

ANIMAL CAVALCADE

JULY/AUGUST 1974

60¢

THE ANIMAL HEALTH MAGAZINE

FEEDING OF HORSES
STRICTLY FROM THE BIRDS
YOUR ANIMAL'S HEALTH
AND YOU



EDITOR'S NOTEBOOK

ONE FOR THE MONEY

Why don't they? What I want to know is, who are THEY? In this age of give aways, most everyone seems to want something for nothing, or they want someone else to do it. How long has it been since you've heard, "May I help?"

Here's what THEY can do to get needed animal health research accomplished. ONE FOR THE MONEY! If the funds are provided, there are still many dedicated researchers who will provide the next part — TWO FOR THE SHOW. Animal Cavalcade provides the show for Animal Health Foundation. The Animal Health Foundation is completely committed to projects and studies to improve the health of family animals. Since the Foundation is operated by directors who receive no compensation, there is very little of the contributed dollar that does not go directly to the designated project. Even money from subscriptions and the Founders Circle is used for animal health causes. There is no way you can get more for your donated money — and all tax deductible! You can even name the recipient of your contributions.

Some wish to support advanced education for students of veterinary medicine; some want to initiate or assist in specific research such as blood diseases of dogs and cats, skin diseases, breeding problems of horses, nutrition of animals, care of pet birds, population control of dogs and cats, and many others. Whatever is your thing, you can best accomplish it through contributions to the ANIMAL HEALTH FOUNDATION. As professionals we are contributing our time and money because we are "sold" on the prospects for the future of Animal Health Foundation.

Now we need "THREE TO GET READY." Then, there will be no hesitation about the wrap up, FOUR TO GO.

*C. M. Baxter, D.V.M.
Editorial Director*

**NOW EVERYONE CAN JOIN
ANIMAL HEALTH FOUNDATION.
SEE PAGE 26**

ANIMAL CAVALCADE

Official Journal of the Animal Health Foundation on animal care and health.

JULY/AUGUST 1974

VOLUME 5 NUMBER 4

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COVER: Gloria Grey of Gloria Grey's Pet Haven, Channel 9. Photo courtesy of Altadena Dairy.

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DOCTOR'S ADVICE

Readers with health and other pet problems are invited to send in their questions to ANIMAL CAVALCADE. Those with the greatest reader interest will be handled on this page by Dr. J.F. Smithcors, D.V.M., Ph.D., who is technical editor of American Veterinary Publications, Inc.

Q. Is it good for a mare to have a foal every year?

A. It depends on what you mean by "good." If your object is to raise foals to sell, then it is good for you, especially since by regular breeding a healthy mare is more likely to get in foal. Having foals does not improve a mare's other qualities, and even with proper care a few will die while foaling.

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itching
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Q. Why do horses with broken bones need to be destroyed?

A. In the "olden days" horses with minor fractures of the lower limbs were treated successfully, but those with bad breaks, especially of the upper limbs, had to be destroyed because facilities for treatment were unavailable. Today bone plates can be used, often with good results, but the cost of such repair and hospitalization is necessarily high, and some fractures still cannot be treated.

Q. Do horses sleep standing?

A. Yes, some horses will stand for days or weeks at a time, either by habit or if forced to do so, but all spend at least a few hours a day sleeping. This is made possible by the "stay apparatus" of the limbs, which permits shifting weight from one limb to another, preventing fatigue.

Q. Which eats more, the horse or the cow?

A. A cow has a relatively larger digestive tract, but a non-pregnant, dry cow weighing 1000 pounds would require about the same (7 to 9 lb. total digestible nutrients) as a 1000-lb. idle horse. A lactating mare at light work needs the same (16 to 19 lb. TDN) as a fattening beef cow; a heavy-milking dairy cow may need 30 lbs.

Q. Why does my dog scratch his ears when left alone? There are no sores.

A. If he has no fleas or ear mites (which are sometimes hard to find) it may just be a harmless habit he likes to indulge in, and any animal may have an occasional itch for no apparent reason. Vigorous scratching might indicate a hidden infection, and it would be well to have a veterinarian examine him.

Q. How does a new dog owner find a recommended "family" veterinarian? I am new in the neighborhood.

A. Try asking nearby neighbors who have dogs who they like (and this is also a good way to get acquainted) or the office of the local veterinary association (look in the Yellow Pages) can give you several names, and take your dog to one or more for something simple — perhaps a booster vaccination — before something serious arises, so you'll know what to expect.

Q. Is the common California toad poisonous to dogs and cats?

A. No, although a few dogs and cats may be sensitive to the secretion it produces; the discomfort is temporary and usually requires no treatment. The Colorado River toad, common in the Southwest, is distinctly poisonous, and the Central American toad of the Southeast more so.

Q. I have heard that Dalmatian dogs have different internal anatomy than other dogs. Is this true?

A. Their anatomy is the same, but their physiology (metabolism) differs from all other breeds in that (like man and the chimp) they excrete high levels of uric acid in their urine. This is a genetic trait of Dalmatians and is neither beneficial nor harmful — just an unusual feature.

Q. Is everyone allowed to take animals to the veterinary colleges for diagnosis and treatment?

A. The college clinics all depend upon patronage (and fees) from the general public, although in most cases it would be wise to inquire first as to whether they have space available at any particular time. Of course, all of them would admit an emergency case without an appointment.

