

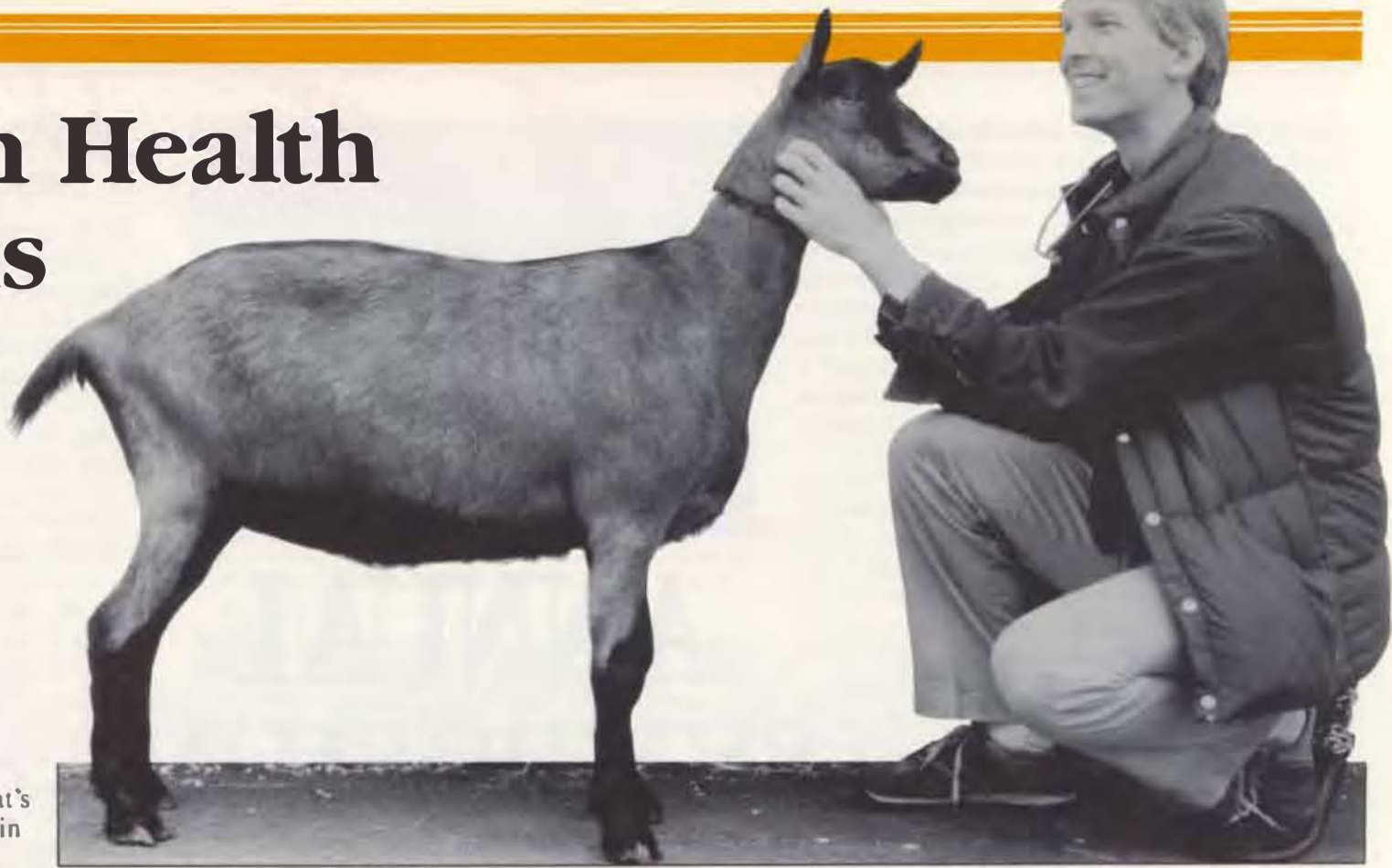


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Common Health Problems in Goats and Sheep

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eta and other goat cheeses are "in," goat's milk can be bought in health food stores, and hand knit, woolen sweaters are very much the fashion as are sheepskin coats. It is not surprising that more people are raising sheep and goats, not on the range, but on small farms near urban areas. Between 1978 and 1984 the membership in the American Dairy Goat Association increased by 110 percent.

