

VIRGINIA COOPERATIVE EXTENSION SERVICE

EXTENSION DIVISION - VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY - BLACKSBURG, VIRGINIA 24061

VIRGINIA-MARYLAND  
REGIONAL COLLEGE  
OF  
VETERINARY MEDICINE

**VIRGINIA VETERINARY NOTES**



September-October

No. 8

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Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, and September 30, 1977, in cooperation with the U. S. Department of Agriculture. W. R. Van Dresser, Dean, Extension Division, Cooperative Extension Service, Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061; M. C. Harding, Sr., Administrator, 1890 Extension Program, Virginia State University, Petersburg, Virginia 23803.

## COMBINED IMMUNODEFICIENCY IN FOALS

Combined immunodeficiency (CID), which has been described in Arabian foals, is a syndrome involving a severe aberration of the immune system. The combined aspect of the disease refers to the fact that the true condition involves the deficiency of both B-lymphocytes (which produce immunoglobulins) and T-lymphocytes (which provide for cellular immunity). The disease has been substantiated to have a hereditary basis in some families of Arabian horses.

The clinical signs associated with this disease usually appear at 3-4 months of age and often first involve the respiratory system. The foals, often present with mucopurulent discharge from nostrils and eyes, have hyperpnea and moist rales. Infections involve opportunists such as *nocardia spp.*, *E. coli*, equine adenovirus, etc. Joint infections and gastrointestinal problems also have been described in these foals. Foals with CID always die and the clinical course from first detection may range from a few days to several months.

As a diagnosis of the disease has rather important implications to breeders because of its hereditary nature, it has been suggested that a positive diagnosis of CID be made only when lab work on a foal shows the following:

1. A persistent lymphopenia of less than 1,000 lymphocytes on two or three successive weekly counts.
2. Severe hypogamaglobuanemia or agamaglobuanemia on electrophoresis or zinc sulfate turbidity test.
3. Absence of the thymus or a very small thymus.
4. Small lymph nodes throughout.
5. Almost a complete absence of lymphocytes in the thymus, spleen, lymph nodes and gut associated lymphoid tissue on histopathology.

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## GOAL: TRICHINA--FREE PORK

The new Trichinosis Committee of NPPC has adopted the following goal--a nationwide supply of trichina-safe pork by Jan. 1, 1987. The committee, which includes representatives of several segments of the industry, including Mark Thomas, chairman of the LCI Trichinosis Committee, agreed at its first meeting that control of the parasite, to the point of eradication from the retail pork supply is a practical goal, but eradication from the U.S. or from wildlife, might be impossible.

The committee recommended that NPPC encourage, in furtherance of the goal:

1. enforcement of garbage cooking laws;
2. identification and traceback of all hogs;
3. a producer education program;
4. research on all phases of the problem, including epidemiology, testing and identification.

## POSSIBLE TOXICITY OF BENZYL ALCOHOL IN FLUID THERAPY

The Food and Drug Administration sent letters to the medical community recommending that solutions used to flush intravascular catheters or for diluting or reconstituting medications in newborns not contain benzyl alcohol or any other preservative. This letter is intended to alert veterinarians that several adverse reactions in animals, including death, apparently have been related to the use of large volume parenterals containing benzyl alcohol as a preservative. Adverse reactions have been reported in dogs, cats, calves, and a colt, and have included: (1) unexpected deterioration of the animal's condition, usually leading to death; and (2) development of salivation, hyperactivity, and convulsions, usually culminating in death.

Particularly implicated has been lactated Ringer's solution containing benzyl alcohol preservative. It is important to note that products labeled as "lactated Ringer's solution" may not be identical to those labeled "lactated Ringer's injection USP." Those labeled "USP" are required to be sterile solutions containing the specified salts but with no antimicrobial agents (preservatives) in the solution.

FDA is continuing its investigations to determine the extent of the problem. Because limited laboratory animal testing and epidemiological data implicates the benzyl alcohol preservative, the Bureau of Veterinary Medicine strongly urges veterinarians to check the labeled ingredients on large volume parenterals before use.

If you are aware of any information relating to this problem which might be helpful in analysis, please send it to the Director, Division of Surveillance, Bureau of Veterinary Medicine, HFV-210, 5600 Fishers Lane, Rockville, Maryland 20857.

Lester M. Crawford, D.V.M., Ph.D.  
Director, Bureau of Veterinary Medicine  
Food and Drug Administration  
as reported in Nebraska Veterinary Extension

## A TREND IN FUNDING DISEASE ERADICATION PROGRAMS?

A plan being proposed in the United Kingdom for eradication of pseudorabies may provide a blueprint for such programs in this country in the future. It's been speculated by some that tax funds may not be as readily available in the future as they have in the past for livestock disease eradication programs, especially for diseases that are not human health problems.

