

Animal Health News



News for Veterinarians from the North Dakota State Board of Animal Health

Voluntary Johne's program OK'd

The North Dakota State Board of Animal Health has given the go-ahead for a Voluntary Johne's Disease Herd Status Plan.

Meeting Dec. 13, in Bismarck, the board unanimously approved the plan which is intended to assist livestock producers in the control and eventual eradication of Johne's Disease from their herds. It will also provide cattle producers in North Dakota with reasonable and reliable information on the risk of introducing Johne's Disease into their herds when buying cattle.

The plan requires the education and certification of participating veterinarians to ensure that participating producers receive accurate and consistent information about the disease and the plan (see accompanying box). A risk assessment conducted by the participating veterinarian and the producer is required at the beginning of the program to identify management practices that will reduce the transmission of Johne's Disease into and within the herd.

Veterinarian training slated

All bovine practitioners in North Dakota are urged to attend a Johne's Disease informational meeting on Tuesday, Feb. 6, 2001, at the Kelly Inn, 1800 N. 12th St., Bismarck.

Attendance is required of any practitioner whose clients wish to participate in the new Johne's Disease Herd Status Program. The program requires veterinary participation in a risk assessment of the operation and in the herd testing. This course, sponsored by the North Dakota Veterinary Medical Association (NDVMA), will provide the information needed to participate in the program.

The meeting is scheduled from 10 a.m. to 3:30 p.m. Registration is \$70. Attendees will receive four hours of continuing education credit.

The meeting agenda is as follows:

- 10:00 am "Epidemiology and Biostatistics of Johne's Disease," presented by Charles Stoltenow, DVM.
- 11:00 am "The North Dakota Voluntary Johne's Disease Herd Status Program," presented by Larry Schuler, DVM
- Noon Lunch
- 1:30 pm "Johne's Disease: The Laboratory," presented by Neil Dyer, DVM.
- 2:30 pm "Management (Prevention and Control) of Johne's Disease," presented by Susan Keller, DVM.

The plan is designed to be market driven. Producers who buy cattle are free to purchase cattle from any source or for any purpose. There is no requirement for participation, nor is there a requirement to notify anyone of participation, although

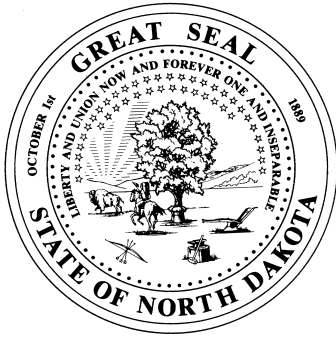
this is encouraged. By notifying potential buyers of participation in the plan, the buyer demonstrates proactive efforts to control the disease and its spread. As enrollment in the program increases, buyers will be able to select cattle from herds with a lower risk of Johne's Disease infection. Thus, the market will determine the demand for plan participation.

The program has two branches. One branch (Status Program) is for herds that have not found infection and is equivalent to the U.S. Voluntary Johne's Disease Herd Status Plan (VJDHSP). The other branch (Management Program) is for herds that have identified the infection and is meant to assist producers in the control and eventual eradication of Johne's Disease from their operations.

Herds that have not been tested and have not instituted biosecurity measures to reduce the spread of Johne's Disease will be considered to have a zero status. Herds with this status are of unknown risk for transmitting Johne's Disease.

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Animal Health News

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Ted Quanrud, Editor

BOAH re-elects Maher as president

The North Dakota Board of Animal Health has unanimously re-elected Francis Buck" Maher, Menoken, as its president.

The election was held during the board's Dec. 13, 2000 meeting in Bismarck.

Also elected was Jody Hauge, Carson, as board secretary.

Examiners approve five for licensure

The North Dakota Board of Veterinary Medical Examiners recently approved five candidates for licensure to practice veterinary medicine in the state.

They receiving licenses are:

- Dr. Alice-Marie Gerty, Britton, SD
- Dr. William Hare, Steele, ND
- Dr. Kelly Lightfoot, Assiniboia, SK
- Dr. Sara Rose-Stai, Worthington, MN
- Dr. Pat Trindle, Ashley, ND

At its Oct. 2 meeting in Bismarck, the board also determined that veterinary technician students should receive training in cat castration and declawing procedures.