These small farmers learn, often the hard way, that keeping and raising such animals for profit is not an easy task. Sheep and goats require care, and they have diseases and parasites which, left untreated, greatly reduce production of milk and wool. But unlike the dairy or cattle farmer, sheep and goat owners frequently have problems finding proper veterinary care. "Sheep and goats are sort of in between the small and the large animal practice," explained Dr. Wendy Vaala, lecturer in large animal medicine at the University of Pennsylvania School of Veterinary Medicine. "Often neither the large nor the small animal practitioner will call at a sheep or goat farm. Also, it is a matter of economics for the farmer. He cannot afford expensive procedures." Therefore, owners seek veterinary assistance infrequently. Traditions and lore have been handed down and people try to take care of these animals themselves. "In recent years though, students at the School have shown quite an interest in sheep and goats," said Dr. Vaala, "and we do try to expose them to these species as much as possible."

Health problems often begin at birth. "Many lambs are lost due to hypothermia," she explained. "They get chilled, the glucose level is low, they refuse to nurse and die. If something isn't done quickly, they are lost." She said that each January to March, preparations are made in the neonatal unit at New Bolton Center to help owners save these young. "We freeze colostrum and ready the facility to be able to warm up these animals on short notice. Colostrum is vital as it protects the youngsters against infectious diseases during the first weeks of life." She explained that difficult births are common in sheep because of the large number of twins. "Often one of the pair is weak and susceptible to hypothermia." Multiple births are responsible for another disorder, pregnancy toxemia. Late in pregnancy the ewe becomes listless, shows a lack of energy and refuses to eat. She becomes toxic. To save the lambs, the ewe has

to be force-fed during the final part of her term and a C-section has to be performed. Goats rarely have pregnancy toxemia.

Newborn lambs and kids are susceptible to infection. "The navel cord has to be dipped in iodine," Dr. Vaala said. "If that is not done shortly after birth, the animal can develop septicemia and die." Also, it is important to vaccinate the ewe or doe one month prior to delivery against tetanus, clostridial diseases and enterotoxemia. "A lot of people don't want to bother, particularly with the tetanus vaccination," she said. "But to protect the newborns, it is vital that the dam has a high titer against these diseases. It provides the newborns with passive protection for the first weeks of life."



Tetanus protection is needed because at two weeks of age, kids are dehorned and castrated and lambs have their tails docked and are castrated. The tetanus organism is present in the environment and can easily infect the animals through the wounds caused by the procedures. If the dam did not receive a recent booster vaccination, lambs or kids need tetanus antitoxin at the time of dehorning, docking and castration. Kids and goats, like puppies and kittens, need vaccinations. Two sets of vaccinations are

given at age four and six weeks and repeated annually.

Some people don't like to dehorn goats at this young age. "Dehorning an older animal is difficult," said Dr. Vaala. "Often one doesn't get all the horn. Also, goats can develop sinusitis when the procedures are done after horns have formed."

Goats and sheep are susceptible to nutritional diseases. Care must be taken that they are fed a proper diet. In this area the ground can be Selenium deficient. "If feed is produced locally or is homemade, it should be supplemented with vitamin E and selenium," Dr. Vaala said. "This is particularly important for pregnant animals." Selenium and vitamin E deficiency in pregnant ewes and does cause white muscle disease in the offspring, occurring at about two to four weeks of age.

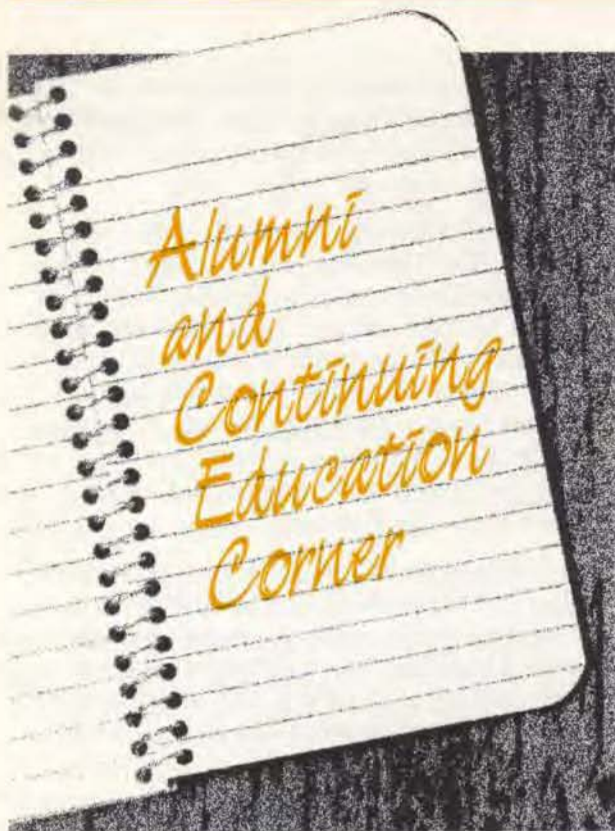
The young animals will be stiff and will have difficulty nursing and sudden death can occur due to heart failure. To prevent the disorder, kids and lambs should be given selenium and vitamin E between the ages of two and four weeks. Goats and sheep need access to a salt lick; a sheep salt lick should be provided. A cow salt lick is not feasible as it can cause copper imbalance. The animals need water for drinking. Goats will drink only clean water and in the winter it should be warmed to entice them to drink.