If that proves to be the case, the British experiment may be instructive. A referendum is being conducted in Yorkshire, the most densely populated hog production area in Britain, asking producers if they would be willing to invest 5 to 10 British pounds sterling (about \$9 to \$18 U.S.) per sow per year, or the equivalent of about one U.S. dollar per hog marketed, in a pseudorabies eradication program. The promoters of the plan speculate that if producers put up the money for indemnities, the government will provide testing and other services. The British government has said it is not willing to fund the entire program.

An early count of returns, with producers voting on the basis of the number of sows in their herds showed 40,000 votes for the plan and the producer investment and only 176 against.

There is not a great deal of PRV in England, estimated at about 120 infected herds. But the disease has spread to the fringes of Yorkshire, which has been described as having the densest hog population in the world, and producers in the area are concerned. The only restriction on movements in England is quarantine of herds with clinical signs.

LCI Newsletter  
August, 1982

#### BROKEN HYPODERMIC NEEDLES IN PROCESSED PORK PRODUCTS

Broken hypodermic needles can end up in your breakfast sausage! This is a problem that defies solution every place but at the farm level. Your assistance in educating pork producers in the selection and use of hypodermic needles is solicited.

Sows at or near farrowing time receive more injections than any other class of hogs. Cull sows generally end up as sausage, bologna, lunch meat or other processed pork products rather than as fresh pork cuts. Processed pork is extruded rather than ground and this permits many of the needles in the pork to pass through the holes of the extruder into the finished product. Because of the seriousness of the problem, pork processors check their products with metal detectors but are able to detect only 50% of the needles. A detection rate of 80% to 85% may be possible with improved techniques. Most needles that end up in the finished product are disposable needles. These are non-magnetic and consequently are missed by metal detectors.

This problem can be eliminated if proper equipment and procedures are used when injecting sows. H. N. Becker, D.V.M., made the following recommendation in the June 15, 1980, issue of the National Hog Farmer:

1. The best advice would have to be that only necessary injections be given. Don't be needle happy.
2. Use good syringes that deliver accurate doses quickly. The place where the needle attaches to the syringe should be strong.
3. Restrain the sow as much as possible to avoid excessive movement. This is easier said than done, but alleyways and properly constructed chutes will help a great deal.
4. Select the proper needle length and diameter (gauge). Most sow injections should be given with a 3/4 to 1 inch needle of 14 or 15 gauge diameter. The larger gauge allows for rapid delivery and the relatively short needle length prevents or minimizes breakage.
5. Although disposable needles are cheaper, they are not as strong as stainless steel. Use the strongest and best needle you can buy.

6. Consider changing needles between sows. Additional needles may be kept ready in an alcohol soaked sponge. The extra trouble and time involved is a small price to pay for reduced disease transmission and fewer injection site abscesses.
7. Attempt to give all injections in the neck muscle area. This is usually easier than trying to aim for the shoulder or ham area. The shoulder area is less desirable for injections because bone (shoulder blade) is easily hit. The ham is not a good injection site because it is often a moving target. Bone and quick movement both contribute to the broken needle problem.

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#### OHIO DAIRY FARMER PACE-SETTERS

In the fall of 1981, 50 of Ohio's top producing dairy operations were visited to observe management practices being used by these Ohio dairy farmer pace-setters. These observations may provide insight and direction for other dairy farmers as they strive to improve their management ability and herd performance.

Herds were selected on the basis of their July, 1981, herd size and DHI production averages. Holstein herds had more than 20 cows and averaged more than 20,000 pounds of milk, or if more than 100 cows, at least 18,000 pounds. Herds for the other dairy breeds had at least 20 cows and a 700 pound fat average, or if greater than 100 cows, a 600 pound average. These performance standards were expected to identify herds under high levels of management with progressive management practices being used. A discussion summarizing what was found on these farms follows:

The 42 Holstein herds averaged 85 cows with 19,211 pounds of milk and 637 pounds of fat. Herd sizes ranged from 23 cows to nearly 300 cows, with 15 herds of over 100 cows. As few herds were of other dairy breeds, breed averages were not calculated.

Nearly every type of available housing system was represented on these farms. Both large and small herds were housed in comfort stalls, free stalls and loose housing arrangements. There was no obvious relationship between type of housing and production average. Facilities were clean and well maintained for animal comfort on all farms.

