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VETERINARY LIBRARY

# Bellwether

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## Not just dogs and cats, but birds, turtles, and other exotic animals

One evening each week, owners of avian, mustelids, reptiles, amphibians, rodents, rabbits, and monkeys come to VHUP for the exotic animal clinic. If an emergency occurs, these animals are brought in at other times, VHUP has a very active exotic animal clinic, about 5 percent of the total case load is in such pets. But that is not the School's only involvement with exotics; there are strong ties with the Philadelphia Zoo. In the clinic, Dr. Wilbur Amand (V'66), vice president of animal programs at the Philadelphia Zoo, and Dr. JoAnne Garbe, the School's first resident in exotic animal medicine, see these pets. The School also offers, in cooperation with the zoo, a second residency program. The resident in this program is Dr. Michael Barrie.

"Exotic animals have to be handled differently than dogs or cats," said Dr. Garbe. "You cannot tell a bird to sit or lie down; you have to restrain it, and that adds to the stress." This sentiment is echoed by Dr. Barrie, who explained that even a simple blood test for many of his patients requires sedation. "You don't just walk up to a tiger and take blood." As sedation is stressful, the veterinarians rely heavily on observation, either by the owner, as Dr. Garbe does, or by the keeper, in the case of the zoo animals.

"Birds are a large component of our patients here at VHUP," said Dr. Garbe. "We see exotic birds and sometimes domestic ones." She explained that many of the problems encountered in exotic birds are due to poor nutrition which predisposes them to disease. Often, birds have feather problems. "Birds are very responsive to change," she said. "They get upset and start picking their feathers. Before you know it, you can have a serious problem." Birds are susceptible to bacterial and viral diseases as well as parasites. One problem in treating birds is that the animals have very little blood. Any test performed must be done with a few drops rather than than cc's of blood.

Dr. Garbe and Dr. Amand not only treat parakeets, cockatoos or parrots, but also swans and ducks. One of the patients, a domestic duck, was rescued from drowning when it was just a day old. It

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## Exotic Animals

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has been a sickly animal, suffering from aspergillosis, a fungus infection. "The owners have developed a very strong bond with the bird, just like one would expect with a cat or dog," Dr. Garbe said. "They have airconditioned a room for it, and they have borne the expense of treating it. It was in ICU once for three weeks and once for 10 days on another occasion. Treatment so far has cost over \$2,500. Now we have the aspergillosis under control, and the duck is doing very well. If everything goes right, it can live for eight to ten years."

Other patients Dr. Garbe sees are ferrets, very popular pets. "They are nice animals, though they need to be descented. They can be housetrained and they are very affectionate." Rabbits are also among her patients, as well as turtles, lizards, snakes, guinea pigs, and hamsters. "Turtles are a challenge. You cannot listen to their hearts; often a radiograph is the only way to get a clue."

Exotic animals at VHUP sometimes need surgery. They are cared for in the ICU unit when required, and they have their own special ward. "When we treat exotic animals, proper restraint is an important issue. They must be held in a special way. If surgery is needed, anesthesia requires special attention, particularly in birds, as their respiratory system is different."

Zoo animals receive the same special care. "When a problem is recognized, we often watch the animal for a few days," Dr. Barrie said. "Treating animals at the zoo invariably involves restraint or sedation, so you proceed cautiously." He explained that the rhinoceros mother which gave birth earlier this year was monitored by closed-circuit television, and a detail of zoo veterinarians was on call. "We watched for a week, but it was her keeper who told us correctly when the night would be. Everything went well and the mother did not require assistance."

He explained that some animals are not allowed to breed in captivity. "The lions here have not been allowed to breed because of overabundance of lions in zoos. The females are implanted with a time-release hormone implant. The male wolf was vasectomized, as he is in a pen with his siblings." How-



*"Exotic animals have to be handled differently than dogs or cats," said Dr. Garbe. "You cannot tell a bird to sit or lie down; you have to restrain it, and that adds to the stress."*

exotic animals are more difficult to treat. "They often mask their symptoms until it is too late," said Dr. Barrie. "In this field, you have a lower percent success treating seriously ill patients than you do with domestic animals. There the success rate is much higher."

Both feel that much research is needed in the field. "I would like to see intensive care service for these animals similar to that given to dogs, cats, and other domesticated animals," said Dr. Garbe. "But before this can happen, much basic research is needed in a multitude of exotic animal species."

"Zoo medicine has flourished during the last 10 to 15 years," said Dr. Barrie. "There is now a concentrated effort to obtain more basic information and to conduct more studies." The Philadelphia Zoo has been at the forefront of research. The Penrose Research Laboratory, located at the zoo, has been involved in a great variety of studies including developing Zoocakc, a special feed for zoo animals. Necropsy records exist dating back to 1902, and necropsy reports and tissue blocks are kept on every animal that died at the zoo going back to 1933. Dr. Barrie explained that research with exotic animals is often difficult because of the small numbers of individuals available. Information is gathered slowly, often only after death.

Basic information is lacking, Dr. Garbe is engaged in a project to establish blood gas values and the acid/base levels in birds. This information may be helpful with an intensive care patient.

Dr. Garbe graduated from Washington State University and, while there, was active in exotic animal and wildlife programs. She served an internal medicine internship in a large California practice and came to Penn in 1984. Dr. Barrie is a graduate of Michigan State University. He was in private practice for three years: one year in California and two in a New Jersey small animal/exotic practice. He is in his second year of the zoo residency. During his first year, he spent half of his time at the School, rotating through the services at the small and the large animal hospitals.

—H.W.



ever, there are other species at the zoo for which the veterinarians will go through great lengths to ensure offspring.

Sometimes such offspring involve a great deal of work and heartbreak in the end. "I raised a kangaroo recently. It was rejected by its mother, possibly because of a fractured leg. We kept it in an artificial pouch fashioned from a leatherbag, and it was fed around the clock. It did well for a couple of months and then died at the time of weaning. It was very frustrating." Toxoplasmosis and other diseases are frequently introduced into the zoo through stray animals which come from the surrounding urban areas. "We trap a lot of cats and dogs as well as wild-

life. The wildlife is checked for rabies, and cats and dogs are turned over to the SPCA."

The School and the Philadelphia Zoo work together closely. While it has its own veterinary staff, the zoo on occasion takes animals to VHUP or New Bolton Center. "We will frequently consult a surgeon or other specialist from the School to help with a case."

Both Dr. Garbe and Dr. Barrie pointed out that



# The Effects of Anabolic Steroids on Mare Behavior



**V**eterinarians have utilized anabolic steroids for many years in the treatment of debilitated horses, as these drugs speed tissue repair after trauma or surgery. Anabolic steroids, compounds related to testosterone, have an androgenic effect when taken over a period of time. Two anabolic compounds, stanozolol and boldenone undecylenate, recently were studied by Drs. Marolo C. Garcia, Sue McDonnell, and Terry L. Blanchard at the Georgia and Philip Hofmann Research Center for Animal Reproduction at the University of Penn-

sylvania during the medication period, and for an additional eight weeks afterward. The researchers studied the interactions within each group, among the groups and with humans. Also studied was the reaction of mares from each group to a pony stallion. "We found that the mares on stanozolol and the placebo medication exhibited normal behavior when interacting among themselves, with a stallion, and with humans," said Dr. McDonnell. "The mares on boldenone undecylenate, though, exhibited behavior characteristic of stallions." According to Dr. McDonnell, these mares became quite aggressive, would fight among themselves, and were hard to

herd, including aggressive responses, control of feed resources, mutual grooming activities, and dominance patterns were studied in relation to the development of male type behavior in the mares."

The researchers discovered that boldenone-treated mares did not show any signs of estrus even though their ovarian cycling was normal. They reacted aggressively to the teaser stallion and would not stand for breeding. Mares on stanozolol and on the placebo showed signs of estrus and behaved normally with the teaser stallion.

"Trainers frequently use anabolic steroids to perk up a horse which has become stale at the track or in the ring," said Dr. McDonnell. "They believe that these drugs will increase the animal's stamina and strength and lead to better performance; however, studies so far have not shown that anabolic steroids directly lead to greater strength and better performance." She also pointed out that the Center routinely encounters breeding difficulties in horses retired from competition. Mares are frequently quite uncooperative and stallions appear to have low sperm counts. "It could be due to certain anabolic steroids given over a period of time," she said. "Studies have shown that androgenic drugs, administered over a period of time, lead to reduction in the size of the testes in stallions and suppression of ovarian function in mares. The adverse effects on testes is especially pronounced in young stallions."

She mentioned that stanozolol and boldenone undecylenate are approved by the FDA for use in non-pregnant mares and geldings. "Trainers should be cautious in the use of drugs with high androgenic potential, because the behavior associated with boldenone undecylenate does not abate even when the hormone level has returned to normal. We don't know whether this anabolic steroid causes permanent changes. More studies are needed."

Dr. McDonnell and her colleagues have expanded the behavior clinic. The equine behavior clinic at Hofmann Center of New Bolton is perhaps the only one in the world that is integrated with the activities of a large animal teaching hospital, as well as with the full support of semen and endocrine laboratories and theriogenology clinicians. They not only treat behavior problems related to reproduction but also see cases which encompass maternal rejection, stable vices, and frenzied stallion syndrome.

The anabolic steroid study was funded by Sterling Animal Health Products, Division of Sterling Drug, Inc.

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handle by humans. "They developed marking behavior, seen normally in stallions, mounted other mares, and tried to form harem groups. They fought the teaser stallion." This behavior persisted not only during the medication period but also had not stopped when the study ended 12 weeks after the medication interval.

"Part of the impetus for this project was the need to gather critical information on development of male sexual behavior in order to better evaluate stallions and mares presented for treatment of abnormal sexual behavior to our reproduction clinic," said Dr. McDonnell. "Sociosexual interactions within the

sylvania School of Veterinary Medicine. Both compounds are approved for veterinary use.

"We wanted to determine whether either of these two drugs affected the sociosexual behavior of mares," explained Dr. McDonnell, a researcher at the Hofmann Center, with a special interest in behavior problems of horses. "Thirty ponies, divided into three groups of ten, were used in this study." One group received stanozolol, one boldenone undecylenate, and the third group received placebo medication. The drugs were administered for a period of 12 weeks at close to the manufacturers' recommended dosages.

The mares were kept in an open pasture and allowed to mingle freely. They were observed daily





# 9th Annual Symposium

*The Ninth Annual Feline Symposium was held on March 22, 1986, at VHUP. Following are summaries of the talks and discussions.*

## How Men and Women Think About and Interact with Their Cats

Dr. Victoria L. Voith discussed her recent study which examined the attitude of owners and how owners interact with their pet cats. Questionnaires were made available to people entering four veterinary hospitals along the east coast of the United States. The questionnaires took between 15 and 20 minutes to complete and asked about the frequencies of specific behaviors of the cat. Over 800 questionnaires were either completely or partially filled out.

Following are Dr. Voith's findings:

84% of the questionnaires were filled out by women. 52% of the questionnaires referred to male cats and 48% to females; 13% of the cats were sexually intact; 77% were neutered by 12 months of age; 29% were declawed; 53% of the cats were five years old or younger; the most frequently cited age of the cats was two years (13%); 60% of the cats lived in the city, 33% in the suburbs, and 7% in a rural area.

Most of the cats were owned by couples of opposite sex (36%), followed by single adults (23%), and nuclear families (23%). The majority of cats were obtained from friends or neighbors (33%), found as strays (27%) or adopted from an SPCA or similar agency (11%).

46% of the cats were described as behaving in a disobedient or independent manner frequently or very often. 47% of the cats were described as engaging in a behavior that the owner considered a problem. 24% of the problems cited were elimination behaviors, 24% were destructive behaviors, and 20% were ingestive behaviors.

Men and women did not differ as to whether they considered the cat a family member, allowed it to sleep on the bed or get on the furniture, took it on errands or overnight trips, or shared food from the table or snacks, talked to it frequently, believed they were aware of the cat's moods, or believed that the cat was aware of their moods. Women did, however, spend more time interacting with the cat, more frequently talked to the cat about important matters, and considered the cat protective.

Comparison of this survey with one filled out by over 700 dog owners the previous year revealed that owners' attitudes and interactions are similar regarding pet dogs and pet cats.

The following table is from an article entitled "Attachment of people to companion animals" that appeared in *Veterinary Clinics of North America: Small Animal Practice*, Vol. 15, No. 3, March, 1985, edited by J. Quackenbush and V. L. Voith, W. B. Saunders Publishing Company, Philadelphia.