Lambs, after weaning, can develop Enterotoxemia Type D (overeating disease), which is due to a toxin produced by a proliferation of bacteria in the intestines. It most often affects lambs in feedlots. Death is sudden. The disease can be prevented by changing feed gradually.

Young animals of both species frequently have gastrointestinal diseases. Coccidiosis is common, particularly in overstocked areas. To minimize it, feed should be kept off the ground so it cannot become contaminated with manure. A number of gastrointestinal disorders are due to clostridial bacteria, thus vaccination is very important to prevent illness. Goats and sheep can become infected with Johne's disease, although it is more common in the goat population. All these diseases weaken the young animals and if left untreated, can affect the growth rate or cause death.

Parasites are a major cause of illness in young sheep and goats, particularly strongyles, a blood

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Continuing Education Brief

1986 Penn Annual Conference

Neither sleet, nor snow, nor freezing temperatures prevented 600 veterinarians from attending the School's 1986 Penn Annual Conference. Alumni support for the Conference has been increasing every year, and the 1986 attendance equalled our record Centennial Year Penn Annual Conference.

The Conference Directors, Dr. Tom Divers and Dr. Charles Newton, are working toward increasing the number of speakers brought in from other institutions. Please drop a note to either Dr. Divers (Large Animal Topics) or Dr. Newton (Small Animal Topics and Basic Science Topics) with speakers and/or topics you would like to hear.

The 1987 PENN ANNUAL CONFERENCE WILL BE HELD ON WEDNESDAY, JANUARY 28, AND THURSDAY, JANUARY 29, AT THE ADAM'S MARK HOTEL IN PHILADELPHIA.

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sucking intestinal worm. The animals become anemic and develop diarrhea. If they are not treated promptly, they can die. To prevent heavy worm infestation, manure samples should be checked frequently and the whole herd should be wormed at regular intervals. Also, when turning sheep out to pasture, every effort should be made to use a meadow which has been dormant from October to March and thus has a reduced parasite burden. Weaned lambs should go to clean pastures and not those used by ewes. Dairy goats which are kept inside are not so prone to parasites.

However, they have other problems. Sheep and goats are quite susceptible to respiratory ailments. Slowly progressive pneumonia occurs more in sheep. Ovine progressive pneumonia (OPP) is the most common viral pneumonia.

Alumni Day—

Saturday, May 17, 1986
—Philadelphia Campus

From the time of the first graduating class in 1887, alumni have returned to the School to celebrate the day that marks the beginning of their careers as veterinarians.

Please join us for all or part of the Veterinary Alumni Day festivities on Saturday, May 17, 1986. The day and evening have been planned for entertainment and celebration:

Coffee with the Dean and Faculty
The Veterinary Medical Alumni Society Annual Meeting

A buffet luncheon (All you can eat)

Things to do and places to see!

- Tour the small animal hospital
- Visit the Philadelphia Zoo
- Marvel at the wonderful exhibits at the University of Pennsylvania Museum
- Bus tour through Society Hill, including visits to the Powel House, home of the last colonial mayor of the city and the Hill-Physic-Keith House, home of the "Father of American Surgery"

Dean Robert Marshak and the Veterinary Medical Alumni Society will co-host a reception for all veterinary alumni at the Franklin Plaza Hotel at 6:30 P.M. to be followed by dinner and a night of dancing.

Round trip bus transportation will be available from the Franklin Plaza Hotel to the School on Saturday, May 17th.

A special invitation is extended to our REUNION YEAR classes. Whether you graduated from Penn five years, twenty-five years or fifty years ago, each quinquennial reunion has a unique meaning. Bill Hardy, Jr., V'66, is the 1986 Reunion Year Chairman and he has worked diligently, along with all our Reunion Year Class Agents, to ensure our best ALUMNI DAY ever!