As with the housing systems, feeding programs and distribution systems varied across the spectrum. There was widespread use of corn silage, haylage and hay, with the proportions in the ration different on each farm. Both high moisture and

dry corn, as shelled and ground ear, was used as the main energy source in concentrates. Supplemental protein sources included soybean meal, various commercial supplements and wet or dry brewers grains. Nearly all home grown forages were analyzed at least once during the feeding season to consider quality of the feeds in storage when balancing rations. Several farmers employed nutritional consultants to formulate their rations. Computer controlled concentrate feeders were used by several farmers to provide and regulate the concentrate intake of their cows. Most of the larger herds received blended rations composed of silages and concentrates and many were grouping and feeding cows according to production level. The entire group of farmers was concerned about feed quality and quantity consumed. Each attempted to grow the best quality feeds possible on his farm and to offer these feeds as a balanced ration in a form where the cows would eat the amount required to produce to their genetic potential. While these were the goals of each farmer visited, success in reaching them varied considerably.

Artificial insemination was another management practice many dairy farmers credited as a reason for their high herd production averages. Most of the farmers had used AI for several years, consistently using the highest PD sires available. This has yielded higher milk production potential than in herds where lower PD sires (either through AI or natural service) were used.

Another management practice employed in these high producing herds was the routine use of a herd health program with a veterinarian. This allows the total health status of the cows and replacement animals to be constantly monitored and maintained at a high level. Therefore, cattle can express more of their genetic production potential.

Types of milking systems and milking equipment used in these high producing herds varied greatly. Around-the-barn pipelines and parlors of various designs were in use, with milking equipment representing nearly all manufacturers. Installations included both high and low milk lines. It is apparent that the type of milking system itself does not result in high milk production. The farmers were doing an adequate job of servicing and maintaining their milking equipment and were using it properly in milking their cows. Recommended milking practices were used on nearly every farm, and procedures for effective prevention and control of mastitis were followed. These dairy farmers had a lower incidence of mastitis infection in their herds than the average herd in Ohio, as indicated by the milk quality scores received from the milk plant. The WMT scores (leucocyte count score) were consistently under 12, reflecting the combination of mastitis control procedures, milking hygiene practices, milking procedures and general cleanliness of the facilities.

Nearly every dairy farmer has the potential to have a higher producing dairy herd. By observing what better dairy farmers are doing, then adapting those practices to a particular farm operation, higher production efficiency and performance can be realized. The motivation to observe, learn and adopt new practices into his program is the responsibility of each dairy farmer. Those not willing to change and improve probably will not be in the business five years from now.

Donald E. Pritchard,  
Extension Specialist  
Ohio State University  
Ohio Veterinary Newsletter  
April, 1982

## NEW STAFF ONCOLOGIST

Dr. Andrew S. Loar has recently joined the Virginia-Maryland Regional College of Veterinary Medicine faculty. Dr. Loar has spent the previous two years on staff at the Donaldson-Atwood Cancer Clinic at the Animal Medical Center in New York. His training is in all aspects of small animal oncology with special interest in canine lymphosarcoma, FELV related diseases and mammary cancer. Dr. Loar invites consultations and referrals concerning suspected or diagnosed cancer related problems.

## MEETINGS

The following upcoming meetings will be of interest to veterinarians. If you need further information and programs, please contact Dr. Kent C. Roberts, Director of Continuing Education, at 961-7666.

|                     |   |
|---------------------|---|
| October 20-22, 1982 | Animal Control Officers Workshop<br>Blacksburg, Virginia  |
| October 22, 1982    | Equine Practitioners Seminar<br>Charlottesville, Virginia   |
| October 29-31, 1982 | Advanced Orthopedic Short Course<br>Blacksburg, Virginia<br>(Registration has closed for this program.) |
| November 7, 1982    | Horse Care Seminar<br>Blacksburg, Virginia  |
| November 17, 1982   | Practice Management Conference<br>Norfolk, Virginia   |
| December 5, 1982    | Small Animal Practitioners Seminar<br>Richmond, Virginia  |

Virginia-Maryland Regional College of Veterinary Medicine Extension Staff:

Dr. T. L. Bibb, Extension Specialist - Cattle and Sheep  
Dr. C. T. Larsen, Extension Specialist - Avians  
Dr. G. A. MacInnis, Extension Specialist - Swine  
Dr. K. C. Roberts, Extension Specialist - Equine and Companion Animals  
Dr. T. P. Siburt, Extension Specialist - Pharmacology and Toxicology

Melissa Wade, Managing Editor of Virginia Veterinary Notes

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