*Percentage of Respondents Who Answered in the Affirmative to the Following Questions:*

	DOG	CAT
Consider a family member	99%	99%
Sleep on bed	56%	89%
Allow on furniture	56%	95%
Take on errands	83%	8%
Take on trips	72%	29%
Share food from table	64%	67%
Share snacks	86%	68%
Talk to pet at least once a day	97%	97%
Talk about important matters at least once a month	45%	58%
Believe aware of pet's moods	99%	89%
Believe pet aware of person's moods	98%	91%
Have photographs	91%	91%
Celebrate birthday	54%	39%

Dr. Victoria L. Voith is assistant professor of medicine (behavior) here at the School.



## Cats are Special

Dr. Michael A. Obenski discussed special problems encountered in cats. "Cats are different from other mammals, anatomically, behaviorally, and in their nutritional requirements," he said. "Medications safe for other species can be quite dangerous to cats."

Aspirin, a commonly used pain killer, should not be given to a cat without consulting a veterinarian. "Cats lack the enzyme needed to detoxify aspirin," he said. "If repeated doses are given, toxic concentrations of aspirin can build up. Aspirin can also cause stomach irritation, liver damage, bone marrow suppression, and a depletion of blood clotting factors in cats."

Phenylbutazone, a drug commonly used to treat arthritis in dogs and horses, should not be given to a cat as it causes severe kidney damage in felines.

"Often people have medication for the dog in the house, and they think it will also help the cat," Dr. Obenski said. "But that is not the case, and before giving any drug to a cat, a veterinarian should be consulted." A case in point is acetaminophen, a substance present in Tylenol, Datril, and other painkillers. "One Tylenol will kill a cat," he said. "Acetaminophen affects the cat's hemoglobin, and the animal will die. Sometimes it can be saved if the stomach is pumped before the drug reaches the bloodstream." Dr. Obenski mentioned that phenacetin, a similar substance present in painkillers, will have the same effect on cats. He also pointed out that Methylene Blue, a chemical found in many medications used to treat urinary infections, can damage red blood cells in cats and lead to severe anemia.

He did explain that quite a number of drugs, while not specifically licensed for cats, are safe and are frequently prescribed by veterinarians.

Dr. Obenski then discussed a number of diseases

peculiar to cats. Feline vestibular disease, an unusual disturbance in the cat's balance system, has a sudden onset and occurs primarily in the summer or early fall. Affected animals will tilt the head to one side, walk awkwardly, and their eyes move back and forth. The cause of the condition is unknown; animals recover slowly from it.

Aortic embolism is a serious illness encountered in cats. Here, the rear legs are paralyzed due to a blood clot which cuts off circulation in the arteries of the hind legs. Frequently, this condition leads to death, though there are surgical and medical treatments available.

Cats are the only mammal aside from humans that can have bronchial asthma. Constriction of the small air passages in the lungs causes coughing and difficult breathing. The illness can look very similar to a hairball problem. Untreated, it can lead to serious pneumonia.

Feline infectious anemia is caused by microscopic parasites which infect the red blood cells of cats. The infection, probably spread by insect bites, can be mild or severe. It is often seen in cats with feline leukemia. Cats can have a tumor of the thyroid gland, and this causes hyperthyroidism. Affected animals eat a great deal yet lose weight. Other symptoms may include diarrhea, excessive thirst, rapid heart rate, and excitability.

Heartworm, a parasite primarily seen in dogs, can also affect cats. In cats, rather than being a heart problem, heartworm disease manifests itself through recurring stomach trouble. Cats with a chronic vomiting problem should be tested for heartworm. Once diagnosed, the disease can be treated.

Dr. Obenski also mentioned cuterebra as a cat disease. It is caused by a group of flies whose larval stages may infect the skin of cats and certain other animals. The female fly lays her eggs on the fur. The larva hatches and burrows into the skin. A small abscess develops with a little hole for the larva to breathe through. The condition is seen frequently in kittens or older cats during the spring and summer. Affected animals should be treated by a veterinarian, as the removal of the larvae can be difficult.

Dr. Obenski is an alumnus of the School. He graduated in 1972 and has a feline practice in Allentown, PA.



## Peculiarities of Cat Nutrition

The special nutritional needs of cats were explained by Dr. David Kronfeld. "Of all the domesticated animals, cats need to be fed most carefully," said Dr. Kronfeld. "They are obligatory carnivores and their biochemistry is distinctive, as is their feeding behavior." He pointed out that cats evolved on a diet of small animals, high in animal protein and fat, with virtually no carbohydrates.

Today, through advancements in technology, ani-





mal feed is manufactured largely from cereal grains, such as corn and wheat, and the protein in feeds is derived mostly from soy beans. For the cat, which has evolved on animal proteins, this poses a problem. According to Dr. Kronfeld, cat food has to be carefully formulated and take into account the cat's biochemistry before it can be beneficial.

"Cats don't prosper on the amount of carbohydrates utilized well by dogs," he said. "It also has been found that starch and fiber depress digestion. Protein, fat, and vitamins have to be added to a cereal feed to make it nutritionally complete and palatable for cats." Cats have higher protein requirements than dogs, because they lack the ability to curtail the rate of amino acid breakdown by certain enzymes. As species which evolved on an animal protein-rich diet, cats never needed this adaptability. Cats also have a low rate of arginine synthesis, a substance needed to break down ammonia. If a cat's diet is lacking in arginine, ammonia will accumulate in the bloodstream and impair the function of the brain; convulsions and death can result.

Cats cannot produce taurine, and the absence of this substance in the diet can lead to retinal degeneration. Cats should not be fed dog food, as this is low in taurine. Dogs and other mammals can convert carotene into vitamin A, but the cat is not able to do so. The cat also is not able to produce niacin. Both substances are contained in liver. It appears that cats evolved on a diet with abundant liver. This, however, does not mean that a cat should be fed entirely on liver, as too much vitamin A can be toxic and lead to weak bones and fractures. Dr. Kronfeld recommended that kittens be fed no more than one teaspoon of liver daily, and adults receive no more than one ounce daily.

Cats also require more of the vitamins from the B complex than dogs, from two to eight times as much. In this group, the lack of thiamine can be serious. This vitamin, sensitive to heat, can be destroyed in the manufacturing process. Thiamine deficiency causes bleeding in the cerebellum and leads to loss of control of the limbs, loss of appetite, and death.

Dr. Kronfeld pointed out that cats can be fed

commercial dry food, provided it is formulated for cats. He explained that both the dry and the semi-moist feeds contain preservatives to give the food adequate shelf life. Canned foods need not contain preservatives. He also mentioned that canned foods generally contain less carbohydrates and fiber and are more efficiently utilized by the cat.

He added that most foods do not contain enough salt to stimulate the cat to take in fluids. "The Feline Urologic Syndrome has become quite common since the introduction of dry foods," he said. "These foods are higher in fiber, which in turn absorbs water in the gut, preventing fluids from reaching the kidneys." He feels that a cat's diet should contain 1 percent salt to encourage fluid intake. He mentioned that the pH of the urine is an important factor in the development of struvite crystals and stones. "It has been found that at pH 7 we get struvite development. We want a diet which keeps the pH below 6.6" he pointed out that the addition of phosphoric acid to foods to increase palatability may have decreased the chance of cats developing "FUS."

Asked whether cats should receive a vitamin supplement, he said no. He reminded the audience that cats evolved as solitary eaters, and finicky eaters often may just be led in the wrong environment. "When feeding the cat, place the food where the cat will not be disturbed or threatened."

Dr. Kronfeld is Elizabeth and William Whitney Clark Professor of Nutrition at the School.



## Advances in the Treatment of Feline Cancer

About 30 percent of healthy cats exposed to the feline leukemia virus actually become persistently infected. Dr. K. Ann Jeglum explained that quite a

number of cats are able to combat the disease and develop an immunity without the aid of a vaccine.

FelV, a retrovirus, invades the DNA (genetic material) of the cat's cells and replicates there. Virus particles circulate in the bloodstream and invade other organs. They also find their way into the saliva. It is an infectious disease and is transmitted from cat to cat through repeated intimate contact. "The virus probably spreads through the oral route, as saliva contains the highest concentration of virus particles," she said. "For a cat to become infected, it has to have prolonged, close contact with an infected animal."

She explained that when a cat first becomes infected, it is postulated that the virus invades the lymph nodes in the neck. At this point the body will fight the disease and will not produce antigens, but viral antigens may be in the serum at this time. An ELISA test, conducted at a veterinarian's office, can detect these antigens. This test does not determine whether a cat is infectious; it merely shows that the animal has been in contact with an infected cat.

Approximately 21 to 28 days after the initial exposure to the virus, the virus reaches the bone marrow. This stage is critical, as the cat's system will either ward off the disease, or its blood cells will be invaded and the FelV begins to replicate. If that occurs, the cat becomes viremic (infectious). This stage can be detected through an IFA test, which measures the presence of virus antigen within the DNA of blood cells. For this test, the veterinarian collects a blood sample and sends it to a special laboratory. If a cat is found to be viremic, it should be isolated from other cats to protect them from infection. At this stage it is possible for some cats to overcome the infection; however, the virus remains dormant in these animals, and the disease may occur later when the animal is stressed.

Dr. Jeglum explained that the majority of cats with FelV do not die from cancer but develop other diseases which are associated with a depressed immune system. "The virus contains a powerful immune suppressant."

She then discussed the vaccine currently available. Recent studies at the University of California, Davis, by Peterson and co-workers have challenged the initial efficacy studies conducted by Norden, and the issue is open-ended.

Dr. Jeglum recommended that owners exercise the traditional precautions of regularly testing sick cats, animals in catteries, or multi-cat households and isolating animals which test positive for the virus. She feels that all cats should be tested for FelV prior to vaccination and that only negative cats should be inoculated. She explained that not all cats need the vaccination. "It should be considered for high-risk cats, such as outdoor cats, cats in multiple cat households, and show cats. Pregnant cats can be vaccinated. Once a vaccination program has been initiated, the owner should still continue to test regularly for the disease, as the vaccine appears not to be effective in a certain number of animals."

Dr. Jeglum touched briefly on her work with feline mammary tumors. A treatment regimen encompassing chemotherapy and immunotherapy has been employed here at the School with good success. "We are now working on the next generation of treatment," she said. "We are developing specific monoclonal antibodies against mammary tumors, and these are used to fight breast cancer in cats. To date, we have treated six cats, and we are evaluating the efficacy of this treatment."

Dr. Jeglum stressed that mammary cancer is quite common in cats and that it is a disease which is frequently discovered only when it has reached advanced stages. "Owners of older cats should examine the cat's mammary glands periodically to check for abnormal growth. If the disease is detected early, in many cases the animal can be helped."

Dr. K. Ann Jeglum is assistant professor of medical oncology and head of the oncology service here at the School.



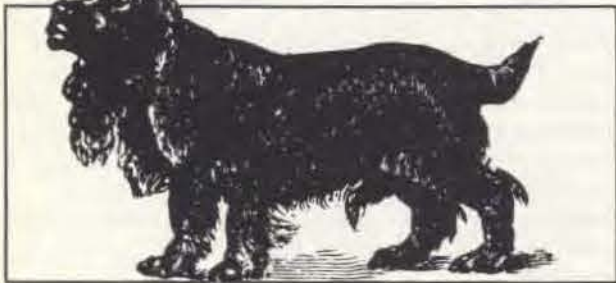


# Animal Crackers



## Popular Breeds of Dogs

The American Kennel Club registered 1,089,149 dogs in 1985. The most popular breed for the third straight year was the Cocker Spaniel (96,396), followed by Poodles (87,250), Labrador Retrievers (74,271), German Shepherd Dogs (57,598), Golden Retrievers (56,131), Doberman Pinschers (41,352), Beagles (40,803), Chow Chows (39,167), Miniature Schnauzers (38,134), and Shetland Sheepdogs (34,350).



The popularity of some breeds seems to be the result of publicity, particularly on television, as well as the demand for large, aggressive guard dogs. A darling puppy may grow into a "monster" that many average owners cannot cope with, particularly if they have had no experience in owning and training a dog. Anti-dog legislation is becoming a serious problem, caused to a great extent by irresponsible owners.

Anyone considering a breed should take the time to look at adults as well as puppies and investigate the temperament as well as special grooming care needed. What is seen in the show ring may be unrecognizable after several weeks "in the wild."

