

Animal Health News



News for Veterinarians from the North Dakota Board of Animal Health

Nathan Boehm named BOAH dairy member

Nathan Boehm is the new dairy industry representative on the North Dakota Board of Animal Health (BOAH).

Gov. Edward Schafer appointed the New Salem dairy producer to a seven-year term on the board, effective September, 1998. Boehm succeeds Dan Bueligen, also of New Salem, who had served since May 1993.

At its recent quarterly meeting, the BOAH authorized the state veterinarian and the deputy state veterinarian to issue quarantines to prevent the spread of contagious animal diseases.

At its Sept. 9, meeting in Bismarck, the board also authorized the two veterinarians to release quarantines with the approval of the entire board or the board president and a board member representing the species involved. Quarantines involving anthrax will continue to be handled according to statute.

The board ordered the premises of Enoch Thorsgard, Northwood, quarantined for 180 days after it was deter-

mined that Thorsgard had imported cattle from Oklahoma that were not official calftood brucellosis vaccinates. The board further ordered that the 38 cows from Oklahoma and any calves born to those cows be immediately slaughtered, and that Thorsgard pay an administrative penalty of \$2,500.

Although the cattle were accompanied by an Oklahoma health certificate, no importation permit had been sought before entry. Some of the cattle actually originated from Arkansas.

A quarantine was lifted on the Dale Nieuwsma premises near Hague. Nieuwsma had taken in 37 horses destined for slaughter from a truck that had overturned on a nearby highway (four horses were killed outright in the accident and another three were later destroyed). The quarantine had been in effect since Sept. 2.

The board was informed that a scrapies-positive flock would be depopulated. The flock of 12 sheep is currently under quarantine for scrapie. The estimated \$2,500 cost of the

Upcoming meetings

November 19 – Non-Traditional Livestock Advisory Committee, 9 a.m., Fort Totten Room, State Capitol, Bismarck

December 9 – North Dakota Board of Animal Health, 9 am, Peace garden Room, State Capitol, Bismarck

project will be covered by the BOAH operating fund.

Randy George, Fargo, told the board he did not know a horse he had imported from Wyoming needed a health certificate before it could be brought into the state. The horse developed distemper prior to entry and died in North Dakota. It also exhibited symptoms consistent with vesicular stomatitis, but testing proved the animal VS negative. The matter has been turned over to the Morton County state's attorney.

In response to Michigan's loss of its tuberculosis-free status, the board voted to require that all cattle, buffalo, goats and cervids from five Michigan counties and surrounding buffer area to test negative for tuberculosis within 30

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Animal Health News

is published by

**The North Dakota
Board of Animal Health**

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Ted Quanrud, Editor

Veterinary news briefs

State licenses seven veterinarians

Seven veterinarians were licensed by the North Dakota Board of Veterinary Medical Examiners Sept. 28. The newly licensed practitioners are:

Courtney E. Ahern
P.O. Box 2226
Minot, ND 58702-2226
(701) 728-6952
University of Illinois, 1998

Joe K. Baber
Box 1173
Garrison, ND 58540
(701) 463-2222
Kansas State University, 1967

Valenna L. Becker
P.O. Box 524
Carrington, ND 58421-0524
(701) 652-1088
Colorado-State University, 1991

Waylon R. Fischer
P.O. Box 2226
Minot, ND 58702-2226
(701) 728-6952
University of Illinois, 1998

Rawlin R. Hergistad
RR 2 Box 156B
Savage, MT 59262
(406) 482-1413
Colorado State University, 1965

Brent D. Meyer
P.O. Box 98
Ashley, ND 58413
(701) 288-3234
Iowa State University, 1998

Kevin EJ Steinbachs
P.O. Box 118
Pilot Mound, Man., Canada ROG1P0
(204) 825-2208
University of Saskatchewan, 1998

Board office moved

The office of the North Dakota Board of Veterinary Medical Examiners is now located at 418 E. Broadway Ave., Suite 250, in Bismarck. The board's new mailing address is P.O. Box 5001, Bismarck, ND 58502. The telephone number, (701) 328-9540, remains the same.

The move puts NDBVME in the same office as the National Board Examination Committee for Veterinary Medicine (NBEC). Dr. John Boyce, who serves as executive secretary for the NDBVME and as executive director of the NBEC, said the move will increase office efficiency and reduce costs for both groups, as well as provide NDBVME with a long-term home.