Q. Do veterinarians advertise in show catalogues and fund raising projects?

A. No, at least not in the form of outright advertising (which is not permitted at all by their code of professional ethics). A veterinarian might be listed as a contributor or sponsor if there is no inference that he or she is trying to "drum up business."

Q. How long do pet Bantam chickens live? Mine is 8 years old.

A. Bantams usually live somewhat longer than larger breeds of chickens, the average for which is about seven to eight years, and the longest on record is 14 years, so with good care yours could have several happy years yet.

NOTE: In the March/April issue I indicated that milk can be fed to dogs "if they like it." I should have added that in some dogs it may cause diarrhea, in which case it should not be fed.

CREATURE CROSSWORD No. 3

by Linda Bossen

REFERENCES

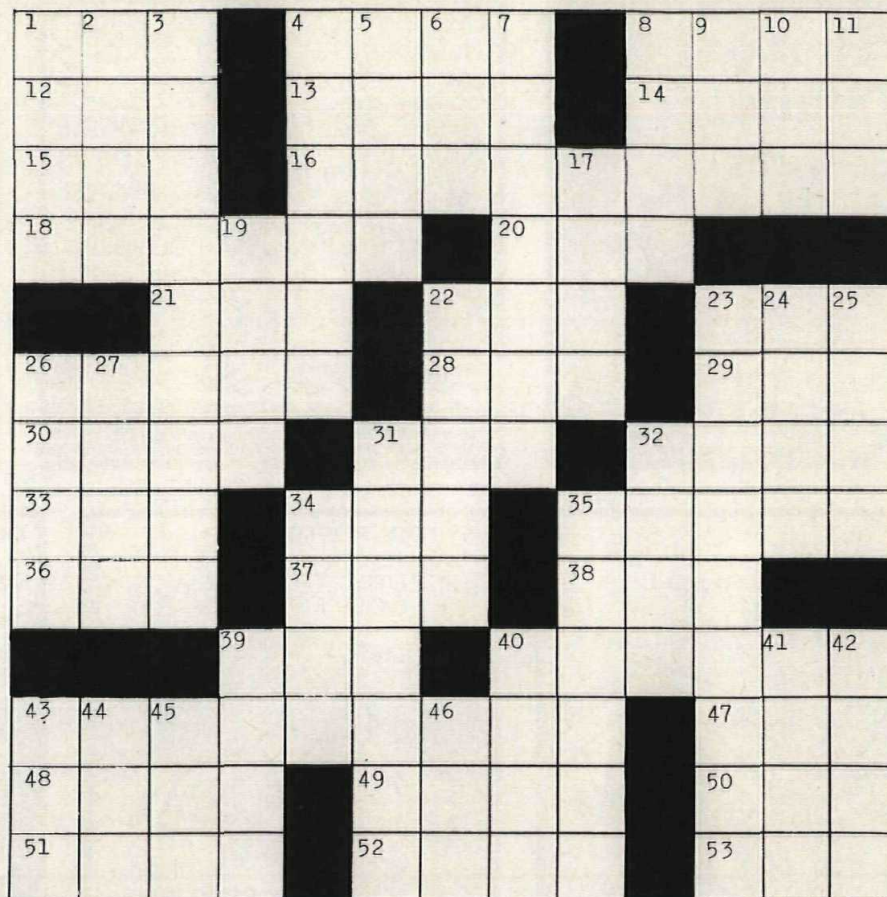
Webster's *New Collegiate Dictionary*, 1973, including geographical section for 46 down.

For 40 across, see *Cassell's French Dictionary*, Funk & Wagnall's, New York, 1951.

For 32 across, see R. & D. De Sola, *A Dictionary of Cooking*, Meredith Press, New York, 1969.

For 10 down, see 1974 *World Almanac*, p. 392.

ANSWERS ON PAGE 30



ACROSS

1. Young bear
4. Substance used for washing
8. Animal's toenail
12. Order of St. Augustine (abbr.)
13. Food fish
14. Bees' house
15. Lion's lair
16. Type of ape
18. Venomous snakes
20. Male animal
21. Sort
22. Federal Housing Administration (abbr.)
23. Domestic pig
26. Birds that quack
28. Allow
29. Nocturnal bird
30. Greek god of love
31. By means of
32. Cordon _____
33. Self-esteem
34. Where fish live

35. Sheriff's team
36. Soak flax
37. Possesses
38. Animal that leave a sinking ship
39. Substance produced by scale insect
40. Bird (French)
43. Racing dog
47. Intercontinental ballistic missile (abbr.)
48. Norse goddess of fate
49. Indian tribe
50. Bird's beak
51. Wild goat
52. Express affection
53. Irish county (abbr.)