## Artificial Insemination Using Frozen Semen

Artificial breeding—using mechanical means to introduce seminal fluid into the female—has become

a highly technical process. It involves collection, evaluation, dilution, storage, and transport of semen. Frozen semen is used extensively in cattle with excellent results. In dogs, its use is increasing, although the results are somewhat unpredictable and quite variable. The American Kennel Club has registered about 70 litters resulting from the use of frozen semen, a very small percentage of the approximately 35,000 litters registered each month. One of the problems is that, in many cases, collections are made from older dogs with poor semen quality. The future should bring improvements in methods of dilution and storage, as well as programs to evaluate the donor dog, both for inherited defects and semen quality.

The AKC allows registration of litters whelped as the result of insemination using fresh, extended, and frozen semen. If fresh semen is used, the dog and bitch must be present during the extraction and insemination. This no longer must be performed by a licensed veterinarian. Recent revisions of the rules allow the use of fresh extended semen which has been extracted within the U.S.A. to be shipped to points within the country. When frozen semen is used, record-keeping is extremely important. AKC must be notified of collection and freezing, including identification of donor dog, number of breeding units collected, date stored, and address of storage facility. AKC must be notified immediately when frozen semen is shipped. At the present time, there are no provisions for registering litters that result from imported frozen semen.

When artificial insemination is used, be sure to obtain the special forms required for registration. Complete information can be obtained from the American Kennel Club, 51 Madison Ave., New York, NY 10010.

Although old dogs can and do sire litters, generally their fertility decreases with age. AKC rules state that if the sire is over twelve years of age at time of mating, there must be evidence that this dog sired the litter. Was this a "planned" breeding, were there witnesses, was the bitch confined during the entire heat period, was there any possibility that the bitch

was exposed to another male, was a recent sperm count done? While these questions may not apply when frozen semen is used, they show that there is possibility for error. Many safeguards are necessary to be sure the pedigree of any progeny is accurate.

It will be many years before the use of frozen semen in dogs can be evaluated. For some dogs, it simply does not work. In others, the dog is too old to produce semen which can be used successfully. The most important question is, "Are we selecting stock free from inherited defects and with qualities that will improve the breed?"

## Parvovirus

Parvovirus Disease was first recognized in 1979. Young dogs under six months of age are most susceptible. Older dogs may be infected, but the effects are less severe. Signs of disease include vomiting, diarrhea, loss of appetite, depression and possible fever. The disease is extremely contagious and has a mortality rate of 10 to 20 percent.

Many cases are seen in dogs which have been inadequately vaccinated. New findings indicate that vaccination against the disease should begin when the puppy is six to seven weeks old and be repeated at three-week intervals until the dog is 20 weeks old. Yearly booster shots are recommended.

The disease is spread mostly through feces of infected animals. Until the vaccination schedule is complete, owners should keep puppies away from public places and other dogs.

All breeds of dogs are susceptible but Rottweilers and Doberman pinschers seem to be more severely affected than other breeds. One author suggests that black Labrador retrievers are more severely affected than yellow.

A veterinarian should be consulted about a vaccination program. Current information indicates that the final "puppy shot" should be given at 20 weeks of age—somewhat later than formerly recommended.

## New Chairman

Mrs. William Whitney Clark of Maurertown, VA, and Boynton Beach, FL, has been appointed chairman of the Ladies Committee of the Veterinary School of the University of Pennsylvania by Dean Marshak. Mrs. Clark, a long-time breeder of Gordon Setters and an AKC licensed judge, has served on the Ladies Committee for many years. She has also provided the Elizabeth and William Whitney Clark Professorship in Nutrition here at the School.

The Ladies Committee serves as a liaison between the School and the cat- and dog-owning public. Committee members act as hostesses at School social affairs, and they sponsor the annual symposia for dog and cat owners.

Other members of the Committee are Mrs. Charles A. T. O'Neill; Dr. M. Josephine Deubler; Mrs. Keke Blumberg; Mrs. Gayle Bontecou; Mrs. James Edward Clark; Mrs. L. Stewart Cochran; Mrs. Robert Forsyth; Mrs. John A. Lafore, Jr.; Mrs. Alan R. Robson; Mrs. E. M. Sokopp; Mrs. W. Potter Wear.

## New Overseers

The University Trustees approved the appointment of three new members to the School's Board of Overseers.

Walter F. Goodman, Miami, FL, has bred, owned, and shown many top winning Skye terriers. In 1969, he handled his Ch. Glamour Good News to best in show at the Westminster Kennel Club. The dog was co-owned by Mrs. Adele Goodman. An AKC-licensed judge of all terrier breeds, Mr. Goodman serves as president of the Montgomery County Kennel Club and as the AKC delegate of the Skye Terrier Club of America.

James M. Moran, Jr., a Thoroughbred horseman from Paoli, PA, has had a lifelong interest in horses. He manages his family's Brushwood Stables, owners of Creme Fraiche, the winner of the 1985 Belmont Stakes. Mr. Moran serves as a trustee of the 1957 Charity Trust, Philadelphia.

Dr. Stewart R. Rockwell, president of the Pennsylvania Veterinary Medical Association, was appointed an ex-officio member of the Board of Overseers.

## Scholarships

Hill's Pet Products, Inc., provided four scholarships in the amount of \$1,000 each. The recipients were John C. Seddon (V'86), Pamela Mills, now a senior, Jeanne C. Ludlow, a third-year student, and Thomas Niedermeyer, a second-year student.

Rachel Blakey, a senior student, is the recipient of the Amlan Foundation scholarship.

The Pocono Mountain Kennel Club provided a scholarship for 1986; the recipient was Susan Colbassani, a senior student from Lackawanna County.

The Lancaster County Kennel Club provided two scholarships in the amount of \$1,000 each. The recipients were Mary Kirk, now a second-year student, and Michelle Carricato, now a senior student.

The David I. and Victoria R. Greenberg Memorial Scholarship was awarded to Barbara Gregory and Valorie Vaugn, both members of the senior class.

Donations to the scholarship fund were received from The Reidler Foundation and from the Westminster Kennel Foundation.



## Coonhounds

The American Kennel Club has agreed to maintain the Stud Book and regular field events and shows for the American Coon Hunters Association.

The new registry will operate apart from the current AKC registry, now comprised of 129 breeds. Registrations in the two Stud Books will not be interchangeable, nor will eligibility to compete in events.

The ACHA registry recognizes nine varieties of Coonhounds: Redbone, Black & Tan, English, Blue Tick, Treeing Walker, Plott, Treeing Tennessee Brindle, Saddle-back, and American Coonhound. At the present time, AKC recognizes only the Black and Tan.

In taking over the ACHA registry, AKC is getting involved in a sport that attracts over 150,000 entries a year—more than all the dogs participating in AKC field trials. ACHA field events, which are called "hunts," involve tracking and treeing the raccoon, which remains in the tree unharmed.



Involvement in the Coonhound sport is considered in keeping with AKC's overall commitment to protect and maintain pure-bred dogs in America, including selectively bred hunting dogs. Coonhounds are a significant factor among hunting dogs.



## Books

*Foaling/Brood Mare and Foal Management* by Ron and Vale Males (Howell Book House, 230 Park Ave., New York, NY 10169) \$10.95

Excellent photography, most in color, illustrate a normal foaling and point out what to expect in normal situations, and how to recognize danger signals. Foaling is described in detail and there is a post-natal checklist for mare and foal. The text gives rather basic information but answers many questions.

Some excerpts:

... Oestrus in the mare usually lasts for several days at intervals of about three weeks. The signs may pass unnoticed if no other horses are around, but are unmistakable if the mare is near a stallion.

... People often mistakenly "Feed the mare for two" during pregnancy.

... Almost without exception, any pregnancy which terminates before 300 days is unsuccessful.

... The expected foaling date is worked out by checking (don't guess) the last date of service—add one year and seven days—subtract one calendar month.

... About four to six weeks before her due date, the average mare begins to "spring" or develop an udder.

... Mares have an uncanny knack of foaling when least expected.

... The normal baby foal should be on its feet within an hour or so of delivery and should suckle often (at least half-hourly), and sleep as regularly ... Mares produce a lot of milk but don't have a big storage capacity (like cows do), so the foal drinks more often than most new foal owners ever imagine is normal.

... Within an hour or two of suckling the mare for the first time, the foal should pass its first bowel movement (meconium). Retention of meconium is an extremely common cause of death in the newly born foal.

... By the time a normal foal is four weeks old, it should have the strength, vigor and resistance to cope with most of the minor ailments.

... Breeders and owners who hope to rear healthy foals have a very real responsibility to carefully observe them as often as possible.

For the pictures alone, this book is a worthwhile addition to the library of anyone interested in horses.

*The Complete Book of Canaries* by G. T. Dodwell (Howell Book House, 230 Park Ave., New York, NY 10169) \$19.95

This book, a one-volume encyclopedia, gives information about history, genetics, breeding, showing, standards, health and disease, etc. It contains an answer to almost any question about canaries. There are excellent color photographs of familiar and rare canary breeds, with illustrations of anatomical features, show cages, and identification rings.

Some excerpts—

... There are a number of canary colors—green, blue, bronze, etc.

... In color-fed breeds, special food is given during the moult to turn the basic ground color into a rich orange.

... There are crested breeds of canaries.

... The hen usually lays four to five eggs which hatch in about two weeks.

... The Scotch Fancy is a long, slim bird which has a pronounced curve to its body so that, with head thrust forward and tail carried under the perch, the

general outline is in the form of a crescent moon.

... Toenails continue to grow throughout a bird's life and trimming is necessary, usually only once or twice a year.

The book is a useful addition to the bird-lover's library.

*The New Poodle* by Mackey J. Irick, Jr. (Howell Book House, 230 Park Ave., New York, NY 10169) \$19.95

This is a book for those who love the breed and want to learn all about it. The book covers buying a puppy, home training, grooming, bathing, clipping, as well as showing. There is detailed information on the three varieties—toy, miniature and standard—with photographs, pedigrees and important kennels. Also, there are chapters on the standard, obedience, poodles as retrievers and corded poodles.

Some excerpts:

... In 1861, Meyrick wrote that in France, the poodle was the commonest dog, "except for the cur."

... Russia, France, and Germany are the three main sources of the poodle as we now know him.

... Brushing is extremely important throughout a poodle's life. It must be remembered that poodles do not shed their hair as other breeds do, and that dead hair remains in the coat and must be taken out. If it is not removed, mats will form.



... Black is the basic, dominant color in poodles. When a dominant black is mated with any of the other colors, all the puppies will be black. As a rule, this pure dominant also carries the greatest perfection of type.

... Retrieving, an ancient and honorable sport, fits the poodle's temperament perfectly. You will find numerous early paintings, engravings, and book illustrations showing poodles active in the field and retrieving ducks from the water, enjoying this outdoor sport.

There are many breed books, but this is one that can be considered a classic.

## Teaching Awards

Each year the Veterinary Student Government presents Awards for Excellence in Teaching to four teachers which are nominated by each class.

The recipient of the first-year class award was Dr. Leon P. Weiss, Grace Lansing Lambert Professor of Cell Biology; Chairman, Department of Animal Biology. Dr. Raymond W. Sweeney, lecturer in large animal medicine, received the award from the second-year class. The recipient of the third-year class award was Dr. David E. Freeman, assistant professor of surgery. Dr. Thomas J. Divers, associate professor of medicine, received the award from the fourth-year class. The Nursing Technical Teaching Award was presented to Tina Stalton.

The awards are cosponsored by the American Animal Hospital Association; Bertholon-Rowland Insurance Agency; Pennsylvania Veterinary Medical Association; Veterinary Medical Alumni Society; and Veterinary Student Government.



Dr. David E. Freeman, Dr. Raymond W. Sweeney, Ms. Tina Stalton, and Dr. Leon P. Weiss. Not shown is Dr. Thomas J. Divers.



# Rosettes & Ribbons

**Dr. Thomas J. Divers**, associate professor of medicine, received the Christian R. and Mary F. Lindback Award for Distinguished Teaching. He was cited for ability to motivate the curious and kindly prod the not-so curious and for giving unstinted time to "extras" (such as: designing lunch-hour labs, making sure students are present when diagnoses are made). Dr. Divers has been named associate editor, large animal medicine, for the *Journal of Veterinary Internal Medicine*. Dr. Divers and **Dr. Robert F. Whitlock**, Marilyn M. Simpson Professor of Equine Medicine, and Chief, Clinical Studies, New Bolton Center, will present papers at the World Cattle Congress held in Dublin, Ireland, in August.