In conjunction with the move, the NDBVME has hired Tonee VanderVliet as a part-time secretary. A graduate of Colorado State University with a degree in equine science, Tonee previously worked as a veterinary assistant and secretary at the Midway Veterinary Clinic in Mandan. She also provides part time secretarial support to the NBEC.

New examiner board member

Gov. Edward Schafer has appointed Dr. Daniel P. Treat, Fargo, to the North Dakota Board of Veterinary Medical Examiners.

Dr. Treat earned his DVM from the University of Minnesota. He practices at the Animal Health Clinic in Fargo.

Dr. Treat succeeds Dr. Timothy Matz of Wahpeton, who served six years on the board.

Plague threat minimal, but danger exists in N.D.

The New Mexico veterinarian didn't think much about it when the sweet, sick cat she was treating for an infection bit her on the thumb. Four days later, a high fever and intense pain in her arm sent her to the hospital. The diagnosis: bubonic plague.

Plague is caused by the *Yersinia pestis* bacteria in rodents, and is generally transmitted through flea bites. During the Middle Ages when it killed off a third of the human population of Europe, it was called the Black Death.

In the United States, 10 to 15 cases are reported in humans each year, mostly in the West. Likely culprits are rock squirrels, ground squirrels, prairie dogs or pack rats. Most human cases occur in the Southwest – New Mexico accounts for more than half – and along the Sierra Nevada in California. Human cases have been reported in at least 13 western states. Although no human case of plague has been reported in North Dakota in the past 50 years, the disease has been detected in prairie dogs in the badlands in the western part of the state.

A roaming cat can bring plague to a suburban living room. Although flea powder and other precautions can reduce the risk, and prompt treatment with antibiotics can cure it, plague kills about 16 percent of its human victims, according to the CDC.

Of the 394 human plague cases reported in the U.S. from 1949 through 1997, 63 – or 16 percent – were fatal. During that period, New Mexico logged 218 cases, including 30 fatalities, according to Dr. Paul Ettestad, public health veterinarian with the New Mexico Department of Health.

"It's a disease that can be fatal if not recognized and treated early enough," said Ettestad.

Bubonic plague, which accounts for 80
Volume 1, No. 4

percent of cases, is marked by swollen lymph glands, called buboes. More difficult to diagnose are septicemic plague, which circulates in the bloodstream, and pneumonic plague, which infects the lungs and is particularly dangerous because it can be transmitted through coughing. Generally, persons who come in contact with a pneumonic plague victim are also treated with antibiotics.

No person-to-person transmission has been recorded in the U.S. since the 1920s.

Ken Gage, chief of plague surveillance with the CDC, said the principal risk of human infection in northern states, such as North Dakota, is from hunting activities and from domestic animals, such as cats, that come in contact with infected rodents. He said although the risk of contracting plague in North Dakota is minimal, diagnosis of the disease would possibly prove difficult for local physicians who would have little familiarity with the disease.

Most people become sick two to seven days after infection. Other symptoms are fever, chills, headache, muscle pain, nausea, vomiting and diarrhea.

The incidence of plague appears to be cyclical, apparently linked to the high-moisture, milder winters typical of El Niño years that cause rodents to thrive, Ettestad said. This is a big year, with the rodent population in New Mexico estimated at 10 to 20 times higher than last year – when no one in the state caught plague.

Believed to have evolved in central Asia, plague is relatively new to the United States. It arrived about 1900 in San Francisco aboard trading ships from China and spread from urban rats into the wild rodent population of the American West. Outbreaks were reported in ports along the Gulf of



Black-tailed prairie dogs are so far the only known carrier of plague in North Dakota.

Mexico, but the disease never got established in the native rodents there, according to the CDC.

Cats are more susceptible to plague than dogs, and get sicker. Listlessness and not eating are clues that a cat is ill. "If you become sick and there's a sick cat in the house, go see your doctor," a veterinarian advised.

Plague also can be contracted by handling infected animals. Hunters, for example, are at risk if they don't wear gloves while skinning animals.

Veterinarians themselves need to be careful. In the past few years, two practitioners – one in Colorado and one in New Mexico – have contracted plague while treating infected cats.

This article is an edited and expanded version of an article by Deborah Baker that appeared in a Pro-MED mail post <<http://www.healthnet.org/programs/promed.html>>

Cattlemen's group adopts John's policy

The National Cattlemen's Beef Association has adopted a policy to further producer awareness of John's disease.

"The disease has been kept under the rug for years," said Gary Wilson, chairman of NCBA's emerging cattle issues subcommittee. "Now people are talking about it more, asking questions and responding."