The board concluded that students should receive some basic instruction in these areas, so that they can be more valuable employees when they graduate, should their employers want them to do these procedures.

Board members noted that if veterinary technicians (or other employees) do these and similar procedures, they can only do so under the direction and supervision of a licensed veterinarian, who is responsible for that person's performance, according to NDCC 43-29-18.

In other action, the board:

- Discussed changes to the practice act that will be required in order to allow North Dakota to use a new certification program for graduates of non-accredited veterinary schools.
- Agreed to require veterinarians who are licensed in odd numbered years to complete 12 hours of continuing education prior to their first license renewal.
- Reviewed budget figures and concluded that no changes to the fee structure will be needed in the coming year.

The board's next regular meeting will be Monday, June 4, 2001, in Bismarck.

Cogswell man fined for importing deer

BISMARCK – The North Dakota Board of Animal Health has fined a Dickey County man \$2,600 for illegally bringing captive deer into the state.

Todd Thompson, Cogswell, paid half the civil penalty with the remainder suspended for one year.

According to documents presented to the board, Thompson imported 13 female white-tail fawns from Wisconsin on or about May 20. The North Dakota Game and Fish Department learned of the presence of the deer, conducted an investigation, and referred the matter to the board.

Dr. Larry Schuler, North Dakota state veterinarian, ordered a quarantine of the animals on August 11. He said the animals will remain quarantined until results from brucellosis and tuberculosis tests and favorable health reports on the herds of origin are received.

Bovine euthanasia: Some considerations

Editor's note: The following is a condensation of guidelines prepared by the animal welfare committee of the American Association of Bovine Practitioners. The full statement can be found on the website: www.aabp.org. It was also reprinted in the October 2000 issue of *VETERINARY PRACTICE NEWS*.

Euthanasia requires that the animal be rendered unconscious without distress or suffering prior to cessation of vital life functions. The three physiological mechanisms for inducing euthanasia in cattle include:

- Physical disruption of brain activity caused by direct destruction of brain tissue (gunshot, penetrating captive bolt).
- Drugs that directly depress the central nervous system (anesthetics, barbiturates) and induce death by hypoxia.
- Agents that induce unconsciousness followed by mechanisms that induce hypoxia (narcotics followed by exsanguination).

Considerations

When euthanasia is the most appropriate option, the following considerations must be made when choosing a method:

Human Safety: Obviously, the use of a firearm carries some danger. Some methods, such as a barbiturate overdose, usually result in a calm animal being euthanized quietly and easily.

Animal Welfare: Any euthanasia method utilized should produce a quick and painless death. Use the technique that is safest for humans and animals alike.

Restraint: Cattle chutes or other forms of restraint may make certain forms of euthanasia more practical than others. For example, it may not be possible to euthanize an adult cow using barbiturates without proper head restraint.

Practicality: Appropriate euthanasia techniques must also be practical. Not all individuals working with cattle have le-

gal access to drugs, such as barbiturates.

Skill: Some techniques, such as use of the captive bolt, require some skill and training to accomplish correctly.

Cost: Some euthanasia techniques are more costly than others. Other techniques, such as gunshot or captive bolt, require a larger initial investment, but continued use is inexpensive.

Aesthetics: Certain euthanasia techniques, such as barbiturate overdose, may appear more pleasing to the untrained eye than other techniques that result in significant involuntary movements of the

Euthanasia requires an animal be rendered unconscious without distress or suffering prior to cessation of vital life functions.

animal which may be misinterpreted as a voluntary painful response.

Diagnostics: When tissues from the animal are to be sent to a laboratory for testing, the euthanasia method may be critical (such as avoiding damage to brain tissue in cases with rabies potential).

Methods

Gunshot. The firearm should be held 2 to 10 inches from the target point. The bullet should be directed perpendicular to the front of the skull to prevent ricochet. The point of entry should be at the intersection of two imaginary lines, each drawn from the inside corner of the eye to the base of the opposite horn (slightly above the ear in polled animals).

A .22-caliber long rifle bullet is sufficient for most animals, but a .22 magnum or 9 mm should be used on bulls. A hollow-point or softnose bullet increases tissue destruction. If performed skillfully, gunshot induces instantaneous unconsciousness, is inexpensive and does not require close contact with the animal.