**Dr. David Kronfeld**, Elizabeth and William Whitney Clark Professor of Nutrition, was the keynote speaker at an international congress on small animal medicine, in Amsterdam in April. The congress, Voorsjaardagen, was sponsored by the Royal Netherlands Veterinary Association and the Netherlands Small Animal Veterinary Association. Dr. Kronfeld presented nine hours of lectures and discussions on optimal ranges of nutrients for cats and dogs, on feeding programs for high performance in breeding, growth, work and stress, and on therapeutic diets, including a simple system for cooking in the hospital. He also spoke on nutrition and hip dysplasia to the European Small Animal Surgery Forum, which met concurrently with Voorsjaardagen.

**Dr. Colin E. Harvey**, professor of surgery, has been named a Fellow of The Royal College of Veterinary Surgeons, London.

**Dr. Lawrence R. Soma (V'57)**, professor of anesthesia at New Bolton Center, and **Dr. Deborah V. Wilson**, resident in anesthesia, received a grant from the Grayson Foundation, Inc., for "High Frequency Positive Pressure Ventilation (HFPPV) in the Horse." Dr. Wilson presented a paper on HFPPV at the Second International Congress of Veterinary Anesthesia in October at Davis, CA.

**Dr. Vicki Meyers-Wallen (V'76)**, assistant professor of medical genetics, **Dr. Gert Niebauer**, assistant professor of surgery, and **Dr. Sydney Evans (V'77)**, lecturer in radiology, successfully completed their Ph.D. and graduate degrees.

**Dr. Victoria L. Voith**, assistant professor of medicine (behavior), was named the Pennsylvania State Winner of the Bustard Companion Animal Veterinarian Award. The award, established in 1986, is presented annually to veterinarians whose work includes exemplary efforts in promoting the human/animal bond. It is sponsored by the American Veterinary Medical Association, the Delta Society, and by Hill's Pet Products.

**Dr. Sue McDonnell**, of the Georgia and Philip Hoffmann Research Center for Animal Reproduction, presented a paper, "Pharmacological Manipulation of Sexual Behavior in Stallions," at the Fourth International Symposium on Equine Reproduction held in Calgary, Canada. Dr. McDonnell also will present a paper, "Sexual Behavior Dysfunction: Experimental Models and Clinical Considerations," at the Annual Meeting of the Society for Theriogenology in Rochester, NY, in September.

**Eugene Lengerich**, a senior student, received the 1986 Pfizer Award.

**Dr. Ralph E. Werner (V'68)** was installed as president-elect of the New Jersey Veterinary Medical Association.



**Eugene Lengerich, the Pfizer Award recipient**

**Dr. Paul J. Strzemienski**, lecturer in reproduction, provided a poster presentation, "Bacterial Activity of Mare Neutrophils in Cycling and Pregnant Mares," at the 1986 meeting of the Society for the Study of Reproduction, held at Cornell University in July. He also provided a poster presentation, "Direct and Indirect Action of Steroids on Mare Peripheral Neutrophils," at the First International Veterinary Immunology Symposium, held at the University of Guelph, Canada, in July.

The American Pet Products Manufacturers Association named **Dr. Alan M. Beck** and **Dr. Aaron Katcher** of the Center for Interaction of Animals and Society as "Human of the Year."

**Dr. Richard A. McFeely (V'61)**, professor of animal reproduction, was honored by the Chester County Council of Boy Scouts of America. Dr. McFeely, active in scouting for over 20 years, received the "Good Scouter Award" for his involvement in both the Boy Scouting and Exploring programs as well as for his many civic activities. Dr. McFeely and the **New Bolton Center Staff** also received a Community Service Award from the United States Military Academy, West Point, for the services and assistance provided to the United States Military Academy Mule Mascots in September 1985.

**Dr. Fred R. Guenther (V'52)** writes a pet care column for the *Yardley News*, the *New Hope Gazette*, and the *Bristol Pilot*.

**Dr. Robert J. Rutman**, professor of molecular biology, chaired a symposium on minority affairs entitled "An Underdeveloped Resource—Minority Participation in Science." The event took place on May 27 in Philadelphia.

**Dr. Nita Irby**, lecturer in large animal medicine, is a Diplomate, American College of Veterinary Ophthalmologists.

"Predisposition to Hookworm Infection in Humans," an article written by **Dr. Gerhard A. Schad**, professor of parasitology, has been included in the *Year Book of Infectious Diseases*.

**Dr. Katrin Hinrichs**, lecturer in reproduction, presented a paper, "Embryo Survival after Transfer in Ovariectomized, Progesterone Treated Mares," at the Fourth International Symposium on Equine Reproduction in Calgary, Canada.

**Dr. E. Neil Moore**, professor of physiology, has been elected chairman of the Peer Review committee of the Southeastern Pennsylvania Heart Association and co-chairman of the Research Review Commit-

tee. He is also on the Board of Governors. In May, Dr. Moore presented an invited lecture "Effects of High Energy Electrical Discharge on Cellular Action Potentials: Implications for Arrhythmogenesis" at the International Conference on Catheter Ablation for Cardiac Arrhythmias, held in New Orleans. That same month, he presented a paper on "Electrophysiological Effects of Beta Blockers to Reduce the Incidence of Sudden Cardiac Death" at an International Symposium on Recent Advances in Beta Blocker Therapy held in Hawaii. In June, he was visiting professor of medicine at the University of Nebraska, Omaha. Dr. Moore also presented an invited paper, "The Effects of Multiple Site Pacing in Preventing Ventricular Fibrillation," at an international symposium, "Non-pharmacological Therapy of Tachyarrhythmias" in Dusseldorf, Germany.

**Dr. James Orsini**, assistant professor of surgery, and **Dr. Mike Ross**, lecturer in large animal surgery, have become Diplomates, American College of Veterinary Surgeons. Dr. Orsini served as visiting professor of large animal surgery at Michigan State University.

**Dr. John A. DePlanque (V'73)** travelled to Alaska to serve as a veterinarian for the Iditarod Trail International Sled Dog Race. DePlanque and another veterinarian spent a week in a cabin along the 1,100 mile trail to tend to the dogs of the 73 teams.

**Dr. Jill Beech (V'72)**, associate professor of medicine, was invited to participate in the Second Workshop on Animal Health Research in the American Association of Veterinary Medical Colleges in 1986.

**Dean Robert Marshak** has been invited to join the Advisory Board of Physicians for Social Responsibility. The Board of Directors of the Zoological Society of Philadelphia appointed Dean Marshak as an ex-officio member.

**Dr. William Donawick**, Mark and Lila Allam Professor of Surgery, received Advanced Cardiac Life Support Certification. He is also listed in *Who is Who in the East, 20th Edition*.

**Dr. Mary Walter**, lecturer in surgery, **Dr. James Orsini**, assistant professor of surgery, **Dr. Michael Ross**, lecturer of surgery, have passed the American College of Veterinary Surgeons Boards.

**Dr. Susan Donoghue (V'76)**, assistant professor of nutrition, was elected president of the American Academy of Veterinary Nutrition. She has been transferred to the Department of Clinical Studies at Philadelphia.

**Dr. Robert Washabau (V'82)**, lecturer in small animal medicine, received the 1986 Solvey Grant Research Award.

**Dr. Charles Newton** has been promoted to professor of orthopaedic surgery. **Dr. Gustavo D. Aguirre (V'68)** has been promoted to professor of ophthalmology.

**Dr. Jorge Ferrer**, professor of microbiology in clinical studies, was elected as an honorary member of the Scientific Veterinary Council of the Cuban Republic.

**Dr. Mark W. Allam (V'32)**, emeritus professor of surgery, has been appointed to the board of Agriculture and Resource Management, Inc.

**Dr. Debra D. Morris**, assistant professor of medicine, was awarded the M.S. degree in pathology by the University of Pennsylvania.

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## Centennial Medal for Dr. Stubbs

The School's Centennial Medal was presented to Dr. Evan Lee Stubbs (V'11) by Dean Robert Marshak on Alumni Day. Prior to the presentation, Dr. John T. McGrath (V'43), professor of pathology, read the following citation:

Dr. Evan Lee Stubbs was born during the first week of the last decade of the nineteenth century, 1890, in Oxford, Pennsylvania, at a time when veterinary science was struggling for recognition as it emerged from the tyranny of the farrier horse doctor. Virchow was still at the height of his powers in Germany, directing the attention of pathologists for generations to come to "cellular pathology," the microscopic alteration in disease. Cohnheim's "Lecture in General Pathology" had just been published in English by the New Sydenham Society of London, and the School of Veterinary Medicine at Pennsylvania, with Dr. Rush Huidekoper as Dean, was celebrating its sixth birthday. These events provided a fitting stage for the appearance of a man who would contribute so much to veterinary pathology and to the University of Pennsylvania.

Dr. Stubbs graduated from the East Nottingham Township High School in 1907. After writing an essay on veterinary medicine, a requirement then for admission to the School of Veterinary Medicine, he was accepted and received his V.M.D. from the University of Pennsylvania four years later. He practiced in his hometown between 1911 and 1913, and then accepted a position with the Pennsylvania Bureau of Agriculture. Here he remained for 14 years, rising to Director of Laboratories in 1925. Two years later, he was appointed Assistant Professor of Pathology at the University of Pennsylvania and was promoted to full professor in 1930.

During his remarkable professional career he published 161 papers. His last paper, on avian virus-induced tumor by Stubbs and Walbank, appeared in the *Journal of Poultry Science* in 1968. He attended



Dr. Stubbs (V'11) (left), Dean Robert Marshak, and Dr. David Meirs, II (V'54).

four World Veterinary Congresses and eight World Poultry Congresses. At these congresses, he came to know many world leaders in veterinary medicine and was regarded as The Veterinary School representative. He was also the leading figure in establishing programs of graduate education at the Veterinary School. Dr. Israel Live was the first veterinarian and Dr. Josephine Deubler the first woman veterinarian to receive Ph.D.s in pathology from this University.

During the 1930s and 1940s, when research in the School languished generally, Dr. Stubbs made major contributions through studies on avian influenza, avian tumors, and venereal cell sarcomas of the dog. He was editor for many years of the School's *Extension Quarterly* and in the forties and fifties stimulated many young faculty to publish their observations and research.

Through his lectures, his research, and his professional activities at local, state, national, and interna-

tional levels, and by his quiet, unassuming personality, he earned the respect and affection of his students, his colleagues, and generations of veterinary alumni.

An Award of Merit citation from the University of Pennsylvania in 1960, the year Dr. Stubbs retired, read in part as follows:

"Lifelong scholar, distinguished teacher and researcher, you have contributed much of lasting worth to your University and your profession. The competence, the enthusiasm, and the thoroughness which have always characterized your work have helped Pennsylvania to maintain its strong position in the forefront of veterinary medicine.

"Today, in further recognition of so many years of devoted service, the School of Veterinary Medicine, with admiration, gratitude and affection, asks you to accept the school's Centennial Medal, its most significant and prestigious award."

## GME Seminar

On Sunday, May 25, 1986, forty to fifty veterinarians met in Washington, DC, at the American College of Veterinary Internal Medicine Fourth Annual Forum, to discuss the status of present knowledge and future research of granulomatous meningo-encephalitis in the dog. The meeting was made possible in part by the financial support from the Charing Cross Research Fund. Mr. Gilbert S. Kahn, who had established the Fund, was present at the GME seminar, and his contribution was acknowledged by the seminar participants.

The four speakers and the topics of the papers were:

"GME: A Clinical Review," Dr. Kyle G. Braund, Auburn University;

"An Overview of the Morphology of Canine Encephalitis Presumed to be Viral," Dr. John T. McGrath, University of Pennsylvania;

"Morphologic and Histochemical Characteristics of GME and Reticulosis: One Disease or Two? The California Perspective," Dr. Robert J. Higgins, University of California, Davis; and

"Morphologic and Histochemical Characteristics of GME and Reticulosis: One Disease or Two? The Bern Perspective," Dr. Marc Vandeveld, University of Berne.

Dr. Sheldon Steinberg, who organized the GME seminar, indicated that the discussion following the presentation of the papers was lively and informative. "The consensus now is that GME is an entity which is distinct from reticulosis and more common. This is an important step; clearly there is much to do in order to understand this uncommon disease. We hope to produce bulletins on GME research periodically."



Mrs. Muriel L. Freeman was awarded an honorary degree by Wilson College, Chambersburg, PA. Shown here are Dean Robert Marshak, Mrs. Freeman, and Mrs. Marshak.