The policy was developed by several NCBA committees during the group's 1998 annual convention.

According to a study by the National Animal Health Monitoring System, approximately 92 percent of beef producers were either unaware of the disease or recognize the name but know very little about it.

In particular, says Wilson, producers need to be educated about the potential risk between John's disease and Crohn's disease in humans. "If one article got out stating a link, then the public would believe it, even if it hasn't been proven," he says. "Perception becomes reality." (See article, Page 5)

Burke Healey, DVM, chairman of the cattle health and well being committee, said cattlemen have realized that

there are too many unknowns and variables when it comes to John's disease.

A summary of the John's symposium was distributed to state cattlemen's associations and state departments of agriculture.

"We hope to get some uniformity between each state," says Healey.

Twelve states currently have or are developing a John's advisory committee.

The new policy identified and recognized the work of the National John's Working Group (NJWG), and NCBA leaders met with Don Hansen, chairman of the NJWG education committee, to discuss implementing some of the educational materials as a section in the Beef Quality Assurance Handbook.

According to Wilson, education is top priority and these materials would be an important component in the Beef Quality Assurance Program.

NCBA John's Disease Policy

BE IT RESOLVED, NCBA encourages education of all industry stakeholders about John's disease and the voluntary surveillance and management practices for prevention, and elimination of the disease from herds and certification of herds.

BE IT FURTHER RESOLVED, that NCBA urges all States to form a working advisory committee to develop a proactive voluntary John's disease prevention-management program that encourages producer participation and preserves and enhances marketability of test negative cattle.

BE IT FURTHER RESOLVED, that NCBA supports the NJWG to compile the existing relevant and accurate information and make it available to guide education and management programs for states and producers.

Material for this article was taken from an article by Joy Carter in the Spring 1998 issue of CATTLE HEALTH REPORT.

North Dakota briefs

Helping your clients

A number of North Dakota producers have been penalized for illegal importation of livestock because they had incorrect or insufficient knowledge of the state's import requirements.

Veterinarians are encouraged to call the state of destination to confirm import requirements for their clients. For more information, call the state veterinarian's office at (701) 328-2654.

Number change

The telephone number for the Minnesota Board of Animal Health has been changed to (651) 296-2942.

Panel to include pet stores

The North Dakota Board of Animal Health has unanimously voted to include a representative of the pet store trade on the Non-Traditional Livestock Advisory Council. A trade group, the North Dakota Independent Pet Store Owners, Inc., recently registered with the secretary of state's office. A spokesman for the group said a representative to the advisory council would probably be named in October.

Can Johne's bacteria affect humans?

BY MICHAEL T. COLLINS, DVM, PhD.
AND ELIZABETH MANNING, DVM
SCHOOL OF VETERINARY MEDICINE
UNIVERSITY OF WISCONSIN

Background:

Mycobacterium paratuberculosis causes Johne's disease in a variety of animal (primarily ruminant) species. Some recent reports in medical literature suggest that this pathogen may also infect humans. The organism has been incriminated as a possible cause of Crohn's disease, a chronic inflammatory bowel disease in humans with marked clinical and pathological similarity to Johne's disease.

Objective:

The objective of the research was to determine if humans with a high risk of exposure to *M. paratuberculosis* had different levels of serum antibody to this infectious agent than persons with low risk of exposure.

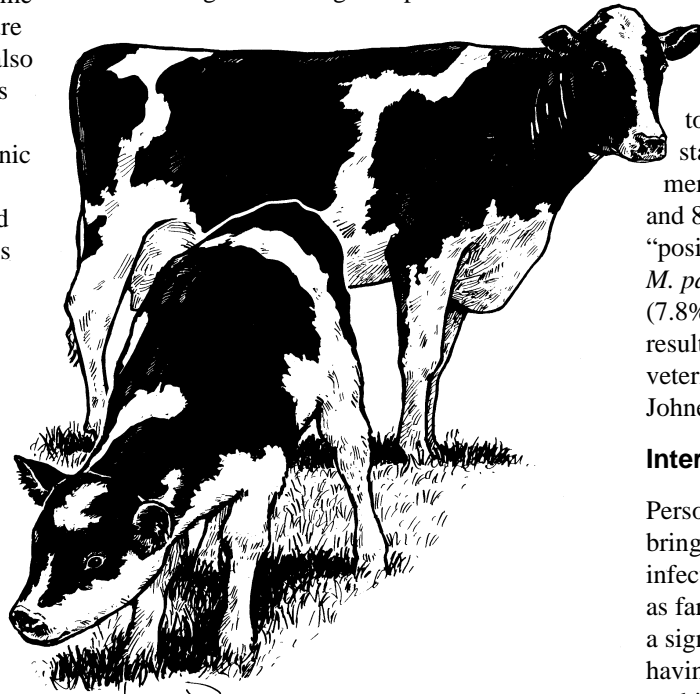
Subjects:

Representing a group with a high *M. paratuberculosis*-exposure risk, 191 members of the American Association of Bovine Practitioners (AABP) attending the 1996 AABP convention volunteered to participate. The moderate exposure group was represented by 193 serum samples collected in 1990 from farmers in Barron County, Wisconsin. All types of farming enterprises, dairy and crop production were represented. The low exposure group was 242 normal healthy blood donors who visited the Red Cross Center in Madison, WI, in January and February 1996.

Serologic assay:

The commercially available (IDEXX Laboratories, Inc.) ELISA for bovine paratuberculosis was used with minor modification. The anti-bovine immunoglobulin conjugate supplied with the kit was replaced with goat anti-human-immunoglobulin and

optimized for conjugate dilution, serum dilution and stop time. The negative control serum was a commercial pool of normal human serum (Binding Site). The positive control was serum from a veterinarian who had been accidentally inoculated with the vaccine for bovine paratuberculosis on two separate occasions. Both inoculations resulted in a strong immunologic response as



indicated by pathology at the inoculation site. ELISA optical density readings for all samples were transformed into a standardized score (ELISA values) by comparison to both the negative and positive controls such that values of 0 were equivalent to the OD of the negative control and values of 100 were equivalent to that of the positive control.

Results:

Mean \pm standard deviation ELISA values for Red Cross donors, farmers and AABP members were 18.5 ± 21.1 , 20.8 ± 67.8 , and 34.3 ± 39.0 , respectively. These ELISA values were not normally distributed, thus nonparametric methods were used for statistical comparison of the groups. The Kruskal-Wallis nonparametric ANOVA indicated that the differences among ELISA values for the three human populations was extremely significant ($p < 0.00001$). Dunn's multiple comparisons test showed that both

farmers and AABP members had significantly higher ELISA values than the controls ($p < 0.001$), and AABP members had ELISA values significantly higher than farmers ($p < 0.001$). If a cut-off for a positive ELISA was established as the mean plus three standard deviations above the mean of normal controls, as is conventional (assay specificity = 99% by definition), then those persons with ELISA values > 81.8 would be classified as positive for serologic response to *M. paratuberculosis*. By this standard of interpretation, 21 AABP members (11.7%), 22 farmers (11.4%), and 8 control subjects (3.3%) tested "positive" for evidence of past or present *M. paratuberculosis* infection. Fourteen (7.8%) of AABP members had ELISA results greater than the positive control (a veterinarian twice inoculated with Johne's vaccine).

Interpretation/implications:

Persons in occupations that are likely to bring them in close contact with animals infected with *M. paratuberculosis*, such as farmers and bovine veterinarians, have a significantly higher probability of having elevated levels of serum antibody to this veterinary pathogen. This evidence of serological response suggests that infection with *M. paratuberculosis* has occurred. These findings support the theory that *M. paratuberculosis* has the capacity to infect humans. The findings do not address the ability of this bacterial agent to cause disease in humans but document the importance of conducting research on this question.

Acknowledgements

This project was made possible in part by a grant from the Crohn's and Colitis Foundation of America and the AVMA Foundation.

This article, originally entitled *Results of serological testing of AABP members for antibody to M. paratuberculosis* appeared in the The Paratuberculosis Newsletter, Vol. 10 No. 1; May 1998. It is reprinted here with permission of Drs. Collins and Manning.



Using the Net to find missing pets

More than 20,000 people have visited the Missing Pets Network (MPN) since USDA-APHIS Animal Care launched the website in 1996.

The website provides access to updated listings of lost and found animals, information on federal efforts to protect animals as well as helpful hints for pet owners, such as advice on tattooing animals for identification.

Listings of lost and found pets for every state and U.S. territory are updated daily.

