Laminitis/ Founder



**FOUNDER:** This may possibly be the most feared word a horse owner could hear. It results in a vast array of emotions because so little is understood by the layperson about causes, prevention, treatment, and/or cures. This really isn't surprising since a large percentage of farriers, veterinarians, researchers, and other professionals do not have a

much better understanding than the average horse owner. Additionally there are so many stories and much misinformation in the horse world concerning founder. What horse owner hasn't read or heard about some rather famous horse that had to be euthanized because of founder?

Those who deal with founder on a somewhat routine basis, whether trying to treat a case or doing research, are the people who realize just how difficult founder is to understand and how difficult it is to provide satisfactory answers. What they know is there are few firm answers. Except in the mildest of cases, there are some generalities that apply:

1. Extreme pain is present, which may be exceptionally difficult for those involved in the case to deal with.
2. There will be good days and bad days.
3. There are no hard and fast treatment regimes; different horses respond differently to various treatment protocols.
4. Some horses suffer such an insult they are unable to be saved.
5. Those that do "recover" seldom (if ever) completely recover.
6. Recurrent abscesses are commonplace and are to be expected.
7. Once a horse has foundered, it is more prone to founder again than a horse that hasn't foundered.

How are laminitis and founder related? Are they really the same thing? What role does laminitis play in founder? These are questions that add to the confusion. To begin to gain an understanding and appreciation of founder, we first must distinguish the difference between, and the relationship of, laminitis to founder. Technically, laminitis is an inflammation of the laminae of the hoof. Depending upon the severity of the inflammation, the treatment provided, and the time of inception of the treatment,

laminitis may or may not result in founder. Founder is a term that has been borrowed from nautical terminology meaning "to sink." That is what the coffin bone (the major bone enclosed in the hoof capsule) does in the case of founder. In most instances, the coffin bone pulls away from its dorsal attachment to the hoof capsule and the tip of the bone begins to rotate downward. The other scenario that can occur is termed a "sinker." This occurs when most or all of the attachment of the coffin bone fails and the entire coffin bone sinks downward in the hoof capsule. If the condition is severe enough, the horse may actually step out of the hoof capsule. Obviously, a horse that is a sinker has a very poor prognosis.

Laminitis and/or founder may occur in any or all feet on a given horse and most frequently occurs in one or both front feet. Seldom does it occur in the hind feet and not in the front feet, although this situation may occur. As we try to learn about this disease, it is helpful to understand what causes founder. It seems most people believe laminitis/founder is a condition caused by overeating or possibly from overdrinking while hot. In actuality, a great many things can cause laminitis and in the majority of cases, we may not really know the cause. What we do know is, for some reason, the body releases toxins which in turn cause laminitis. Certainly this can be caused by an overload of concentrates or the ingestion of too much lush grass. However, many other factors may precipitate the release of toxins inducing laminitis. Events such as retained placentas, reactions to drugs or vaccines, ingestion of toxic plants, substances or molds, and simply excessive concussion from use on hard surfaces may cause laminitis.

If you suspect a horse has suffered an event that could induce laminitis or is showing signs of laminitis, call your veterinarian and farrier immediately. Do not be afraid to ask them of their experience with laminitis/founder and whether they are comfortable treating and managing a horse with this condition. There are many farriers and veterinarians that do not like, or will not deal with founder. If this is the situation you are confronted with, don't hesitate to locate a person or persons who are competent and interested. Many times the farrier and/or veterinarian may want to call in

another party for consultation and this should not be discouraged. When dealing with founder, it is always good to have multiple opinions as to potential treatment regimes. There are many treatment protocols, and they may need to vary through the course of treatment.

While waiting for the veterinarian and/or farrier to arrive, there are several actions one can take. Make and keep the horse as comfortable as possible. Move the horse as little as possible to help reduce insult to the laminae. By some method, support the coffin bone. This can be achieved by standing in deep sand or shavings, taping a roll of gauze over the frog, taping a thick Styrofoam block to the foot, or using one of the commercial products available (lily pads, Redden wedges, etc.). Also, keep the foot cool by standing in ice water or hosing with cool water.

When dealing with laminitis/founder, the sooner treatment is started the better chance for a good prognosis. If laminitis progresses to founder, one must be prepared mentally, physically, and monetarily for a long battle. The farrier and veterinarian may be on site frequently for the first few days; but as the condition progresses, care will be the primary responsibility of the daily care provider. It can be a tough situation to deal with; however, in many cases the battle can be won. With ongoing research providing more insight into treatment protocols and new and better products to use in treatment, the future looks brighter.

**SOURCE:** Edward L. Johnson  
ejohnson@animal.ufl.edu  
Associate Professor, Equine  
Department of Animal Sciences  
University of Florida  
Gainesville, FL 32611

-ELJ-



## Florida Is Officially Free of Brucellosis: USDA

Here's good news for Florida's 20,000 cattle operations, about 98 percent of which are owned by small farmers. The Agriculture Department declared Florida free of brucellosis earlier this month, and it lifted certain restrictions on the interstate movement of cattle from that state.

Brucellosis class-free status will enhance the national and international marketability of beef from that state, according to a news release. The status hinges on finding no cases of brucellosis in cattle and bison for 12 months.

Florida has not discovered any infected herds in more than 12 months and has met all other requirements of the cooperative state-federal brucellosis eradication program for class-free status. It joins 47 other states, Puerto Rico and the U.S. Virgin Islands in achieving brucellosis class-free status.

The presence of brucellosis has cost the federal government, states and the livestock industry billions of dollars in production losses, eradication costs and lost or unrealized export markets. As long as the disease is present in the United States, it poses a threat to the \$53 billion U.S. beef industry, the news release added.

Brucellosis is a highly contagious disease of cattle causing abortions and lowered milk production. In humans, the disease causes severe flu-like symptoms that can last for months or years if left untreated.

**SOURCE:** Bryan Salvage  
Meatingplace.com  
Release – December 17, 2001

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