## Potomac Fever Update

The Microbiology Research Laboratory at New Bolton Center is accepting serum specimens for assessment of Potomac Horse Fever antibodies. As the clinical signs of this disease often mimic those of salmonellosis (fever, depression, diarrhea) differentiation between these two diseases is critical to developing the appropriate therapeutic approach.

Dr. Jonathan Palmer in the Section of Large Animal Medicine has been evaluating several treatment programs which shorten the disease process of Potomac Horse Fever and improve the survival rate. These treatments, however, exacerbate salmonellosis and therefore diagnostic distinction must be made prior to initiation of treatment.

Dr. Charles E. Benson of the Microbiology Research Laboratory is developing a rapid diagnostic procedure which will detect the presence of the Potomac Horse Fever agents sooner than traditional tests. Trials of the new diagnostic procedure in the laboratory have been very encouraging, and the early diagnosis of the disease has permitted researchers to commence treatment sooner.

The collaborative Microbiology/Medicine research studies of Potomac Horse Fever have made the antibody detection procedure available to individuals outside the research laboratories. The research funds supporting the development of the rapid diagnostic procedure *partially* subsidize the performance of the acute and convalescent antibody titrations. Information concerning sample submission should be directed to Dr. Charles E. Benson, associate professor of microbiology (215-444-5800, ext. 159/161). All results will be reported by telephone within five days after receipt of the specimen. Written reports will be sent within ten days. Inquiries concerning disease outbreaks should be directed to Dr. Jonathan E. Palmer, assistant professor of medicine (215-444-5800, ext. 412).





## Horses, Dogs and Flying

If variety is indeed the spice of life, then the Edwin A. Churchills can properly be described as having a well-garnished life style! While many of us are content to develop one or two major facets of work in our lifetime, the Churchills have parlayed a variety of interests into an amazingly full and productive life, including veterinary medicine, judging of show dogs, breeding a number of different animals, and flying. Dr. Churchill's professional contributions over more than four decades have embraced teaching, helping to found a major specialty group for the development of an equine hospital and a large practice, while Mrs. Churchill has combined an avid interest in flying with many other activities including Ed's practice.

Dr. Churchill's hospital is located in a clearing on a 135 acre property which is mostly wooded and borders on the beautiful Bohemia River just outside of Chesapeake City, Maryland. The estate is known as Spenrock, which derives from two farms previously owned by Mrs. Churchill (Rock Maple Farm in Massachusetts and Spencers Landing Farm in Centreville, Maryland). Ed located at Spenrock in 1967 and built the hospital in 1969. The one story building contains twelve stalls for hospitalizing horses, a surgical suite, and an office. Dr. Churchill is assisted in the practice by Dr. Dan Hawkins, a Texas graduate.

While Dr. Churchill sees all types of equine problems in his practice, a majority of the cases involve diagnosis and possible surgery of leg problems. Since his days at the School of Veterinary Medicine, Ed states that one of his primary interests is in "determining the *why* of lameness in the horse." He believes that he is not rendering his clients a complete service merely by diagnosing the nature of the lameness but that he must delve into determining the cause. This approach was instilled in Dr. Churchill by Dr. William Lee, who was Professor of Surgery at the Veterinary School during the 1940s.

Dr. Churchill is also a firm believer in preventive medicine. During the winter he travels to Florida on a monthly basis to examine young, developing horses. His objective is to forestall problems before they occur.

Ed's practice involves primarily Thoroughbreds and Standardbreds on about an equal basis. In discussing the performance of horses, Dr. Churchill pointed out that while Thoroughbreds have not greatly improved their racing times since the period of the superhorse, Secretariat, Standardbreds have made great strides during the past three decades. He believes that three main factors account for the improved performance: better tracks, better equipment, and a very definite improvement of breeding lines.

Dr. Churchill graduated from the School of Veterinary Medicine in 1941. In 1944 he was appointed assistant professor of veterinary surgery and obstetrics. Among his duties he was in charge of radiology. When Dr. William Lee retired in 1948, Dr. Churchill was promoted to associate professor and assumed responsibility for the Large Animal Clinic. He played a key role in initiating work which steered equine surgery and radiology into the modern era. He left the School in 1950 and practiced in Centreville, Maryland, before moving to Spenrock.

Dr. Churchill's interest in horses stems from early childhood when he "worked free for a horse gypsy for the privilege of riding his horses." While a student in Veterinary School, Ed conducted a riding school in the Pocono region.

In a retrospective mood, Dr. Churchill stated that "veterinary medicine has become almost an entirely new science during the last 35 to 40 years." While he views the introduction of aseptic surgery (in the 1940s) and the development of antibiotics as playing major roles in our progress, he believes that the vastly improved educational system is the major factor. Dr. Churchill was a founding member of the American College of Veterinary Surgeons in 1965.

The other member of this intriguing team is Mrs.

Churchill (Jan), whose career has included everything from being Master of the Hunt at Groton, Massachusetts, and breeding Angus cattle to flying as captain on a regular commercial airline. Mrs. Churchill, who has been flying for eighteen years, currently pilots the two aircraft which are used by Dr. Churchill on his winter trips to Florida and to other locations for his practice. One aircraft, a twin engine, is kept at Greater Wilmington Airport in Delaware and the other at a small airport near Spenrock. Mrs. Churchill's aeronautical experience stems from flying on the airplane owned by Mr. Stanley Dancer, noted driver and breeder of Standardbreds, when the pilot would allow her to "take the controls." She progressed to piloting on a commuter airline, and has flown planes as large as the 727 and the monstrous C-5. She is especially interested in World War II planes, and in 1983 won the Grandchampion Warbird award at the major airshow in Oshkosh, Wisconsin.

Mrs. Churchill has bred an outstanding line of Labrador Retrievers for the past twenty years under the name Spenrock Kennels. She is very outspoken in her belief that the Labrador can combine premier show qualities along with top field performance. She started her line with an outstanding bitch of English ancestry, International Champion Spenrock Banner W.C. She writes a regular Labrador Column for the American Kennel Club *Gazette*, and prepared a chapter in the text, *Book of Labradors* (Ed., Anna Katherine Nicholas). Mrs. Churchill frequently flies to judging assignments at dog shows and on occasion transports her own or other dogs. She lectures at educational seminars for judges in various parts of the country.

Prior to her interest in Labradors, Mrs. Churchill bred German shepherds, Rottweilers and corgis. In addition to her early involvement with Angus cattle and Berkshire pigs, she has been involved in breeding Thoroughbred race horses.

—John E. Martin, V.M.D.

## Penn Hypertensive Dogs

Hypertension, or high blood pressure as it is commonly called, is a medical problem frequently seen in humans. "In people, high blood pressure causes disruption of blood vessels, peripheral vascular disease, and damage to kidneys, heart, and brain," said Dr. Kenneth Bovee of the University of Pennsylvania School of Veterinary Medicine. "In animals we have not seen the extensive damage to organs or the peripheral vascular disease. But hypertension can cause blindness in dogs due to bleeding in the eye and to retinal detachment."

Dr. Bovee explained that there are two kinds of hypertension. "Essential hypertension, which is probably hereditary, has no apparent underlying cause and appears during middle age. There is also secondary hypertension, which is due to primary disease such as abnormal metabolism of the kidneys or endocrine organs." Secondary hypertension can be corrected if the underlying disease is identified and treated. High blood pressure takes a toll on the body and its organs. Blood vessels undergo a continual pounding, they scar, break down, and become stiff, restricting the blood flow. Peripheral vascular disease and eventually damage to major organs results. The damage caused by hypertension appears to be more severe in man than in animals. "We have found some damage, but not nearly as extensive as can be seen in humans."

At VHUP, dogs with endocrine and kidney diseases are now screened for secondary hypertension. Dr. Bovee and Dr. Meryl Littman are also in the process of characterizing diseases which cause secondary hypertension in dogs.

For a number of years now, Dr. Bovee has been studying hypertension in dogs with an emphasis on primary hypertension. "A few years ago a five-year-old German shepherd/Labrador retriever mix dog was presented because of acute blindness," he said. "The dog had bleeding in the eyes and retinal detachment. His blood pressure was 275/160."

The dog had no other disease and it was concluded that his hypertension was primary. "We studied him and found that the pressure could be reduced through medication. Unfortunately, the disease had progressed too far, and his vision could not be saved." The dog was donated, and he was the beginning of the Penn Hypertensive Dogs, a colony of animals with spontaneously occurring primary hypertension. A female with a similar condition was located at Michigan State University, and the mating between the pair resulted in seven puppies. A number of these had hypertension. They were bred



back to their parents and offspring with hypertension resulted. "The disorder is hereditary, and we now have an animal model of spontaneously occurring primary hypertension which will allow the study of the disease," Dr. Bovee said. "There is only one other animal model: rats which have been bred for 30 generations in Japan. A dog model will allow researchers to extend the study of the disease further and perhaps open avenues for new approaches to diagnosis and treatment."

Dr. Bovee explained that it is difficult to measure blood pressure in dogs as it is extremely labile.

"Strange surroundings or a visit to the veterinarian can raise it. To get proper readings, the animal has to be trained to tolerate the pneumatic cuff or the fine needle used to measure direct pressure," he said. "Also the cuff presents a problem because the dog's leg is shaped irregularly, not permitting even pressure which must be applied." The technique used at VHUP is to take direct pressure measurements. "A fine needle, connected to monitoring equipment, is inserted into the femoral artery. This gives us the blood pressure." In order to do this, the dogs have to be trained to lie still. "Usually, when the puppies are about six months old, they are trained enough for us to take pressure readings. It is a quick procedure and it is painless."

Dr. Bovee explained that a dog is regarded hypertensive when the systolic pressure is at least 160 mm Hg and the diastolic pressure at least 120 mm Hg when dogs are untrained. "In the dog, clinical signs will not manifest themselves until the animal is at least five years of age or older," he said. "Then one begins to see the retinal changes." He pointed out that if hypertension is diagnosed early enough, the dog can be treated with drugs to avoid excessive damage to the retina, and vision can be preserved.

Hypertension in dogs is poorly understood. Blood pressure is controlled by 20 to 30 different factors. "When people take medication, often only a few factors are affected, and some adversely. That's why many blood pressure medications have undesirable side effects."

Dr. Bovee's study, which is supported by funding from NIH, should shed more light on primary hypertension. He feels that the Penn Hypertensive Dogs can contribute much to the knowledge about the disease and that this may lead to better diagnostic and treatment methods for man and dog.

Dr. Kenneth C. Bovee is the Corinne R. and Henry Bower Professor of Medicine (Nephrology) and Chief, Section of Small Animal Medicine, at the University of Pennsylvania School of Veterinary Medicine.



## Bovine Somatotropin Increases Milk Production and Feed Efficiency

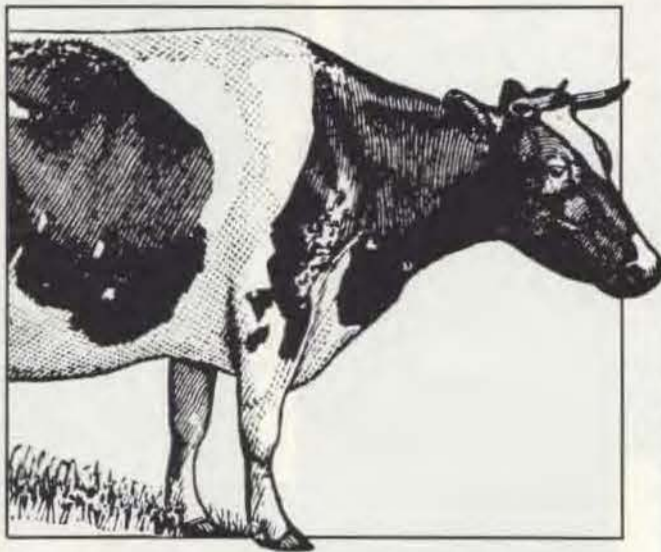
For fifty years researchers have known that extracts from pituitary glands can stimulate milk flow. In 1944, bovine somatotropin, a hormone produced by the pituitary gland, was isolated. Almost 20 years later, in 1973, it was demonstrated that cows injected with bovine somatotropin had an increased production of milk. That same year scientists determined the structure of somatotropin, a protein, and in 1982 recombinant DNA-produced bovine somatotropin was first used to enhance milk production in cows.