DOWN

1. Concluding section
2. Secondhand
3. Small Australian animal
4. Long-legged birds
5. Belonging to us
6. Collection of anecdotes
7. Animal of the cat family

8. Chopped food used to attract fish
9. Illuminated
10. _____ Gardner
11. Old English letter
17. Animal that symbolizes Capricorn
19. Large animals of deer family
22. Insects that bite
23. Black-and-white cows
24. Is in debt
25. Adhesive substance
26. Animal whose young is a fawn
27. Try to persuade
32. Snakes that crush their prey
34. Ruler of Iran
35. Groups of lions
39. Type of wildcat
40. Single units
41. Cain's brother
42. Rounded elevation
43. Gross national income (abbr.)
44. Steal from
45. Before
46. Swiss canton

CAVALCADE HEALTH NEWS

CANADIAN BORDER OFFICIALS WARN VACATIONERS RABIES VACCINATIONS A MUST FOR FAMILY PET

Crossing the border with Fido can turn into a frustrating experience for vacationing pet owners who are unaware of vaccination requirements for dogs entering or leaving Canada. All too often, according to Dr. H. K. Mitchell, chairman of the Ontario Veterinary Association's Public Relations Committee, that frustration is turned against the pet owner's own veterinarian who did not inform him of the differing requirements for the two countries.

According to Dr. Mitchell, Canadian regulations require that all dogs entering the country must be accompanied by a certificate of rabies vaccination, signed by a licensed veterinarian. Regardless of the type of vaccine used and the duration of immunity conferred, the vaccination must have been administered within 12 months of the entry date in order for the dog to be allowed into Canada. This requirement differs from that of the United States where rabies vaccinations given within a three year period prior to entry is acceptable.

What generally happens, according to Dr. Mitchell, is that on reaching the international boundary, vacationers accompanied by the family pet find that they either do not have their vaccination certificate with them, or that the 12-month requirement for entry into Canada has not been met. The family must then delay their vacation while they locate a veterinarian to vaccinate their pet and issue a rabies vaccination certificate. Often this means re-vaccinating an animal which has only recently been vaccinated.

Norden News

NEW JERSEY VETERINARIAN ELECTED PRESIDENT OF 5500 MEMBER ANIMAL HOSPITAL ASSO.

San Francisco: New Jersey veterinarian, Dr. R. L. Ticehurst of Atlantic Highlands, was elected president of the American Animal Hospital Association in San Francisco this week as the national medical society concluded its 41st annual convention after six days of seminars, lectures and scientific meetings.

The national medical organization represents small animal hospitals in the United States and is headquartered in South Bend, Indiana.

More than 5000 attended the programs, including 2850 veterinarians, to hear 340 separate lectures and attend 16 major meetings. There were 192 scientific exhibits on display. Participants attended from 12 countries and all 50 American states, with more than 350 from California (where almost 15% of A.A.H.A. membership is located).

During the peak of attendance more than 18% of all practicing small animal veterinarians in the United States were in convention.

Ticehurst, a graduate of the University of Pennsylvania school of veterinary medicine (1934) noted that: "In 40 years of practice, the greatest change has been in continuing education in the profession. We just didn't have C.E. when I started practice, and conventions like our A.A.H.A. meeting highlight this tremendous change of the past few years."

Dr. Ticehurst is active in church work (Presbyterian), is past president of his university alumni association, and has been active in Rotary for 25 years in addition to his 40 years in veterinary medical associations. His three grown children were raised in Atlantic Highlands, New Jersey, where he resides with his wife, Alice, but his medical practice is in Red Bank, New Jersey.

The organization will meet in Cincinnati, Ohio, in 1975.

INSECT STINGS

Insect stings are a warm-weather hazard for animals as well as humans. An effective antidote is available in the kitchen, according to a letter in the American Medical Association Journal by Dr. Harry Arnold, a Honolulu dermatologist. His prescription: a quarter-teaspoon of meat tenderizer dissolved in a teaspoon or two of water and rubbed into the skin around the bite. The papain enzyme breaks down the venom, and will stop the pain of most insect bites in seconds, if applied immediately, says Dr. Arnold.

DANGER!! DOGS LEFT IN UNATTENDED CARS

"Summer can be deadly," warns Captain Arthur J. Haggerty, "to the dog with a thoughtless owner!" The former commanding officer of the U.S. Army K-9 Corps went on to explain the dangers of leaving dogs unattended in cars. The worry about dognappers means that the dogs should be locked securely in the car when left alone. The heat held in a car can kill a loved pet. If the temperature is a mild 78 degrees in the shade, it will shoot to 90 degrees, in direct sun, on a closed car within five minutes. This is without a dog in a car. The dog itself generates a tremendous amount of heat. More than a human of the same size. In the same situation, the temperature would soar to 110 degrees in twenty-five minutes. If you are traveling with your pet, put him in a crate that can be locked. The collapsible wire crates recommended by Captain Haggerty can be locked. These collapsible wire crates can be assembled inside the car. The crate would be too large to pass through the doors or windows. It should be locked with a padlock. Then the windows can be kept open, giving the dog cross ventilation. Remember to park the car in the shade. If the dog is left alone too long, a shady spot may wind up under the sun's direct rays.

Do not rely on using your car's air conditioning to keep your dog cool when parked. The motor must be kept running to operate the air conditioning. The motor will often stall, knocking out the air conditioning. There is the additional danger of a bouncing dog putting the car in gear or even pushing down the buttons that lock the doors to the car. With the motor on and your keys in the ignition a lovely trip can be ruined.

The best thing to do is leave your dog at home if it is a short trip. On vacation, leave your dog with a responsible kennel owner who will know how to handle the emergencies that can arise with a dog.