This method should be attempted only by individuals trained in the use of firearms and who understand the potential

for ricochet. Care must be taken to minimize danger to the operator, to bystanders and to the other animals. In addition, because some cities have laws prohibiting the discharge of firearms in certain areas, the operator should be aware of local ordinances that may apply.

Captive bolt. Captive bolt "guns" are either penetrating or nonpenetrating. Penetrating captive bolt guns are meant to produce immediate brain tissue destruction. Both types will consistently stun an animal. A stunned animal will "drop" but will still exhibit respiration and sudden quick limb movements. An additional procedure (exsanguination, chemical agents) must be used to ensure death after the use of the nonpenetrating captive bolt and is recommended after use of the penetrating captive bolt.

The captive bolt gun must be placed firmly against the skull at the same entry point previously described for a gunshot. Because use of the captive bolt gun requires close proximity to the animal, good restraint and prior sedation or tranquilization may be required.

Manufacturer-recommended maintenance and cleaning of a captive bolt gun must be followed exactly. Selection of cartridge strength may vary among manufacturers, and the appropriate strength for the size of the animal must be used.

Barbiturate. When properly administered intravenously, barbiturate overdose (60 to 80 mg/kg sodium pentobarbital IV) produces rapid unconsciousness and anesthesia followed by respiratory depression, hypoxia and cardiac arrest. Chosen barbiturates should be potent, long-acting and stable in solution.

Exsanguination. This method can be used subsequent to stunning, anesthesia or unconsciousness. It must not be used as the sole method for euthanasia.

The most common method in the bovine is to lacerate one or both carotid arteries. A long, sharp, 6-inch knife is fully inserted behind the point of jaw, just be-

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Will government or industry control national ID program?

A leading federal animal health official has put the livestock industry on notice that a mandatory national animal ID program is coming.

“Within three to four years, the livestock industry, especially the cattle industry, will face a crisis in identification unless they do something about it,” says Dr. John Wiemers, national identification coordinator for USDA/APHIS. “We are giving the industry a chance to come up with systems that meet their needs as well as government needs. This is a heads-up.”

The national system will be required for any animals involved in interstate commerce, including most livestock and poultry, but in most cases, not pets.

In a way, the crisis is due to the impending eradication of brucellosis.

“As the states become free of the disease, testing on breeding age animals will also no longer be required at livestock markets,” explains Wiemers. “And, neither will the identification ear tags that are applied to vaccinated animals. In a few short years, the overall level of identification in cattle can be expected to fall from a high of 90 percent to 10 percent, which it did in Canada following successful eradication of brucellosis in that country.”

In the meantime, Canada has begun a mandatory ID program.

Wiemers says failure to replace that testing and ID system will make the U.S. industry very vulnerable to foreign animal disease outbreaks, and will result in impaired surveillance for eradicated diseases, inadequate monitoring of new and emerging diseases, and technical barriers to global trade.

Even so, the idea of a national ID system, particularly a mandatory one, raises concerns with certain producer groups.

Dr. Bucky Gwartney, research and technical services director for the National Cattlemen’s Beef Association (NCBA), says NCBA supports a voluntary system as long as it is cost appropriate, it answers the right questions, is efficient, and not overburdening. He claims a mandatory system “would be government driven . . . would have a huge infrastructure and be very difficult to implement,” but could not guarantee food safety.

Wiemers says the system doesn’t need to be complicated, but “is as simple as replacing the calfhood identification system with one that simply identifies the animals before they leave the farm.”

On the cost issue, Wiemers says expenses have to be weighed against the benefits, and he points out that many beef alliances and beef quality assurance programs already have very expensive systems in place because of the benefits.

“We’ll work with the industry,” he says. “We anticipate a shared cost.”

He says liability is a legitimate concern, especially if a problem is identified that a producer has no control over.

In a case of antibiotic residue in an animal that has been through many owners, ID provides the best defense. “If a producer has a good record system, the use of antibiotics is documented.”

A number of industry programs already exist in the U.S. One is National F.A.I.R. (Farm Animal Identification and Records), developed by the Holstein Association USA, Inc.

Started in 1998, the pilot program now involves 86 herds and 70,000 animals. Electronic readers are in place in a few livestock markets and packing plants. F.A.I.R. involves a numbering system for animals and premises; identification methods, including both visible ear tags and electronic identification (EID); and an information system that provides an ID record and information on an animal’s movement.