1986 Reunion Year Class Agents

1936—Earl Cook	1961—Paul Evans
1941—Robert Lerch	1966—William Hardy, Jr.
1946—Seibert Berlin	1971—Gerald Pietsch
1951—Clarence Bryer	1976—Britan Kolbourne
1956—William Butler, Jr.	1981—Geoffrey Wright

"There is no cure," said Dr. Vaala. "One can only treat it supportively." Goats and sheep also develop bacterial pneumonia; this can be treated with drugs. "They have to be kept in a clean, dry, well ventilated environment to prevent respiratory diseases," she said. "There is a problem treating dairy goats with drugs; we don't quite know the period of time for which milk from these treated animals should be withheld from market."

Goats frequently develop arthritis. The joints swell and there is pain. The most common form, Caprine Arthritis-Encephalitis Syndrome (CAEV) is caused by a retrovirus. It is thought that it is passed through the colostrum. The virus is latent and many animals will not be affected until older. Some infected goats may show no signs while others become depressed and have weight loss. If CAEV is present in a herd, kids can show signs of neurological disease between the ages of one to four months. These animals frequently have an ascending spinal cord infection and the prognosis is poor. Arthritis in goats can also be bacterial in origin. These forms are treatable with antibiotics. Diet

1986 Spring Continuing Education Seminars at Penn

WEDNESDAY, MAY 21, 1986

Small Animal Dermatology

Topics: Canine and Feline Pyoderma; Diagnosis and Therapy of Seborrhea; Exfoliative Dermatoses; Allergic Diseases.

Dr. William Miller, Jr.

Assistant Professor of Dermatology

Dr. Robert M. Schwartzman

Professor of Dermatology

WEDNESDAY, MAY 28, 1986

Nutritional Interactions with Productivity and Health of Dairy Cows

This program will address nutritional interactions with milk production, reproductive efficiency, metabolic disorders, parasitic infections, and their economic impacts.

Interrelationships of Parasites and Nutrition with Health and Productivity

Dr. Colin Johnstone

Technological Advances in Nutrition and Productivity

Dr. William Chalupa

Protein Nutrition and Reproductive Performance

Dr. James Ferguson

Metabolic States that Affect Production and Health

Dr. David Kronfeld

Malnutrition and Medical Disorders

Dr. Tom Divers

Forage Analysis Facts and Foibles

Dr. Charles Ramberg

Nutritional Counseling in Practice

Dr. David Galligan

WEDNESDAY, June 4, 1986

Small Animal Radiology

This small animal radiology program, with approximately three hours devoted toward lectures in the morning and three hours devoted

can play a role; if goats are fed too much alfalfa, they may develop arthritis.

Goats and sheep suffer from caseous lymphadenitis infections, a disease affecting about 8 percent of the herds. It is caused by *Corynebacterium pseudotuberculosis (ovis)*. Animals with the disease are not permitted to leave the state as the illness is highly contagious. The infection causes abscesses. In sheep these occur most commonly at shearing laceration sites. Goats appear to contract the infection through ingestion; they often develop internal abscesses. These may involve internal lymph nodes in the thoracic (chest) and abdominal cavities and may involve organs such as the liver, lung or spleen. Chronic weight loss is often the most common complaint associated with internal abscesses. External abscesses can be excised or lanced and drained. Affected animals should be isolated from the rest of the herd/flock until all drainage has stopped. Internal abscesses are very difficult to diagnose and treat. Antibiotic therapy and surgical removal have been tried but often treatment is *not* successful and the affected animal is culled. In ewes and goats these

toward smaller group workshops in the afternoon, will be practitioner-oriented.

The lectures will emphasize principles of radiographic interpretation of the chest and abdomen. The workshop will be handled as a laboratory with teams of two to three people assigned to a viewbox with the Radiology faculty circulating to assist in radiographic interpretation of the presented cases. The lab-

oratory will concentrate on recognition of normal and abnormal radiographic findings of the chest and abdomen with specific emphasis on differential diagnosis.

Dr. Darryl Biery, Professor of Radiology
 Dr. Sydney Evans, Instructor in Radiology
 Dr. W. Harker Rhodes, Professor of Radiology
 Dr. Mark Saunders, Resident in Radiology

Dr. Jeffrey Wortman, Assistant Professor of Radiology

THIS COURSE IS LIMITED TO 30 PARTICIPANTS

For further information please contact Ashra Markowitz, University of Pennsylvania School of Veterinary Medicine, 3800 Spruce Street, Philadelphia, PA 19104—(215) 898-1882.