Captain Haggerty's School for dogs has leaflets available, free of charge to groups and individuals, that warn of the dangers of leaving dogs unattended in cars. In addition to the leaflets there are posters 17" x 22" that warn of these dangers. Write Captain Haggerty's School for Dogs at Plains Rd., Wallkill, NY 12589 requesting either signs or leaflets.

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Careers in Animal Care

CONCERN OVER TURTLES

The U.S. Government is concerned about the importation of small pet turtles, tortoises, terrapins and other members related to this livestock group and the interstate shipment of pet turtles and similar creatures. It is feared that small pet turtles are a significant source and reservoir of "salmonella" and "Arizona" bacteria which affect humans. An attack of the disease lasts from two to five days and is characterized by diarrhea, fever chills, vomiting, headache and cramps. It is possible that new regulations will be in effect by the time you read this. In the meantime, the public is advised to wash hands thoroughly after handling turtles or material in turtle bowls; to keep water or other substances from coming into contact with family food or areas where food is prepared; and to make sure that these precautions are especially heeded by young children.

EQUINE PUBLICATIONS EQUINE PRACTITIONERS & OTHER INTERESTED PARTIES

At a recent meeting of the Director of Food and Agriculture's Advisory Committee for the Horse Drugging Program, it was decided to contact people involved in the horse industry for opinions regarding the use of phenylbutazone (Butazolidin, Tevcodyne, etc.).

California's Horse Drugging regulations permit phenylbutazone to be administered to a horse on the day of exhibition or sale at public auction, provided it is reported to the event manager in writing prior to exhibition or sale.

1. Do you feel that the regulations should be changed so that the use of phenylbutazone on the day of the exhibition or sale would be prohibited, but would permit its use prior to that time?
2. Do you feel that the regulations should remain unchanged?
3. Do you have other suggestions on the permitted use of this medication?

Your opinion on this matter would be greatly appreciated and will be presented to the Advisory Committee at their next meeting.

Please forward comments on this subject to the California Department of Food and Agriculture, Bureau of Animal Health, 1220 N Street, Sacramento, California 95814.

*P. L. Smith, D. V.M., M.P. V.M., Chief
Bureau of Animal Health
Division of Animal Industry*

FATAL INSECT STINGS OUTRANK SNAKEBITES

Insects such as bees and wasps account for more human deaths in the United States than any other poisonous animals, according to a panel of authorities on poisonous animals which met recently at Michigan State University to discuss medical-health-environmental activities.

Exact statistics on poisonous bites and stings are unavailable, Dr. Harold D. Newson, a Michigan State University medical entomologist, reported, but of 460 reported deaths from bites and stings from venomous animals over a nine-year period, 229 were from insects, 138 from snakes and the rest from various animals.

Of the 229 insect sting fatalities, 167 of the victims died within an hour of the stinging and 24 within two to five hours. The majority of deaths from bees, wasps and ants were caused by hyper-allergies, with the rest occurring when the victim was stung many times. Although the amount of venom from such stings is small, people develop a sensitivity to bee or wasp venom which often progresses in the history of the individual and after several episodes of stings, each reaction becomes more severe.

While snake bites are not as serious a problem as wasp and bee stings, they remain a problem. Poisonous snakes bite about 8,000 people annually and nonpoisonous snakes bite nearly 40,000 people annually.

Norden News

THE USE OF THERMOGRAPHY IN EQUINE ORTHOPAEDICS

At the Royal Veterinary College in Stockholm thermography has been used since 1970 as a complement to radiographic examination of horses with various orthopaedic conditions. Thermographic examination was found to be a useful tool for the diagnosis of acute traumatic or inflammatory lesions in tendons and ligaments. Various disorders of tendon sheaths and bursae were also diagnosed. With the aid of thermographic examination it was possible to make correct positioning for radiographic examination and detection of chip fractures in joints. The thermographic "hot spot" was usually localized over the detached piece of bone. Inflammatory periosteal reactions in the metacarpal and metatarsal bones and splint bone fractures were also diagnosed by this technique. In addition, acute articular disorders such as distortions and synovitis with no radiographic signs gave rise to increase IR-emission.

July Amer. Vet. Rad. Soc., 1973

INCREASE FORECAST IN RESPIRATORY ILLS IN NEXT 30-40 YEARS

A big increase in respiratory viruses throughout the world within the next 30 or 40 years was forecast by Prof. Frank Fenner, director of the Center for Resource and Environmental Studies at the Australian National University, Canberra.

He made the prediction in the David Memorial Lecture to the Australian and New Zealand Association for the Advance of Science.

An explosive spread of respiratory viruses in people and perhaps animals may be expected as populations grow and domestic animals become more numerous, mobile, and crowded.

Most of the new viruses will probably produce trivial disturbances, but there is a possibility of a dramatically severe disease.

"It appears likely that every living species of organism carries at least one virus, and some can be infected with many more."

Medical Tribune, Oct. 3, 1973

SCIENTISTS INVESTIGATE NEW PREDATOR REPELLENT

A new sheep predator repellent that sends coyotes howling is under investigation by the University of California's Hopland Field Station, Clear Lake.

Researchers are conducting tests on the repellent that will stop a coyote's attack on sheep but will not harm either animal.

The repellent, a new experimental compound, Cinnamaldehyde, has a violent effect on the senses of smell and taste. Applied to lambs, it could cause an attacking coyote to immediately withdraw. Researchers say it has no adverse effect on the lambs in early experiments.