Researchers at New Bolton Center, under the direction of Dr. William Chalupa, began to study the effects of somatotropin in 1983. At first, pituitary somatotropin was used. In 1985, the group began a 38-week study using recombinant somatotropin. "Until this time we could only study small numbers of cows for short periods of time because the substance was quite expensive and not plentiful," said Dr. Chalupa. "The recombinant somatotropin produced in the laboratory made larger studies possible."

The researchers found that cows receiving somatotropin daily for 38 weeks had increased milk production from 20 to 35 percent. "Lactating cows treated with somatotropin produce at higher levels for longer periods of time," said Dr. Chalupa. "In effect, 'good' producing cows become 'better' producers, and 'better' producers become 'excellent' producers. Production increases of 40 percent have been obtained, but responses of 10 to 20 percent are more

likely under field conditions."

The substance is injected daily, either subcutaneously or intramuscularly. The amount of injected material is small, and there is no discomfort to the cow. The cows in the New Bolton Center study received somatotropin daily after the fourth week of lactation. "When the animals are on this regimen, they consume more feed," said Dr. Chalupa.



"But we also found that somatotropin enhances the efficiency with which feed is utilized, because more nutrients are directed to milk. Cows injected with somatotropin produced an additional 0.57 pounds of milk per pound of feed consumed. However, the feed has to be of good quality and dairymen need to follow the normal strategies for high-producing cows to fully realize the benefits of somatotropin."

It was found that milk composition was not

changed when cows received somatotropin. There is also no evidence of increased amounts of somatotropin in the milk. Milk from cows not treated with the substance often contains low levels of naturally produced somatotropin. Bovine somatotropin is not biologically active in humans, and if ingested, the protein is broken down during the digestive process.

The researchers feel that bovine somatotropin can enhance milk production and, more importantly, improve feed efficiency. "It is not expensive, and it will enable the dairyman to increase his production and efficiency without major capital expenses," said Dr. Chalupa. "Increased milk yields from continued advances in nutrition, management, and genetics and from new technologies like somatotropin mean that fewer cows will be needed to produce the same amount of milk. Some dairymen may use new discoveries to maintain total production with fewer cows so that the number of dairies may not decrease."

Dr. Chalupa pointed out that somatotropin has not yet received FDA approval. "That probably won't happen until 1989," he said. "More studies are needed to determine the long-term impact of somatotropin on dairy cows. Also, research is needed to develop a method by which somatotropin can be administered in time-release form."

The 1983 study was supported by funds from Church and Dwight. The 1985 study was supported by American Cyanamid Co.

Dr. William Chalupa is professor of nutrition at the University of Pennsylvania School of Veterinary Medicine. The other researchers on the team are Drs. J. D. Ferguson, D. R. Galligan, W. E. Marsh, E. J. Robb, P. L. Schneider, and Mrs. Bonny Veccharelli.

—H.W.

## Veterinarians Co-Sponsor National Pet Week at Carnegie Museum of Natural History, Pittsburgh

Members of the Western Pennsylvania Veterinary Medical Association, for the second year, co-sponsored activities for Pet Week, May 4 through May 10, 1986 at the Carnegie Museum, Pittsburgh, PA.

Planning began in the fall of 1985, when the local committee headed by officers of the WPVMA joined with museum staff members to organize a poster contest for area schools and a week of activities. Pet Week began on May 4 with a reception held in the museum's Architecture Hall. Twenty copies of *After 1883. One Hundred Years of Organized Veterinary Medicine in Pennsylvania* were presented to the Carnegie Library and its branches in memory of Dr. A. Wayne Mountan (V'SI).

Winners of the poster contest were presented with their prizes by Lynn Cullen, a local television personality. The WPVMA auxiliary provided the refreshments at the reception. Following this, 70 pure-bred dogs belonging to members of the Western Pennsylvania Kennel Association took part in an invitational dog show and obedience demonstration.

Another highlight of the week's activities was a seminar on May 10 featuring two speakers from



Dr. George Meerhoff and Dr. Harvey Bendix, President-elect of the Western Pennsylvania Veterinary Medical Association, making a donation in memory of Dr. A. Wayne Mountan.

Penn's School of Veterinary Medicine. Dr. Peter F. Jczyk spoke on animal pediatrics, reproduction, and birth control, and Dr. Alan M. Beck discussed the human/animal bond. Both were well received by an audience of animal health technicians and animal fanciers.

Other events of Pet Week included lectures and demonstrations. Area animal welfare organizations were represented and veterinarians held a career day featuring a tape of the University of Pennsylvania School of Veterinary Medicine. The Pittsburgh Zoo brought examples of "good" and "bad" pets, and birds, cats and exotics were shown. Programs on pets for the handicapped and on farm animals were also presented.

## Student Research Paper Competition

Each year in March, the Beta Chapter of the National Honorary Veterinary Society, Phi Zeta, presents a veterinary student research competition. This year four papers were presented:

"Equine Leukocyte Antigens: Relationships with Sarcoid Tumors and Laminitis in Two Pure Breeds," by Donald Meredith;

"Expression of Oncogenes During Early Stages of Aflatoxin B1 (AFB1) Carcinogenesis," by Deanna Purvis;

"Monitoring the Acrosome Reaction in Equine Spermatozoa in a Chemically Defined Medium," by Cindi Ward;

"Growth Hormone Mediated Regulation of Murine Hepatic Drug Metabolizing Enzymes," by James MacLeod.

MacLeod, a student in the combined degree program (V.M.D. and Ph.D.), won the first prize awarded to students in the combined program.

A first prize awarded to students in the V.M.D. program was presented to Cindi Ward. Donald Meredith and Deanna Purvis tied for second place in that category.

## Dr. Brinster Honored

Dr. Ralph L. Brinster, Richard King Mellon Professor of Reproductive Physiology at the School, was one of the 30 newly elected active members of the Institute of Medicine. New members are elected by present active members from among candidates chosen for major contributions to health and medicine or such related fields as social and behavioral sciences, law, administration, and economics.

The Institute of Medicine was chartered in 1970 by the National Academy of Sciences to enlist distinguished members of medical and other professions for the examination of policy matters pertinent to the health of the public.

At the 206th annual meeting of the American Academy of Arts and Sciences, held May 14, 1986, in Cambridge, MA, Dr. Brinster was elected a Fellow of the Academy.

Founded in 1780, the Academy is a learned society with a dual function: to honor achievement in science, scholarship, the arts, and public affairs, and to conduct a varied program of studies reflecting the interests of its members and responsive to the needs and problems of society and the intellectual community.

## Services

The oncology service, staffed by Drs. Jeglum and Helfand, is seeking a larger number of canine patients with lymphoma and feline patients with mammary cancer and squamous cell carcinoma. Dr. Jeglum is investigating the use of monoclonal antibodies for the diagnosis and treatment of canine lymphoma and feline mammary cancer. Dr. Helfand is investigating the use of retinoids to treat feline patients with mammary tumors and squamous cell carcinoma.

The reproduction clinic in the Section of Medical Genetics will see cases on Tuesdays, beginning the middle of September. The clinic will evaluate reproductive problems of dogs and cats, both male and female. The clinician is Dr. Vicki Meyers-Wallen, assistant professor of reproduction.



# Commencement

Commencement exercises for the 101st graduating class were held on May 19, 1986, at the Zellerbach Theatre. The Commencement Address was given by Edward C. Melby, Jr., D.V.M., former dean, College of Veterinary Medicine, Cornell University. Dean Robert Marshak then presented the diplomas to 102 members of the class of 1986 and to two members of the class of 1985.

## Members of the graduating class



## CLASS OF 1986

Linda Mansfield Aikens  
William Francis Asbury  
Peter Felix A'Zary  
Cathy Ann Ball  
Anne C. Barnhart  
Stephen Charles Barningham  
Jocelyn Lee Bezner  
Kim Lois Tiplitz Blackwell  
Margaret Narcissa Bliss  
Karen Elaine Blumrick  
Dale James Bowers  
Gerald Charles Campbell  
Denise Karen Yutzy Capozzi  
Doris Adele Cappiello  
Giancarla Chieffo  
Christine Joan Cioffe  
Michael Peter Comalli  
Bonita Ellen Conard  
Lila Jean Cowdery  
Maria Milagros Cruz  
Kenneth Duane Dazen  
Randy Gail DeFilipp  
Mark Anthony Deveau  
Jeffrey DiPaola  
Mary Nina DiPinto  
Mark Daniel Esser  
Beth Ann Ferry  
Caroline Frottier McCarthy  
Sandra Anne Griffing  
Linea Elsa Hall  
Mary Beth Patricia Hamorski  
Leslie Gatling Herr  
Barbara Rementer Hitchens  
Robert Lynn Hocker  
Cynthia Ann Bucan Hunt  
St. George Hunt  
James Glenn Jeffers  
Jenny Elizabeth Johnson  
Judith Marie Johnson  
Ronald Allister Johnson  
Spencer Alan Johnston  
Donald Foster Kenney  
Patricia Leah LeVan Kitchen  
Jay Kevin Koch  
Adelaide Diane Kuhn  
Lisa Ann Lee  
David Littlejohn  
Kevin Glenn Ludwig  
Leslie Catherine MacGregor  
Francine Michelle Mallon  
Laurel Scolere Marshall  
Margaret Jill McCracken  
Martin Stephen McGuire  
Wendy McIlroy

Beverly Jeanne Memory  
Eileen Louise Mera  
Joann Belle Messick  
Evelyn Kathryn Meyer  
Theresa Anne Michaels  
Elizabeth van Hoesen Miller  
Jeffery Alan Miller  
Thomas William Mitchell  
Roger Carl Mitterling  
Jon Matthew Monschein  
Deborah Lynn Moore  
Lori Beth Morris  
M. Lynn Myers  
Russell Scott Myers  
Karl Thomas Nagle  
Caroline Noble Niederman  
Theresa Marie Oasman  
Thomas David Parsons  
Dominick Anthony Pulice  
Joan Kasoff Raiten  
Peter Colket Rakestraw  
Francine Koplun Rattner  
Charles Francis Ruggiero  
Jeffrey Peter Salatiello  
Eric Paul Sandgren  
Donald Edward Sankey  
Debra Ann Schiely  
Diane Elaine Schiereck  
John Christopher Seddon  
Renee Lark Mitsu Shibukawa  
Suzanne Helen Sigel  
Eric McKim Smith  
Leslie Anne Spangler  
Linda Michaels Stahl  
Steven Allison Stake  
David Alan Staudacher  
Stephen Wayne Syken  
Roland Alois Thaler  
Steven Eugene Tinc  
Robert Walter Ulbrich, Jr.  
Brenda Dianne Uslin  
Jeffrey Karl Vosburgh  
Amy Diane Warren  
David Wilkins  
Thomas Fisher Wilson  
Anne Somerville Withers  
Charles Corbit Wolfe  
Samuel Scott Yoder

August 1985  
Janet Remelta

December 20, 1985  
Donna Sharp Hughes

Dr. Morris L. Ziskind (V'36) presents the Morris L. Ziskind Prize in Swine Medicine to Thomas David Parsons.

Dr. Edward C. Melby delivers the Commencement Address.



A diploma is presented.



Graduating with honors were:

*Summa Cum Laude*  
Doris Adele Cappiello  
Spencer Alan Johnston  
David Littlejohn  
Eric Paul Sandgren  
Samuel Scott Yoder

*Magna Cum Laude*  
Stephen Charles Barningham  
Beth Ann Ferry  
James Glenn Jeffers  
Evelyn Kathryn Meyer  
Steven Allison Stake

*Cum Laude*  
Mary Nina DiPinto  
Thomas William Mitchell  
Caroline Noble Niederman  
Peter Colket Rakestraw  
Roland Alois Thaler  
Jeffrey Karl Vosburgh



Dr. Kenton Stokes (V'68) administers The Veterinarian's Oath.