The Missing Pets Network can be accessed at:

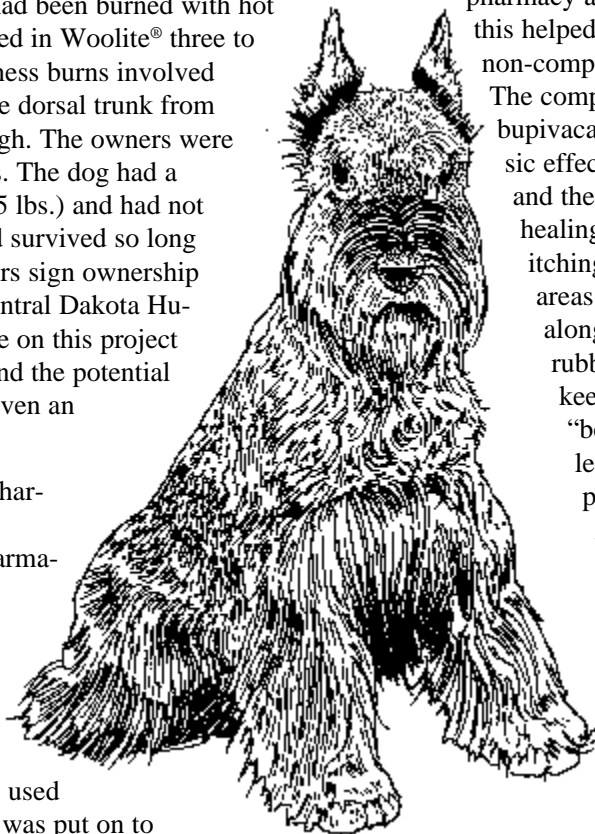
<http://web3.aphis.usda.gov/mpn/anlost.html>

Veterinarian, pharmacist team up to save badly burned schnauzer

By BARBARA ESPE, DVM

In April 1998, I was called to euthanize a 1½-year old female miniature schnauzer that had been burned with hot water from the bath tub and washed in Woolite® three to four weeks earlier. The full thickness burns involved about 80 percent of the skin on the dorsal trunk from neck to tail and elbows to mid thigh. The owners were using Aloe Vera to treat the burns. The dog had a severe infection, was emaciated (5 lbs.) and had not eaten for one week. Since she had survived so long without treatment, I had the owners sign ownership over to me and I contacted the Central Dakota Humane Society. They agreed to take on this project despite the many hours of labor and the potential cost. The dog was immediately given an analgesic and antibiotics.

I literally stopped at the Dakota Pharmacy with the dog so that Kevin Oberlander, the compounding pharmacist, could see what we were up against. At Kevin's suggestion, a Poly-Ox bandage containing phenytoin base 2% and misoprostol 0.002% was compounded and applied in a layered manner. Telfa® pads were used to cover the wound, and a T-shirt was put on to protect the bandages. The dog started eating canned food that night and in several days she was eating four large cans of food daily. In addition to the Poly-Ox



bandage, she remained on Celfadrops® and Rimadyl®. She seemed to be uncomfortable and analgesics did not appear to control her pain. The powder was returned to the pharmacy and lidocaine 2% was added. Although this helped somewhat, the dog was becoming non-compliant at the time of her dressing changes. The compound was again modified to contain bupivacaine 0.2% to obtain an extended analgesic effect. This was a significant improvement and therapy continued for several months. As healing occurred, the dog began to experience itching in the regranulated skin and wound areas. Diphenhydramine was given orally along with the Rimadyl® and we began rubbing her stretched skin with emu oil to keep it moist. Shortly thereafter, the dog "became a schnauzer again." Her activity level has increased greatly and we anticipate a complete recovery.

When I began treating this dog, I thought skin grafting would be necessary. Due to the success of this therapy, no grafting will be needed. However, I don't expect hair regrowth, and the epithelium will remain scarred and easily bruised.

The author operates a small animal practice in Bismarck. This article first appeared in the Veterinary Newsletter of Dakota Pharmacy and is reprinted with permission from Dr. Espe.

Porcine circovirus likely cause of PMWS

Post-weaning multisystemic wasting syndrome (PMWS) was first reported by Canadian veterinarians and researchers several years ago, and was the subject of several papers presented at the International Pig Veterinary Society (IPVS) Congress in the Great Britain this past summer.

PMWS affects late nursery pigs and pigs in the early to mid-finishing stages. Clinical symptoms include thumping pigs that begin to lose weight and waste away, occasional liver failure or fever. Necropsy lesions are often indistinguishable from PRRS. Porcine circovirus has not been reported in any referred scientific journal, as being the definitive cause of the disease, but the evidence is mounting. In one IPVS paper, John C. Harding DVM, Humbolt, Sask., and Edward G. Clark, a veterinary pathologist with Western College of Veterinary Medicine, University of Saskatchewan, Saskatoon, reported that PMWS includes the following clinical signs:

- unthriftiness
- pallor
- dyspnea
- jaundice
- rough hair coat
- diarrhea

Most pathologists can recognize the histologic lesions of PMWS, but the only way to definitively confirm porcine circovirus infection is through immunohistochemistry, *in situ*

hybridization, PCR, or virus isolation, according to Perry Harms, DVM, an Iowa State University veterinary diagnostician. Studies are going on to help clarify the epidemiology of this disease.