Another project underway is birth control of predators. An attractant is being developed to lure coyotes to an area where they could be fed reproductive inhibitors.

Western Livestock, July, Oct. 1973

SHIPPING FEVER BITES INTO BEEF SUPPLIES

A survey of shipping losses in 1972, recently completed by Livestock Conservation, Inc., estimates the disease reduced the potential supply of carcass beef by 220 million pounds—or enough to feed 1.9 million consumers. Based on replies from feedlot owners, LCI officials calculate that shipping fever may have cost the beef industry \$95 million last year. The average loss charged to shipping fever by cattlemen answering the survey: \$4.15 per head.

dogs & cats?



by
Lloyd C. Faulkner, D.V.M., Ph.D.

EDITOR'S NOTE:

This is Dr. Faulkner's latest article, prepared for Animal Cavalcade. There is a tremendous pressure by many individuals and groups to immediately suppress the overpopulation of dogs and cats. Dr. Faulkner's views are similar to this editor's as published in the March/April Cavalcade.

Dr. Faulkner is Professor in the Dept. of Physiology, Colorado State University, Ft. Collins, where he is developing a contraceptive vaccine for dogs and cats.

Contributions to ANIMAL HEALTH FOUNDATION will assist Dr. Faulkner's development of a pet control vaccine.

The keys to resolving the problems of neglected pets are education and animal control. No advance in the

technology of contraception can resolve the problem until society has learned responsible ownership of pets. Responsible ownership must be enforced by adequate animal control. Technologies will facilitate education and animal control, but can never replace them.

The most significant progress to be made toward resolving the problem is in the areas of education and legislation backed by enforcement. We are beginning to move in these areas, but current efforts are woefully inadequate. Much of the current awareness of the problem results from inflammatory protest against the problems created by neglected pets. Most of the educational programs focus upon the problems of overpopulated dogs and cats and fail to deal adequately with the responsibilities of ownership, legislation to control irresponsible ownership and strict enforcement.

Perhaps the most significant step forward is developing at this time. The American Veterinary Medical Association's Council on Veterinary Services and Council on Research have given the problem the highest priority among the profession's concerns. The

American Veterinary Medical Association, in conjunction with the American Humane Association, The Humane Society of the United States, The Animal Health Institute, The American Kennel Club and the Pet Food Institute, organized a *National Conference on the Ecology of the Surplus Dog and Cat Problem*. Individuals representing all areas of concern across the nation were invited to attend the conference on 21-23 May. The objectives of the conference were:

1. To delineate the ecology of the problem on a nationwide basis;
2. To compile and make available for publication and other uses a core of factual data on the problem, as well as prospects for and benefits of various potential solutions;
3. To exchange opinions and develop a record of how various organizations and individuals view their responsibilities and goals relative to animal overpopulation;
4. To foster understanding and cooperative efforts aimed at solving problems related to neglected animals;
5. To achieve a consensus on the best attack on the various problems emanating from the surplus of dogs

and cats in the United States and to publish conclusions and recommendations which will serve as the basis for a unified, cooperative approach to solving these problems; and

6. To explore the need for an recommend new legislation, regulations and other appropriate measures to deal with the problems of animal overpopulation.

It has been estimated (1) that the population of dogs and cats in the United States is 90 ± 20 million. About 18 million neglected animals, or nearly 25% of the population, is impounded annually, and 80–90% are destroyed (2). Yet, the tragedy worsens each year.

More pet food is sold than baby food. Six billion pounds of dog and cat food were marketed in 1971, at a cost of 1.35 billion dollars. Marketing experts predict this sales volume will reach at least 2.5 billion dollars by 1977. We may estimate that one-half of the population of pets, 45 million dogs and cats, are females. At an average fee of \$50, it would cost 2.25 billion dollars to sterilize every female dog and cat in the United States - less than the predicted volume of sales of pet food in 1977.

Even more tragic, surgical sterilization or any alternative contraceptive technology deals with the consequences of the problem and not with its causes, i.e., irresponsible owners and inadequate control of irresponsible ownership.

Even though contraception falls far short of resolving the problem, contraception will facilitate the effective accomplishment of education and control. Surgical sterilization is unquestionably the most effective and safe contraception. It obviously fails to meet the criterion of acceptability for many reasons, and the cost is only one of many factors. Remember that every female dog and cat in the nation could be spayed for little, if any, more than the cost of feeding the population in 1974. Consequently, the development of suitable alternatives to surgical sterilization will enhance educational and authoritative solutions to the problems.

The first alternative is available now. It is the vaginal device marketed by Agrophysics, Inc., in San Francisco. It prevents intromission and has been reported to suppress heat.

Three contraceptives which suppress heat are currently being tested in field trials for efficacy and safety. Field trials indicate that sufficient data have been generated in laboratory studies to gain approval from the Food and Drug Administration to use the technology in field studies. Marketing commonly follows in a year or two. All three of

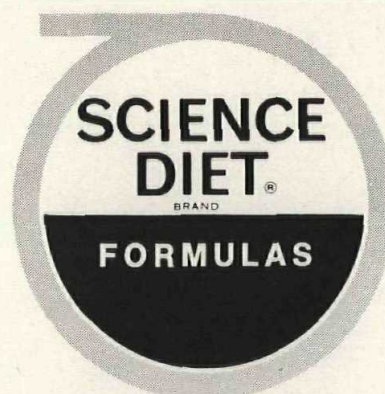
these technologies utilize steroidal hormones and act much like the hormones in the pills for human contraception. Two are for use in dogs and both use male steroidal hormones, or androgenic steroids; one is an implant, the other is administered orally with food. The third is a progestational steroid for use in cats; it may be administered via an implant, and oral administration via food is under consideration.