Charles Wolf, chairman of the School's Board of Overseers



## Award Recipients

A number of graduates received awards:

The Leonard Pearson Prize .....	Spencer Alan Johnston
The J. B. Lippincott Prize .....	Eric Paul Sandgren
The 1930 Class Prize .....	Dale James Bowers
The Women's Auxiliary to the American Veterinary Medical Association Prize .....	St. George Hunt
The Women's Auxiliary to the Pennsylvania Veterinary Medical Association Prize .....	Thomas Fischer Wilson
The 1956 Class Medal for Achievement in Pathology .....	Doris Adele Cappiello
The James Hazlitt Jones Prize in Biochemistry .....	David Littlejohn
The Milmark Prize .....	Lisa Ann Lee
American Animal Hospital Association Award .....	Denise Karen Yutzy Capozzi
Merck Award .....	Sandra Anne Griffing
George M. Palmer Award .....	Evelyn Kathryn Meyer
Scheidt Prize for Pharmacology .....	William Francis Asbury
Phi Zeta Award .....	Doris Adele Cappiello
Everingham Prize for Cardiology .....	Spencer Alan Johnston
E. L. Stubbs Avian Medicine Award .....	David Littlejohn
The Large Animal Surgery Prize .....	Kim Lois Tiplitz Blackwell
The Morris L. Ziskind Prize in Swine Medicine .....	Roger Carl Mitterling
The Morris L. Ziskind Prize in Public Health .....	Peter Colket Rakestraw
EVSCO Award .....	Thomas David Parsons
Hill Award .....	Lisa Ann Lee
	Kevin Glenn Ludwig
	Leslie Gatling Herr
	Anne Elizabeth Harris

One faculty member was also honored during the commencement. Dr. Raymond W. Sweeney (V'82) was the recipient of the 1986 Norden Distinguished Teacher Award.



# Alumni Day 1986

## Veterinary Medical Alumni Society

Veterinary Alumni Award of Merit recipients were honored during Alumni Day 1986. The awards were presented by Dr. Peter Craig (V'55), president of the Veterinary Medical Alumni Society.



Alumni dined and socialized well into the night.



Dr. Jay Simmons (V'56), Second Vice President of the V.M.A.S. Executive Board.



Dr. Charles W. Raker (V'42), Emeritus Professor of Surgery, Chairman, 1985-1986 Veterinary Alumni Annual Giving.



Dr. Peter Craig (V'55) (left), Incoming V.M.A.S. President, presents Dr. David Meirs, II (V'55), an award for outstanding service as the 1985-1986 V.M.A.S. President.



Dr. Spencer Johnson (V'86) presents the class flag to Dr. Craig (left).



Dr. Edwin Zemu (V'64) (left) and Dr. Joseph Tait (V'68) enjoy dinner with over 300 other alumni.

*More than 250 alumni and guests returned to the Philadelphia campus on May 17 to participate in class reunions and to renew old friendships.*



Dr. Lawrence Gerson (V'75), First Vice President of the V.M.A.S. Executive Board.



Dr. William D. Hardy (V'66), Chairman, 1985-1986 Reunion Year Campaign.

Dr. Richard McFeely (V'61) receives the award.



Dr. Anthony DeCarlo (V'82) receives the award.



Dr. Richard Klesmer (V'61) is presented the award.



Dr. Max VanBuskirk (V'56) receives the award.



Dr. Norbert McManus (V'47) is presented the award.



### Class of 1936



### Class of 1956



### Class of 1941



### Class of 1961



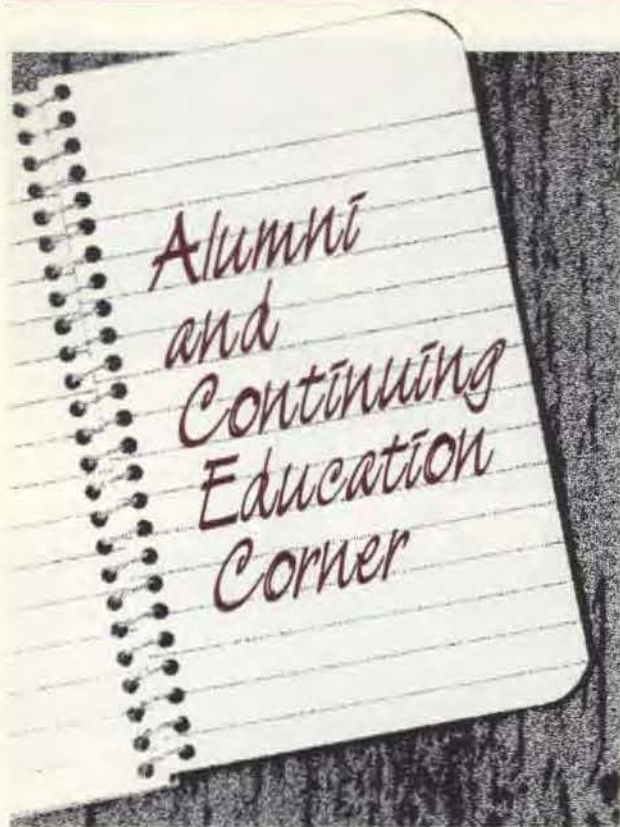
### Class of 1946



### Class of 1966







Alumni have been telling us what they want—and we've been listening! The 1986-1987 University of Pennsylvania School of Veterinary Medicine Continuing Education Program reflects *your* needs as a practitioner. You'll find courses designed to refresh your knowledge as well as update you on new techniques that can be applied right in your own office. This year, more "hands-on" laboratory courses are available. These courses, limited to twelve veterinarians each, provide one-on-one training.

Penn is proud to announce two cooperative programs with Travenol, Inc., and Gaines Foods, Inc. This cooperation with other organizations benefits all veterinarians, and we hope you will find these courses useful:

**The Application of Intensive Care Therapies and Parenteral Nutrition in Large Animal Medicine. Tuesday, August 19, and Wednesday, August 20, 1986.**

This two-day lecture and laboratory will include: Dr. Anne Koterba, "Meeting the needs of the perinatal equine patient: establishing an ICU and associated protocols"; Dr. Beverly Gilroy, "Anesthetic considerations in the large animal intensive care setting: (i) perinatal patient (ii) adult patient"; Dr. Jim Becht, "Fluid therapy in large animal patients"; Dr. Shauna Spurlock, "Catheter placement and maintenance in large animal patients"; Dr. Thomas Hansen, "Parenteral nutrition in the equine and bovine species"; Dr. Debra D. Morris, "Blood products: current and future technology"; Dr. Peter D. Rossdale, "A collaborative study of equine prematurity based upon a model of induced foaling"; Dr. Wilma Drummond, "Equine medicine from a different perspective: bridging the gap between human and equine neonate"; Mr. Tom Dixon, "Impact of intensive care therapies upon the equine insurance industry."

The Laboratory will include: "Total parenteral nutrition in the equine and bovine species," "Catheter placement and maintenance," "Plasmapheresis in an adult horse," "Large volume fluid delivery in the horse," and "Subpalpebral catheter for corneal lesions in the horse."

The Lecture will be held at the Radisson Hotel in Wilmington, Delaware, on Tuesday, and the Laboratory will be held at New Bolton Center on Wednesday.

**The 35th Annual Gaines Foods Symposium. Saturday, September 13, 1986.**

This course will include: Dr. D. J. Meyer, "Approach to the diagnosis of liver disease in dogs and cats"; Dr. Sharon A. Center, "Liver disease in cats"; Dr. Robert Hardy, "Chronic hepatitis in the dog: a syndrome"; Dr. Michael L. Magne, "The management of chronic hepatitis in dogs"; Dr. Stephen R. Gilbertson, "Interpreting the pathologist's interpretation of the liver biopsy."

The course will be held at The University Museum, 33rd and Spruce Streets, Philadelphia, PA.

THROUGH THE COURTESY OF GAINES FOODS, THIS COURSE IS OFFERED AT NO COST TO THE VETERINARY PRACTITIONER; HOWEVER, FOOD AND OTHER PREPARATIONS MUST BE MADE IN ADVANCE. WE ASK YOUR COOPERATION IN RESERVING YOUR PLACE NO LATER THAN THURSDAY, SEPTEMBER 11, 1986.

**Equine Ultrasound. Wednesday, September 24, 1986.**

This lecture/laboratory course is designed to provide the equine practitioner with the basic techniques for performing ultrasound examinations of the major body systems of the horse. Speakers will include: Dr. Benson Martin, Dr. Frank Pipers, Dr. Virginia Reef, Dr. Ray Sweeney, and Dr. Cooper Williams.

**New Approaches to Food Animal Health and Productivity for Food Animal Disease Control Practitioners. Wednesday, October 1, 1986.**

This practitioner-oriented course includes a computer workshop simulation of a regional outbreak of a highly contagious animal disease. Topics will include: Epidemiologic methods, A herd study of infertility and nutrition, Update on bovine growth hormone and Johne's Disease... and much more. Speakers will include: Dr. Colin Johnstone, Dr. Dan Cohen, Dr. David Galligan, Dr. William Marsh, Dr. James Ferguson, Dr. Edward Robb, Dr. Gary Smith, Dr. William Chalupa, Dr. Christine Rossiter, and Dr. Robert Eckroade.

**Emergency and Critical Care. Wednesday, October 8, 1986.**

This introductory course discusses the basics of emergency/critical care medicine. All discussion will be based on actual cases. Speakers will include: Dr. Rebecca Kirby, and Dr. Geraldine Kaufman.

**Practical Veterinary Dental Techniques for Veterinarians and Veterinary Technicians. Thursday, November 6, 1986.**

Separate all-day programs for veterinarians and veterinary technicians. Following short lecture presenta-

tions, participants will form small groups and rotate through three work stations. Speakers will include: Dr. Colin Harvey, Dr. Sandy Manfra, Dr. Deborah Sams, Ms. Roberta Throne, Ms. Marsha Venner, and Mr. Kevin Willis.

**Non-Plating Orthopaedics. Wednesday, January 21, 1987.**

This laboratory will deal with basic principles and techniques associated with the use of intramedullary pins, pins and wires, tension hand wires, and Kirshner-Ehmer Device. Speakers will include: Dr. Charles D. Newton and Dr. Gail K. Smith.

**Surgical Approaches to the Bones and Joints of Dogs. Wednesday, February 18, 1987.**

This lecture/laboratory demonstrates practical surgical orthopaedic approaches in dogs. This course will be taught by Dr. Charles D. Newton, Professor and Chief of Small Animal Surgery.

**Oncology for the Practicing Veterinarian: Diagnosis and Treatment of Common Canine and Feline Tumors. Wednesday, April 8, 1987.**

Divided into two sessions, the morning presentation includes basic principles of therapeutic modalities, and the afternoon presentation includes clinical cases illustrating the diagnostic work-up and decision-making process in applied cancer therapy. Speakers will include: Dr. Sydney M. Evans, Dr. Stuart Helfand, Dr. K. Ann Jeglum, and Dr. Gert W. Niebauer.

**Reconstructive Stifle Surgery. Wednesday, May 13, 1987.**

This lecture/laboratory will emphasize accurate diagnosis and appropriate surgical management of common disease entities of the stifle. New surgical techniques and developments in ligament replacement and augmentation devices will be discussed. This course will be taught by Dr. Gail K. Smith.

**Surgical Drainage and Biopsy: Indications and Techniques. Wednesday, May 27, 1987.**

General concepts and techniques of surgical drainage will be discussed. Also included are indications and techniques of biopsy of various organs. This course will be taught by Dr. Robert Orsher.

**Small Animal Skeletal Radiology. Wednesday, June 3, 1987.**

This comprehensive lecture/workshop will emphasize the principles of radiographic interpretation of the spine, skull, appendicular skeleton, and joints. Speakers will include: Dr. Darryl Biery, Dr. Sydney Evans, Dr. Mark Saunders, and Dr. Jeffrey Wortman.

**Don't Forget the 1987 Penn Annual Conference: Wednesday, January 28, and Thursday, January 29, 1987.** The Conference will be held at the Adam's Mark Hotel, City Line and Monument Avenues, Philadelphia, PA. Program Director, Dr. Charles Newton; Assistant Director, Dr. Thomas Divers.

For further information on all Continuing Education Programs, call the School at 215-898-4234 or 215-898-1882.

## Research Support

The Department of Agriculture, Commonwealth of Pennsylvania, has approved the following research projects for continued funding at the School:

- Pseudorabies Virus Infection in Swine: Molecular Epidemiology and New Approaches to Analysis of Latent Infections.
- Effect of Degradability of Dietary Crude Protein on Fertilization and Embryonic Quality in Dairy Cattle.
- Economic Data Development Analysis of Veterinary Services to Dairy Herds.
- Serological Identification of Swine Herds with Trichinosis by ELISA, as a Basis for Control.
- Shipping Fever in Feeder Calves.
- Reproductive Failure in the Pig.

## Resusci-Dog

The American Anti-Vivisection Society has donated a Resusci-Dog to the Department of Clinical Studies at VUHUP.