“F.A.I.R. covers the needs of various segments of the industry – animal diseases, genetic improvement, and food safety,” says Neil Hammerschmidt, executive director of Dairy Herd Services for the Holstein Association, USA and chairman of the Animal Identification and Information

Systems Committee to the National Institute for Animal Agriculture. “Instead of all these segments building separate systems, it covers a broad spectrum of animal ID issues. The real benefit is looking at it from the producer’s perspective. It works on the farm in day-to-day management, but the same system also works beyond the farm gate.”

In Montana, Jenny Bloomquist is excited about the Montana Stockgrowers Association’s Montana Beef Network. The identification program began in 1999 and involves 127 producers. More than 18,500 head have already been identified with EID.

USDA policy on ID standardization

While Dr. John Wiemers says USDA/APHIS will be flexible in working with the livestock industry on a national ID system, the agency has already developed a policy statement calling for standardization in several areas, including:

- A uniform, nationally recognized numbering system for individual animal ID.
- A uniform premises ID system for correctly identifying locations and owners of livestock.
- A method to evaluate and approve ID methods for official use in livestock.
- A list of basic information necessary to adequately trace the movement of individual animals.
- Standards for use of electronic ID devices.
- Standards for electronic data messaging and data retrieval (database).

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Classical swine fever outbreak hits U.K.

British authorities appear to have succeeded containing the first outbreak of classical swine fever (CSF) in the United Kingdom in 14 years, although more than 40,000 pigs had to be slaughtered before the disease was brought under control.

The disease was first confirmed Aug. 4, in Suffolk County in the eastern UK. As of Nov. 15, CSF had been confirmed on 16 premises in Suffolk and neighboring Norfolk and Essex counties. It appears that all the farms were owned by or contracted to one breeding/production firm.

Also known as hog cholera, CSF is caused by infection with a member of the *Pestivirus* genus of the *Flaviviridae* family of RNA viruses. Highly contagious, it can result in high mortality rates, but cannot spread to humans.

Quarantine zones covering hundreds of farms were established around the infected premises, and the movement of all pigs within the zones prohibited. All infected animals were destroyed. By Dec. 20, however, the quarantine area had been reduced to a single area 3.7 miles in diameter in Norfolk.

The European Union has banned exports of live pigs and porcine semen from the three counties, and the U.S. Department of Agriculture is restricting importation of pork and pork products and prohibiting the entry of swine from the region.

The outbreak came at a very bad time for the U.K. hog industry. The economic instability in the U.K. hog industry has put pressure on the government to ease movement restrictions as quickly as possible.

Investigations into the cause of the outbreak are continuing. A letter by members of the State Veterinary Service, published in The Veterinary Record, concluded that the most likely source of infection is an infected pork product.

Up-to-date information can be obtained at www.maff.gov.uk.

Material for this article was derived from the Summer 2000 issue of SWINE HEALTH REPORT AND EPIDEMIOLOGY and the Ministry of Agriculture, Fisheries and Food and ProMed websites.

Bovine euthanasia: Some considerations

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low the neck bones, and directed downward until blood is freely flowing. Brachial vasculature can be lacerated by lifting a fore limb, inserting the knife deeply at the point of the elbow and cutting skin and vasculature until the limb can be laid back against the thorax of the animal. The aorta can be transected via the rectum, by a trained individual, so that blood pools within the abdominal cavity.

Electrocution. This method should be attempted only using specialized slaughter plant equipment that applies a minimum of 2.5 amps across the brain.

Confirmation of death is critical regardless of what method of euthanasia is chosen. Lack of heartbeat or respiration or corneal reflex can be used to evaluate consciousness.

The presence of a heartbeat is best evaluated with a stethoscope placed under the left elbow. Movement of the chest indicates respiration. (Note: breathing can be very slow and erratic in unconscious animals.) The corneal reflex can be tested by touching the eyeball and noting if the animal blinks. A lack of heartbeat and

respiration for more than five minutes should be used to confirm death.

Euthanasia of Calves and Bulls: Calves and bulls require special consideration in selecting the proper method of euthanasia. Ethical considerations do not change for the calf because it is small or more easily handled. Calves can easily be euthanized with a penetrating captive bolt gun. Barbiturate overdosing also works well, but legal restrictions must be followed.