Other technologies are still being developed in laboratory studies; they include:

1. Immunizations to prevent heat.

2. Other steroidal hormones which act like the pill to suppress heat and ovulation.
3. A compound which, administered orally or by injection, prevents implantation after females have been in heat and (possibly or probably) mated.

Shown on this month's cover, charming interpreter Gloria Grey of "Gloria Grey's Pet Haven," Channel 9, Friday's, 12:30 p.m., explains to newly born calves that Gigi also drinks certified raw milk . . . the same as they do.



...a new concept in canine nutrition

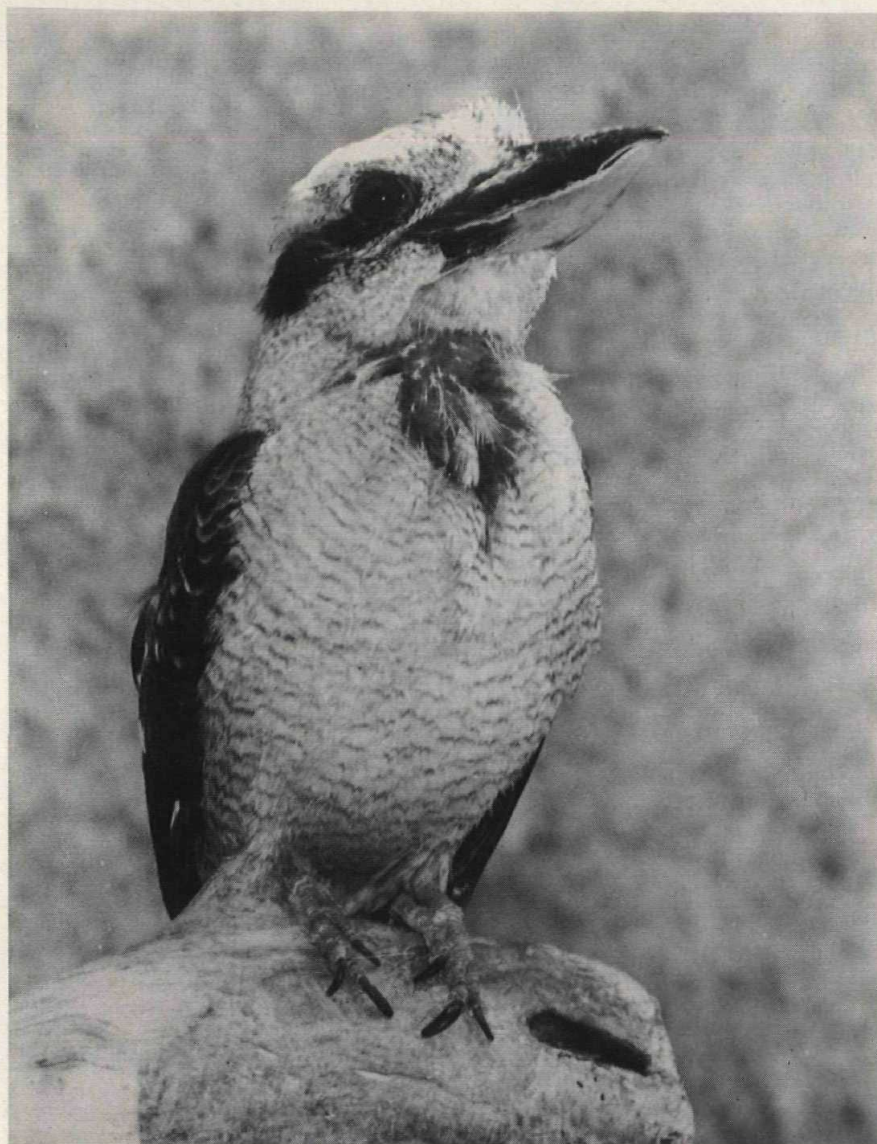
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By
E. D. Ketchum

*A humorous history of some
of our standard cliches.*

If someone tells you "You eat like a bird," he usually means you do not eat very much. But before you feel too flattered, consider this: Most birds, even the tiniest, the hummingbird, consume two-and-a-half times their own weight daily. True, they go about it daintily, and the amount they eat is small in comparison with humans; nevertheless, they do have huge appetites.

People have many other erroneous ideas about birds. Have you ever been called a "dirty bird?" Yet, most birds are constantly cleaning and bathing themselves. To "fly like a bird" is a truism — but a few birds are structur-

ally unable to take to flight. One is the ostrich, who (while we are pooh-poohing) does *not* bury his head in the sand when frightened. Another flightless bird is the long-billed kiwi. And there is that perennial man-about-the-arctic, the penguin, whose feathers are more like scales. We say "dumb as a dodo," but did that extinct bird have no voice? Was he stupid? Well, anything named dodo . . .