University of Minnesota researchers also presented a paper outlining a serological study which will provide further support for the role of porcine circovirus in PMWS.

To diagnose the disease, multiple submissions of acute and chronically affected pigs are needed. Dr. Harms recommends sending fresh and fixed lung, small intestine and large intestine, especially the ileum. Lymph nodes, spleen, tonsil, liver, kidney, and pancreas are also good tissues to submit along with the brain to rule out other diseases.

Management is the only current effective treatment. Acclimating incoming gilts with feedback and exposure to other animals is an important tool. Separate sick animals and treat for secondary infections. As with most diseases, the "all-in and all-out" system of production diminishes the severity of the disease.



This article appeared in the September issue of SWINE PRACTITIONER and appears with permission of Editor Jim Carlton.

BOAH quarterly meeting

Continued from page 1

days prior to their arrival in North Dakota. The animals must be retested within 60 to 120 days of their importation into the state. The restriction will remain in effect until USDA restores Michigan's TB-free status.

The board approved a license for Jack Sund to import opossum and woodchucks to his premises in Wilton. A verbal request to import the animals to Sund's Bismarck pet store was tabled. The board voted to place woodchucks into Category 3 animals and opossum into Category 5. Opossum must origi-

nate from USDA-licensed facilities, undergo a 30-day quarantine and have a negative fecal examination prior to entry. Woodchucks must also originate from a USDA-licensed premises and undergo a 30-day quarantine and be dusted twice for fleas prior to entry.

The board ordered Vernon Jonson of Flasher to capture or destroy three escaped elk from his herd by Nov. 1, and to bring his herd in compliance with Non-Traditional Livestock regulations within 12 months. Jonson

currently has no NTL license for the animals.

The board voted to place wallabies in Category 5, and authorized a special license for Wes Miller of Carrington for the wallabies in his possession.

In other action, the BOAH named the state veterinarian, Dr. Larry Schuler, as the state's contact person for the U.S. Voluntary Johne's Disease Herd Status Program. The program is producer-run, and is a monitoring, not an eradication program.

Shipping specimens via UPS

Veterinarians often rely on United Parcel Service (UPS) to ship diagnostic specimens. It is important that these shipments be easily identifiable, adequately protected and safe within the UPS system.

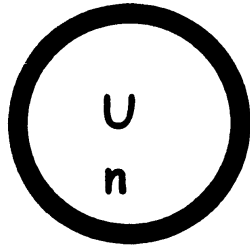
UPS requires customers shipping *diagnostic specimens* to use packaging certified for use with *infectious substances*. These packages are identifiable by the package markings, similar to the one shown at right. The "Class 6.2" clearly identifies the package as one which a shipper could use to ship *infectious substances*.

This mandatory packaging requirement applies to all packages containing samples going to a laboratory for analysis. This includes all animal remains being tested for rabies.

This packaging may be purchased from

a number of hazardous materials packaging vendors.

Note: Although slight variations to the above marking may exist, "Class 6.2" should always be present. However,



**Class 6.2/97
USA/+AX179**

UPS does not accept and will not pick up any packaging which includes the diamond label bearing the words "Infectious Substances." The shipments UPS accepts are not infectious substances and therefore do not require a diamond hazard warning label.

Practitioners or clinic employees with questions should contact Brad Cook at (404) 828-6153.

Doctor or DVM? Which is right?

Veterinarians are reminded that it is considered improper to include both the "Doctor" designation and their degree(s) when listing their name on a sign, in professional correspondence, or in an advertisement. For example, while it is certainly not illegal or unethical, a listing such as "Dr. John Doe, DVM" is not proper. Use either "Dr." or "DVM" but not both. In general, the title "Dr." should be used if it is listed as part of your address. Use degree(s) and/or specialty board certification(s) when it is part of a signature. Since the degree and specialty board certification is more informative than the generic "Dr." designation (lots of people can refer to themselves as "doctor" these days, whether they have any medical expertise or not), it is probably better to use the degree and specialty board certification on a sign or in a yellow pages ad.

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