Bulls require special considerations because of their size, attitude and physical thickness of their skull. Operator safety is of primary concern in euthanasia of bulls. For certain techniques, proper restraint is critical. Bulls may be euthanized with specialized heavy duty captive bolt guns, firearms using 9mm bullets, or by barbiturate overdose.

Unacceptable Methods

Ethical and humane standards DO NOT permit the following bovine euthanasia methods:

- Manually applied blunt trauma to the head.
- Injection of chemicals (e.g. disinfectants,

electrolytes and non-anesthetic pharmaceutical agents) into conscious animals .

- Air embolism (e.g. injection of large amount of air into the vasculature).
- Electrocution with a 120 volt electrical cord.

Conclusions

Personnel at sites that routinely handle animals should at all times have the ability and facilities to carry out emergency euthanasia. Penetrating captive bolt and gunshot are the only two methods available to non-veterinarians for emergency euthanasia. Animal transporters should also be appropriately trained and should have phone numbers to contact appropriate personnel in case of an emergency.

Market and sale yards should have a written procedure to follow in case of emergency and should have personnel trained in emergency euthanasia during all shifts. When practical, choose a location where the carcass can be easily reached by removal equipment. An action plan for routine and emergency euthanasia should be developed and followed wherever animals are handled.

N.Y. foxhounds found with rare disease

From August 1999 to March 2000, 20 foxhounds at a southeast New York State hunt club died or were euthanized due to infection of the parasite *Leishmania* spp. of the *donovani* complex. Clinical signs included wasting, hemorrhage, seizures, weight loss, hair loss, skin lesions, kidney failure and swollen limbs and joints. Forty-two percent of the adult dogs tested serologically positive for *Leishmania* antibodies, and the organism was isolated from 15 seropositive dogs. However, hunt club employees, dogs at other hunt clubs, horses and wild rodents in the vicinity were seronegative.

A zoonotic disease of humans and dogs, Leishmaniasis is caused by any of more than 20 species of protozoa of the *Leishmania* genus. Approximately 400,000 people are annually infected worldwide. Humans, wild rodents, domestic and wild canids and other species may serve as organism reservoirs. The organisms usually are transmitted by sandflies, although direct contact transmission among dogs has been documented.

In humans, clinical disease ranges from mild skin lesions to life-threatening, multi-organ involvement. Common clinical signs in dogs include weight loss, enlarged lymph nodes, arthritis, and skin lesions. Infected dogs may not show clinical signs, although they may develop antibodies against the organism. Dogs with clinical signs of the disease are more likely to die from leishmaniasis than are clinically affected humans. Human leishmaniasis previously was thought to occur in three forms: cutaneous, mucocutaneous, and visceral, but apparent overlap of these forms suggests that they are part of a spectrum of the same disease, not separate entities. The clinical picture in an

affected individual ultimately depends on the infecting species of *Leishmania* and the immune status of the host.

Leishmaniasis previously was considered an exotic disease in most of the U.S. Most cases were diagnosed in people and dogs after they returned from endemic areas such as Mediterranean countries or South America. However, cutaneous leishmaniasis occurs in humans in south-central Texas, and a few cases of visceral leishmaniasis have been reported in dogs in Oklahoma, Ohio, and Texas that did not travel outside the U.S. Subsequent investigations suggest that leishmaniasis may be more common than previously thought.

Studies in 1999 found that approximately 1.2% of 7,000 dogs were seropositive in 19 states and Ontario. *Leishmania* organisms were cultured from dogs in 5 states and Ontario. In response to questions concerning wild reservoirs, samples were tested from more than 250 wild canids native to the southeastern United States or translocated from central or western states; all were seronegative.

The ultimate source of *Leishmania* infections in the foxhounds in New York and 18 other states and Ontario remains unknown. A single introduction of the organism from a foreign source appears less likely in view of the widespread distribution of leishmaniasis in U.S. and Canadian foxhounds. Questions remain regarding a possible role for wild reservoirs in this scenario, and additional serosurveys are planned for foxes in enclosures where the infected New York hounds had hunted. Vector studies are pending where infected hounds have been

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Will government or industry control national ID program?