An exceptional number of our present-day expressions can be traced to our "fine-feathered friends." Some are self-explanatory. To "parrot" comes from from the parrot's habit of repeating a phrase incessantly. To "get the bird" refers to the practice of hissing a bad theatrical performance. A "wild goose chase" is pursuit of something as unlikely to be caught as a wild goose. When someone is called a "bird brain," the inference is that his brain is

small, therefore he is stupid. To "feather one's nest" means to provide for one's comfort, as the setting bird lines its nest with soft breast feathers.

Then there are the sayings of famous authors — Heywood, Shakespeare, Shelley, Plutarch — all found the bird an apt illustration for their proverbs and poetry. "It is a foul bird that defiles his own nest." "Hark! Hark! The lark at heaven's gate sings." "It was the lark, the herald of the morn." "Hail to thee, blithe spirit!" "He is a fool who lets slip a bird in the hand for a bird in the bush."

Remember Don Quixote's famous speech: "Birds of a feather flock together." And who of us can forget Lewis Carroll's admonition to beware the Jabberwock, the Jub-Jub, and the Frumious Bandersnatch?

Birds have figured in many ancient sayings, but often the original meaning

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ALL PHOTOS COURTESY L. A. ZOO



HARPY EAGLE (endangered species). The giant Harpy Eagle, most powerful of the world's eagles, weighs some twenty pounds and hunts in the upper canopy of the South American forests. It is the personification of the old legend about a being — half bird, half woman. We are the only zoo to be successful in breeding them in captivity due, perhaps, to the excellent disposition of our female.

has changed. In Greek legend, Halcyone was a young wife who found her beloved husband drowned on the sea shore. The two were turned into birds called halcyons (kingfishers). The gods decreed that, when the birds wished to build their nests on the sea, the sea would remain calm for the seven days preceding the winter solstice, plus seven days after, during the time the birds brooded upon their eggs. Today "halcyon days" refers to any time of peace, serenity, rest, or rejoicing.

Another play on words comes from the medieval custom of hunting meadowlarks, which were a delicacy. Many people made a living catching the birds, or "larking". When larking in mixed company, the event turned into a great frolic, and "lark" came to mean a pleasure jaunt.

In those early ages, the finest game

birds were reserved by law for the nobility. The lower classes were relegated to eating coarse undesirable game, such as crows, which were so difficult to pick, the job necessitated two persons. This led to the expression that a person had "a crow to pick" when he had a disagreeable matter to settle with his neighbor.

There is a story about two neighbors who certainly did not enjoy the crow. One was an American soldier who, during an armistice in the War of 1812, crossed the Niagara River in search of game. In disgust over finding no edible target, the Yankee shot a crow.

A British officer came along as the American was reloading. He complimented the soldier on his fine shot, and asked to see his excellent weapon. The Englishman then pointed the gun at the American and, to humble him

for trespassing on the British side of the river, ordered him to eat a bite of the crow. When the Yankee was released, and retrieved his weapon, he immediately turned it on the British officer, and forced that proud man to finish eating the crow.

This story about the humiliated officer spread throughout the Army, and to "eat crow" became synonymous with doing something disagreeable, humbling one's self.

Degradation is also associated with anyone believed to be a "stool pigeon." This slang term comes from the custom of pigeon trappers, who used to sit on small stools while waiting for game pigeons. To the leg of the stools they tied live "stool" pigeons, as decoys to lure their fellows into captivity.

Another old method of capturing birds was "batfowling," which was



MONKEY-EATING EAGLE (endangered species). This extremely rare bird inhabits the forests of the Philippines and is one of the most spectacular birds of prey.

done at night. Armed with a light to dazzle the sleepy birds, the batfowlers would beat with a club in the bushes to waken their prey. The confused birds would then fly into the hunter's nest. When the birds roosted in more than one bush, the batfowlers "beat about the bush" — in the surrounding smaller bushes — to frighten the flock in the main bush. "Beating around the bush" now symbolizes not getting to the heart of the matter.

Cultured gentlemen of ancient Rome looked for omens in the formation of birds. Still today, we think of certain birds as signs. The robin is considered the harbinger of Spring — the crow foretells rain — the peacock symbolizes pride — "The Raven," ill omen, as chronicled by Poe — the bluebird, sign of happiness — the swan, grace and stateliness — the thrush, denoting heartbreak — the wise old owl — and honesty, as epitomized by the sparrow who confessed "I, with

my little bow and arrow" to the murder of Cock Robin.

On the other side of the nest, the symbol of dishonesty is the rook, a raven-like bird that lives in a sort of apartment complex known in England as a rookery. Many strange moments are hidden in these nests, for the rook is a notorious petty thief. He may even be so bold as to fly through an open window in search of colorful, glittery treasure. Hence, the saying "He'll rook you," meaning "He'll steal from you."

By contrast to the rook is the grey-white albatross. The bane of Coleridge's "Ancient Mariner," the albatross boasts the largest wing spread of any flying creature, nearly twelve feet. The appellation "gooney" was applied to the albatross by the Sea Bees during World War II, because of the birds' ridiculous behavior in taking off and landing. Their top-heavy bodies and those long limber wings seemed to defy all laws of aerodynamics, as the

birds ran slow ungainly take-off patterns, often stumbling over nesting birds in their attempts to get into the air. Once airborne, the gooney birds could circle and glide with dramatic ease and grace. But again, their landing was grotesque as they flopped to earth, bills digging in the sand, tails protruding upward, wings trailing behind in undignified surrender to gravity.