"This is a valuable aid when teaching students how to do CPR (cardiopulmonary resuscitation) on dogs," said Dr. Alan M. Klide, associate professor of anesthesia. "The students learn how to insert a tube into the trachea, and they practice mechanical ventilation on the Resusci-Dog." Dr. Klide explained that the artificial dog has replaced live animals in the CPR course.

Aside from learning how to intubate a dog, students are also taught cardiac massage with the Resusci-Dog. "It has sensors on the chest, and a light flashes when the hand is in the correct position for

cardiac massage," said Dr. Klide. "Further, students learn how much pressure to apply; this, too, is indicated by a light." Another feature of the mechanism is a pulse which the teacher can change, reflecting different conditions. "This really helps, and it is useful for learning and practice."

Dr. Klide added that the Resusci-Dog has made the course more interesting, as different clinical situations can be demonstrated. "It is fully incorporated into our teaching plan, and we utilize the Resusci-Dog not only for teaching our third year students, but we also use it in rounds in anesthesia, ICU, and Emergency Service. Further, the dog is also used in the training of nurses."

In addition to the Resusci-Dog, the American Anti-Vivisection Society donated four books to the library.





## Good Bye and Hello

A "Thank You and Best Wishes" was held on June 24 for interns and residents who had completed their training at VHUP. Missed will be the interns Dr. Kevin W. Bissonnette, Dr. David D. Canton, Dr. Teresita Carro, Dr. Jonathan Elliott, Dr. Karen L. Gibson, Dr. David E. Holt, Dr. Jill E. Sackman, and Dr. Jane C. Schroeder.

Interns Dr. Mark A. Colone and Dr. Carlos Hodges completed the program and will be staying at VHUP in different capacities. Dr. Hodges will be a fellow, and Dr. Colone will be a resident in orthopedic surgery.

The residents leaving are Dr. Timothy J. Lyon, Dr. JoAnne L. Garbe, Dr. Anne L. Norton, Dr. Nick Sharp, Dr. Eric deMadron, Dr. Michael T. Barrie. Three residents will be staying at Penn. Drs. Jerry R. Waddle, Bruce L. Hansen and H. Mark Saunders have been appointed lecturers.

New interns and residents began their duties on July 1.

Here are the interns at VHUP: Dr. James Jeffers (V'86); Dr. Frank Kears, Tuskegee University; Dr. Claire J. Mainwaring, Cambridge University; Dr. Carol L. Melton, University of California, Davis; Dr. A. Jon Nannos, University of Thessaloniki, Greece; Dr. Cynthia M. Otto, Ohio State University;

Dr. Kimberly Ann Robertson, University of California, Davis; Dr. Richard Sielicki, University of Minnesota; Dr. Errol J. Treger, University of Pretoria.

The interns at New Bolton Center are: Dr. William Asbury (V'86); Dr. Renee Bayha, Cornell University; Dr. Daniel Dreyfuss, University of California, Davis; Dr. Kathryn Gropp, University of Florida; Dr. Patrick McCue, University of California, Davis; Dr. David Young, University of California, Davis; Dr. Elizabeth Hausner, Purdue University.

Following are the new residents at VHUP: Dr. Melissa Foodman and Dr. Steven Carleton, medicine; Dr. K. K. Sadanaga, soft tissue surgery; Dr. Nathan L. Dykes, radiology; Dr. John C. Fyfe, genetics, pediatrics, reproduction; Dr. Robert Schick, dermatology; Dr. John Speciale, neurology; Dr. Malcolm MacDonald, emergency service; Dr. Julie Ann Pelto, exotic animals; Dr. Kim N. Olson, anesthesia.

The new residents at New Bolton Center are: Dr. Kent Humber and Dr. Joanna Reimer in medicine; Dr. Troy Ford and Dr. Janet Johnston in surgery; Dr. Phillip Hunt in reproduction; Dr. Wendy Freeman in Field Service.

## Some Great Ideas About Giving to the School of Veterinary Medicine Idea #3: Gift Annuity

A Gift Annuity does double duty. It helps the Veterinary School and provides a fixed annual income for yourself and/or your beneficiary.

It's an arrangement that is part-gift and part-purchase of an annuity. You transfer cash, appreciated securities, or income-producing property to the Veterinary School in exchange for a lifetime annuity.

And if you're among the veterinary alumni who have already celebrated twenty-fifth reunions, so much the better! You'll get an even greater return from your investment ... and no state or local taxes.

Minimum gift required is \$2,000.

For further information about this or other great ideas about planned gifts to the Veterinary School contact:

Deborah H. Blackmore  
Director of Planned Giving  
Franklin Building  
University of Pennsylvania  
Philadelphia, PA 19104-6285

## VHUP Resources

### APPOINTMENTS: 215-898-4680

(Behavior appointments scheduled by department only—898-4525)

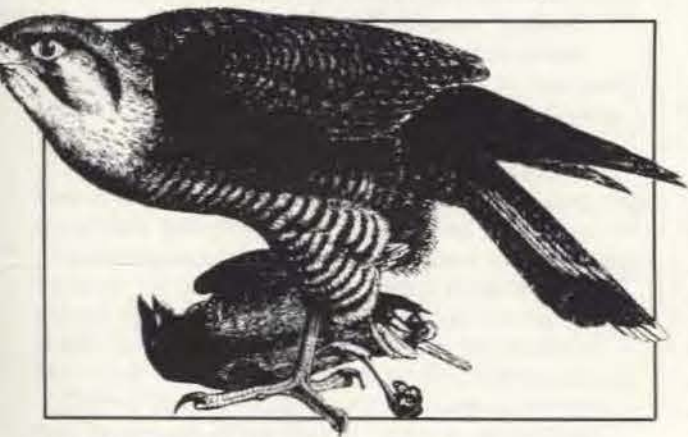
EMERGENCY ROOM: 215-898-4685 (24 hours a day—7 days a week)

### CLINIC DAYS

Cardiology: Wednesday, Thursday, Friday  
Dermatology: Tuesday thru Friday  
Exotics: Tuesday and Thursday afternoons  
Medicine: Monday thru Friday  
Neurology: Wednesday and Thursday

(other days by arrangement with referring veterinarian)  
Oncology: Monday  
Ophthalmology: Monday  
Orthopedics: Wednesday and Friday  
(This section accepts appointments only after the referring veterinarian has called to explain the case.)

Medical Genetics/  
Pediatrics and Reproduction: Monday and Tuesday  
Soft Tissue Surgery: Monday thru Thursday



WILDLIFE SERVICE offers veterinary care for unowned wild animals such as pigeons, hawks, owls, squirrels, rabbits and groundhogs found abandoned and injured.

Monday thru Friday, 9:00 a.m. to 4:30 p.m., call 215-898-4680. At other times, call 215-898-4685.

For additional information, call Dr. Deubler—215-898-8862 or Mr. Stupine—215-898-4161

## New Bolton Center Resources

### GENERAL SERVICES

The area code for New Bolton Center is 215. Arrangements for hospitalization or emergency services can be made by calling 444-5800. Inpatient and outpatient referrals should be directed to specific sections. For Bovine Surgery, call 444-3595.

### Equine Outpatient Clinic

Open Monday through Friday, 9 a.m. to 5 p.m., and accepts patients without prior referral. Call Dr. William Moyer, 444-5800, ext. 405 or 406.

### Field Service

Provides routine health care and emergency service for farm animals and horses in the surrounding community: Call 555-0900.

### SPECIALTY SERVICES:

#### Cardiology

Clinic day: Tuesday and Wednesday, 9 a.m. to 5 p.m. Services include cardiac consultation, electrocardiograms, phonocardiograms, echocardiograms, and cardiac catheterization. Complete work-ups for poor racing performance can also be executed, including respiratory evaluation, submaximal exercise testing, endocrine evaluations, endoscopy, cardiology, and lameness evaluations. Work-ups can be scheduled for other days. Call (215) 898-5800, ext. 359.

#### Nutrition

Nutritional services for the livestock industry are offered in cooperation with referring practitioners or the New Bolton Center Field Service. Call (215) 444-5800, ext. 310.

#### Radiology

Radiology, Monday through Friday, 9 a.m. to 5 p.m. Only referral cases accepted. Call 444-5800, ext. 190.

#### Reproduction

Fertility Clinic: The Georgia and Philip Hofmann Research Center for Animal Reproduction provides fertility examinations for stallions, mares, and other large animals. Call 444-5570.

### DIAGNOSTIC SERVICES

#### Clinical Microbiology Laboratory

This laboratory is located in the Myrin building, Room 103, and provides a number of diagnostic services for the practitioner: isolation and identification of aerobes, fungi, salmonella, CEM (not for export purposes) organisms; microbiological evaluation of environmental, surgical, and postmortem specimens; mastitis specimens; antimicrobial susceptibility testing, direct gram stains, acid-fast and KOH (fungal)

stains; preparation of bacterins, and certified EIA (Coggins) testing. Specimens should be sent directly to Microbiology, New Bolton Center. For general information and specimen and special handling procedures, call 444-5800, ext. 156, 157, or 159.

#### Clinical Laboratory Medicine

This laboratory provides routine hematologic, urine, and fecal analysis, Profile studies (12 separate assays) are available at reduced charges. A limited number of tests are available during evening and weekend hours. For a detailed listing of tests, fee schedule, and preferred collection system, call (215) 444-5800, ext. 250.

#### Large Animal Pathology Laboratory

This laboratory offers necropsy and biopsy services. Biopsies should be mailed to the laboratory. Animals for necropsy must be accepted by the duty pathologist. Call 444-5800, ext. 211.

#### Cooperative Poultry Diagnostic Laboratory

Monday to Friday 8:30 a.m. to 4:30 p.m. This is a University-state cooperative laboratory providing diagnostic and consultation services for poultry, game birds, and pet birds in the following areas: serology, bacteriology, virology, and pathology. Farm visits may be arranged. Call 444-4282.

#### Diagnostic Assistance for Herd Problems

Clinicians are available to assist and/or consult with veterinarians in the evaluation of difficult or unusual problems. For information call Dr. Robert Whitlock, 444-5800, ext. 321.

#### Endocrine Laboratory

Assays and consultation on reproductive, thyroid, and adrenal hormones. Call Dr. Marolo Garcia, 444-5800, ext. 202.

#### Cytogenetics Laboratory

Chromosome analysis. Call Ms. Lynne Klunder, 444-5800, ext. 204 or 110.

### AUXILIARY SERVICES

The Large Animal Hospital has, on call, certain specialty services at the Philadelphia campus, such as dermatology, neurology, and ophthalmology. Investigators in research units at New Bolton Center, such as the Comparative Leukemia Studies Unit, are also available for consultation. For information call 444-5800.



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## Captain's Chairs

Veterinary School chairs are now available. The Hitchcock captain's chairs have a black enamel finish and maple seats. The Veterinary School's seal is hand stenciled in gold on the back rest, and the alumnus' name and class are handpainted on the back of the chair. The chair retails for \$195 plus \$35 shipping; delivery takes 8 to 10 weeks. For further information, please contact the Veterinary alumni office, (215) 898-4234.

## Bellwether Wins CASE Award

"Bellwether" has received a silver award from the judges of the Tabloid Publishing Program category in the Council for Advancement and Support of Education (CASE) annual institutional recognition program. The judges evaluated 81 entries in this competition and awarded 10 Gold Medals, 7 Silver Medals, and 1 Bronze Medal. Congratulations to the entire "Bellwether" staff for this achievement.

## Rosettes & Ribbons

continued from page 8

**Dr. Debra Wilson** has been appointed a lecturer in anesthesia.

**Dr. Robert H. Whitlock**, Marilyn Simpson Professor of Equine Medicine, has been appointed chairman, Department of Clinical Studies, New Bolton Center.

**Dr. Julie Langenberg (V'82)** has been appointed a lecturer in exotic, wildlife, and zoo medicine.

**Dr. Harold Smith (V'43)** has been appointed by New Jersey Governor Kean to the seven-member state Veterinary Board of Medical Examiners.



## Thank You!

### Friends' Gifts Break The Record

Friends of the Small Animal Hospital contributed a record breaking \$145,000 for the 1986 fiscal year which ended June 30.

Says Hospital Director Barry Stupine, "Our goal for the program this year was pretty ambitious to begin with. We actually exceeded it and that's exciting.

"I think that the staff of this hospital have good reason to be proud, too, because evidently many people have left here feeling very good about the care their pets received. Their gifts really are a meaningful way of registering approval because they help perpetuate the good work we do here. I'm extremely grateful."

## Bellwether

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