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“It started with a feeder cattle certification concept,” explains Bloomquist, the association’s special services coordinator. “But we felt we needed a systems approach with a beef quality assurance component, an animal ID and trace back component, and an information feedback component.”

In addition to providing ID, the information feedback component allows cow/calf producers to find value-added markets for their calves. “We’re trying to be a supply development entity,” she says.

The association can provide the tags for \$2 each. The actual cost is around \$6.

Bloomquist says producers also have the option of getting a panel tag for \$1 a head, which allows them to be marketed as BQA certified.

Both Hammerschmidt and Bloomquist say national ID is a necessity.

“Without question, we need national ID at some level – maybe not to extent Europeans have, but we are losing ground here. We need systems in place so we’ll have the infrastructure to respond to disease and animal health issues in the future,” says Hammerschmidt.

“Our organization is a proponent of voluntary ID, rather than a mandatory program,” says Bloomquist. “But we think

an ID system is the only way we can produce a quality product and provide customer satisfaction.”

Hammerschmidt says a standard should be established for what percent of a population must be identified for a successful program.

“If the industry is unable to achieve that level of identification through voluntary programs, it may require a mandate from USDA,” he says. “Yet, industry should be responsible for the administration of the program.”

This is an edited version of an article appearing in the Summer 2000 issue of CATTLE HEALTH REPORT.

A Cow's-Eye View of Weaning

By Kris Ringwald
NDSU Extension Beef Specialist

It's that time to say goodbye.

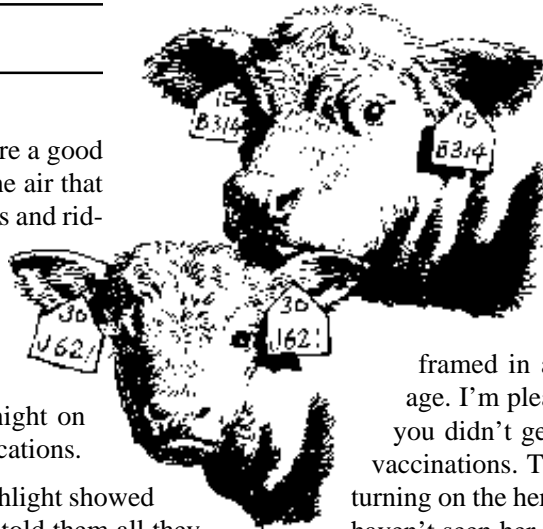
The summer was pleasant. You were a good calf. But I can tell by the chill in the air that the time draws near when the horses and riders will be coming to bring us home. The grass is not what it was earlier in the year. It seems like just yesterday when all 84 pounds of you arrived (the same weight as my first calf in 1990) in the dark of night on the ninth of March with no complications.

The help was proud when their flashlight showed you up and nursing. A gentle moo told them all they needed to know, and they moved on to help a young heifer calving just below the hill.

As I get older, I appreciate a lighter birthweight. (In 11 years, the average birthweight has been 90 pounds.) I remember your 1994 brother. At 105 pounds, I had to more than sneeze to pop him out, but I was in my prime, a strong six years of age and boss of bunk number 9. Today, at 12, I'm holding my own.

This year, I was sure glad the grass was green and over our knees. I heard the rancher say the crested wheat was good this year, and the hired help even applied 50 pounds of nitrogen in early April to get us going. When we were let out into the summer native pastures, the trails were all familiar. Even that next generation of "know it alls" that took over bunk nine had to ask for guidance through the wide open spaces of the north-west pasture.

I have truly learned the choice spots to graze and nurture a young growing heifer like yourself. The watering holes were



soon learned by all your friends. The smell of summer grass was soothing and helped produce lots of milk for your well-being. As summer progressed, this became one of those dry years where we had to look a little harder to find the grass. That's probably why the riders came a little early this year. But grow you did.

I got your report card. You weighed in at 608 pounds, gained 2.14 pounds a day, framed in at 5.5 and weighed 2.48 pounds per day of age. I'm pleased at how you have performed and noticed you didn't get unruly when the herdsman gave you your vaccinations. That is a plus. I remember one of your sisters turning on the herdsman when she came out of the chute, and I haven't seen her since.

The crew mumbled something about disposition, and your father's temper, which your sister inherited.