Mrs. Frederick Rude (L) and Mary Ann Tuschak (R), Member of the Wilmington Financial Group. Ms. Tuschak has generously offered to co-sponsor publication of the 1986-1987 Student Directory.



Dr. Roger Smith (V'57), President-elect of the Pennsylvania Veterinary Medical Association (L.) and Dr. Stewart Rockwell (Cor'50), President of the Pennsylvania Veterinary Medical Association (R). Drs. Rockwell and Smith are members of the Veterinary School's Alumni Society Executive Board.



Mr. and Mrs. Roger Caras

Mr. Charles S. Wolf, chairman of the School's Board of Overseers, calls the Board to order. The Board of Overseers held their winter meeting in conjunction with the Penn Annual Conference.



Each year, the Alumni Society sponsors a luncheon for recent graduates (those alumni in practice less than five years). The luncheon promotes interaction among alumni, faculty and students.



Animal Health Technician Conference

Harcum Junior College will sponsor an Animal Health Technician Conference on June 7 at the college in Bryn Mawr.

Topics include "Rapid Techniques in Microbial Identification," "Veterinary Dentistry: The

Role of the AHT." "The Application of Acupuncture, Infrared Laser, and Electromagnetic Field Therapies in Equine Medical Practice" and "Diagnostic Ultrasound: Principles and Application."

Participating conference faculty members are Ruth Dougherty, RVT, of Walnridge Equine Clinic; Dr. Colin Harvey, professor of surgery,

University of Pennsylvania School of Veterinary Medicine; Dr. Joseph Haines of the Fairhill Equine Veterinary Clinic; and Dr. Mark Saunders, resident in radiology, University of Pennsylvania School of Veterinary Medicine.

The fee for the conference is \$20 and four Continuing Education Units will be awarded. For further information, call (215) 525-3554.

abscesses can spread into the mammary tissues, resulting in poor milk production.

Foot problems are common in sheep and goats if the animals are not properly taken care of. "The feet should be trimmed and shaped periodically," said Dr. Vaala. "Otherwise sites exist for bacteria to flourish." This causes foot rot, a highly contagious disease. Animals can be protected against it by frequent vaccination, proper foot care and a clean, dry environment.

Skin problems, too, can be a big headache for the sheep and goat farmer. Both species are good hosts for various parasites, and goats in particular are prone to lice in the winter and fall. A dipping program will help eliminate these pests. Also, the goat is the only food animal prone to ear mite infection. Ears should be checked periodically.

Mastitis is common in goats and sheep. Prevention is important as the bacteria causing the infection can be passed to the suckling young, causing illness. Milk from goats with mastitis should not be sold for human consumption or for cheese production as some of the organisms pose a threat to human health. Dairy goat

owners should check their animals forevidence of mastitis by examining the milk in the strip cup prior to milking out the udder. Also, once a month, a California Mastitis Test should be performed. Mastitis seriously affects milk production and it is responsible for economic losses. Prevention includes clean milking equipment, washing of udder and teats and the milker's hands prior to milking, and dipping the teats after milking. It is very important that the animals are milked regularly and that the udder is emptied each time. If mastitis is suspected, a culture should be done to determine the causative organism and the proper antibiotic. If drugs are used to combat the infection, the bovine withdrawal time for the particular drug should be used as a guide, though it was found that drugs can be in evidence in goat's milk after the minimum withdrawal time indicated for bovines. This is particularly important if penicillin is used, a residue of this drug in milk can be fatal to people with an allergy to the drug.

Sheep and goat owners must protect their animals from accidental poisoning and confine them to a safe pasture. Goats in particular are

very curious and, according to Dr. Vaala, are nibblers. "They will eat anything in sight," she said. "They love ornamentals and are not able to distinguish between harmless and poisonous plants. Also, fertilizers, herbicides and pesticides should be stored where they cannot reach them." Goats should not be allowed to roam, particularly if the property is planted with azalea, rhododendrons, yews and other ornamental shrubs as these can be lethal. Dr. Vaala also pointed out that goats and sheep should not be staked in an open area as they can be attacked by roaming dogs. If they must be staked, it should be in a protected enclosure.

Goats generally make better "pets" than sheep. "They follow one around like a puppy," she said. "They can be taught to walk on a leash and they are fun to watch. The African Pygmy goat is quite popular as a pet."

According to Dr. Vaala, veterinarians are becoming more interested in these species. "But much more research is needed before we fully understand the requirements of these animals and their diseases."

—H.W.