Well, that was yesterday. Let's enjoy these next couple of weeks on the stubble fields. If history holds, once we are turned into the stubble, our final separation is not too far away. I noticed the word "replacement" on the comment section of your report card. The other heifers averaged 536 pounds, so that puts your ranking very high. And with a 5.5 frame score, you'll fit in fine.

My advice to you: Eat a balanced diet. Watch your weight gain over the winter. And when you see anybody with a pipette in their hand in the spring, do what I do and wiggle your ears.

Well, I can feel Junior doing a few cartwheels getting ready for next spring's delivery, so we better get back to eating. I would like to maintain my current weight at 1,250 and a condition score of 6. At my age, I don't want to give the crew any reason to look twice.

West Nile virus season over; disease expected to spread further

The 2000 West Nile virus season in the U.S. is over. New York, the only state to continue weekly reporting, reported no new cases after Dec. 15, 2000.

West Nile virus positive specimens from New York State this year included 1,271 dead birds, 358 mosquito pools, 2 sentinel chickens, 8 live wild birds, 14 bats, 24 horses, 2 cats, 2 raccoons, 3 domestic rabbits, 3 squirrels, 1 chipmunk, and 14 humans.

Nationwide, 17 people were infected with one fatality.

In the meantime, The Los Angeles Times reported on Dec. 4, that the virus is "here to stay," and that experts now believe that it will likely spread throughout the nation by 2003.

The federal government will spend \$11.8 million to study West Nile, including a \$3 million grant to OraVax Inc., to develop a vaccine the disease. The experimental vaccine will be made from a kind of hybrid virus in which certain genes of an existing yellow fever vaccine are replaced with the corresponding genes of

the target West Nile virus. The vaccine is still several years away.

The virus first appeared in 1937 in Uganda, but did not show up in the Western Hemisphere until 1998, when it sickened 62 people and killed seven in New York. It has since appeared in 12 eastern states.

It infects birds, which are bitten by mosquitoes; the mosquitoes then bite people. The virus can cause potentially fatal encephalitis in humans and horses.

FDA issues final rule on VFD drugs

The U.S. Food and Drug Administration (FDA) has published the final regulation to implement the Veterinary Feed Directive (VFD) drugs section of the Animal Drug Availability Act of 1996.

The regulation sets requirements for distribution and use of VFD drugs and animal feed containing VFD drugs. VFD drugs are approved by the FDA for use in animal feeds under the supervision of a licensed veterinarian. No extra-label use of VFD drugs is allowed.

A veterinary feed directive is a written statement authorizing the client (the owner or caretaker of the animal or animals) to obtain and use animal feed containing a VFD drug to treat their animals only in accordance with FDA-approved directions. A veterinarian may issue a VFD only if a veterinarian-client-patient relationship exists, as defined in Title 21, Part 530.3(i) of the Code of Federal Regulations. The information needed on a VFD is stated in the final rule.

Although statutory controls on VFD drugs are similar to those for prescription animal drugs, the implementing VFD regulations are tailored to unique circumstances relating to the distribution of animal feeds containing VFD drugs. This rule helps ensure protection of public health while enabling producers to obtain and use needed drugs as efficiently and cost-effectively as possible.

A copy of the regulation is available from the Center for Veterinary Medicine at www.fda.gov/cvm/index/vfd/vfd.html or

by calling or writing CVM's Communications Staff at FDA/Center for Veterinary Medicine, HFV-12, 7500 Standish Place, Rockville, MD 20855; (301) 594-1755. Please include a self-addressed adhesive label.

Additional information on the final rule may be found in the Dec. 8, 2000, FEDERAL REGISTER, and from Zoe Gill, Center for Veterinary Medicine (HFV-226), Food and Drug Administration, 7500 Standish Place, Rockville, MD 20855; (301) 827-6667; zgill@cvm.fda.gov.

Leishmaniasis found in New York

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found to determine modes of transmission of the protozoa among dogs. If direct contact is a significant factor, the extensive travel and contact of numerous foxhound packs could be a cause of the organism's widespread distribution. In response to this possibility, the Masters of Foxhounds Association of America canceled their foxhound shows for the 2000 season and urged members to take additional precautions to restrict contact between kennels and have their hounds tested.

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