Not so incongruous as the albatross, the loon is a large black and white marsh bird that resembles a duck. The expression "crazy as a loon" is taken from the bird's weird cry, like the screaming laugh of a lunatic.

It might appear, from the foregoing expressions, that birds are not very co-ordinated, . . . smart, . . . clean, neat, friendly, courteous, kind, brave, or cheerful . . . at least, in the opinion of mankind. Man *does* recognize that birds are invaluable from an ecology standpoint, not to mention aesthetically. But birds don't flutter around defending their behavior. They leave themselves open to slurs and accusations, the natural result of ignorance, particularly in by-gone centuries.

In any case, the next time someone tells you "You're strictly for the birds," ask yourself what that expression means. To me it suggests that you are an insect, a worm, or "buggy." But remember, if someone talks like that to you, he's certainly one fine feathered friend you don't care to flock with. So just consider the source, he's probably a bird-brain . . . or maybe a Frumious Bandersnatch!

BIBLIOGRAPHY

- Adams, Franklin Pierce, *FPA Book of Quotations*, Funk and Wagnalls Co., New York, 1952.
- Bartlett, John, *Bartlett's Familiar Quotations*, Little Brown & Co., Boston, 1955.
- Bridgewater, William, and Sherwood, Elizabeth J., *The Columbia Encyclopedia*, 1950, pp. 813, 1157.
- Brussell, Eugene E., *Dictionary of Quotable Definitions*, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1970.
- Burton, Robert, *Anatomy of Melancholy*.
- Carroll, Lewis, *Through the Looking Glass*.
- Evans, Bergen, *Dictionary of Quotations*, Delacorte Press, New York, 1968.
- Funk, Charles Earle, *A Hog on Ice*, Warner Paperback Library, New York, 1972.
- Garrison, Webb B., *Why You Say It*, Abingdon Press, New York, 1955.
- J. Gruber's Hagerstown town and country Almanack, Gruber Almanack Co., Hagerstown, Maryland, 1973 issue, p. 68.
- Heywood, John, *Proverbs*.
- Morse, Joseph Laffan, editor-in-chief, *Funk & Wagnalls Encyclopedia*, Standard Reference Works Publishing Co., New York, 1959 pp. 5683-4.
- Plutarch, *Of Garrulity*.
- Russell, Hezekiah, *Memoirs*, 1947.
- Shakespeare, William, *Cymbeline*, and *Romeo and Juliet*.
- Shelley, Percy Bysshe, *To a Skylark*.

THE BIRTH OF A HIPPO

By Lillian Rant

Reprinted from Zoo View

Photographs by Animal Keeper Dale Thompson

The birth of any wild animal captive in a zoo is an exciting event, but nothing could have been more exciting (and nerve-wracking) than the birth of a hippopotamus (*Hippopotamus amphibius*).

Since there is no fixed breeding season, the females having monthly estrus periods of four to seven days, no one really knew when our Maggie became pregnant.

With a gestation period of approximately eight months, the pregnancy was well along before anyone could be sure . . . but then, could we be sure? Pre-natal examination of a nearly 4-ton female hippo isn't exactly easy.

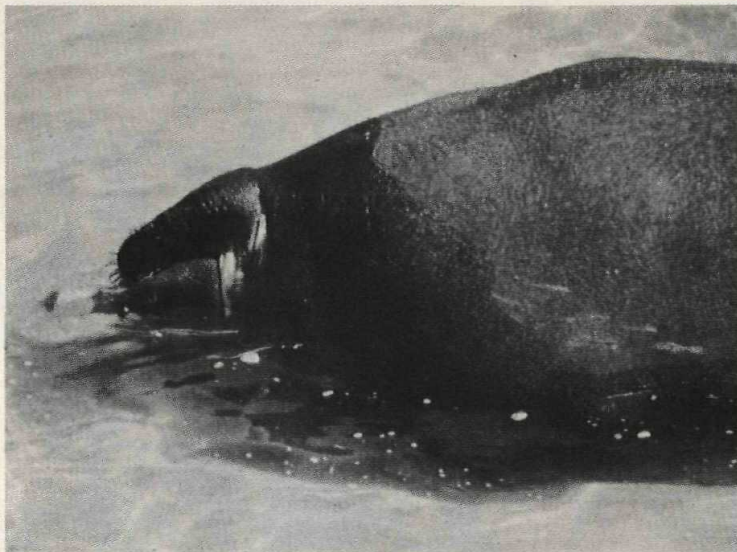
When it became obvious Maggie was, indeed, very pregnant, tensions mounted and there was much speculation on the time of the birth. Maggie, long one of the popular attractions in our Zoo, decided to do it properly and gave birth at midday on a Sunday, the busiest time and busiest day at the Zoo, in full view of visitors at the hippo compound at that time.

To help Maggie, the pool was drained to 3 feet of water. A full complement of Zoo keepers and staff veterinarians were on hand for the event, all with fingers crossed, hoping there would be no complications—after all, it would not have been the easiest job *in the world to help this great lady if she were in trouble with the birth—you could hardly "pick her up" and rush her off to the Health Center.*

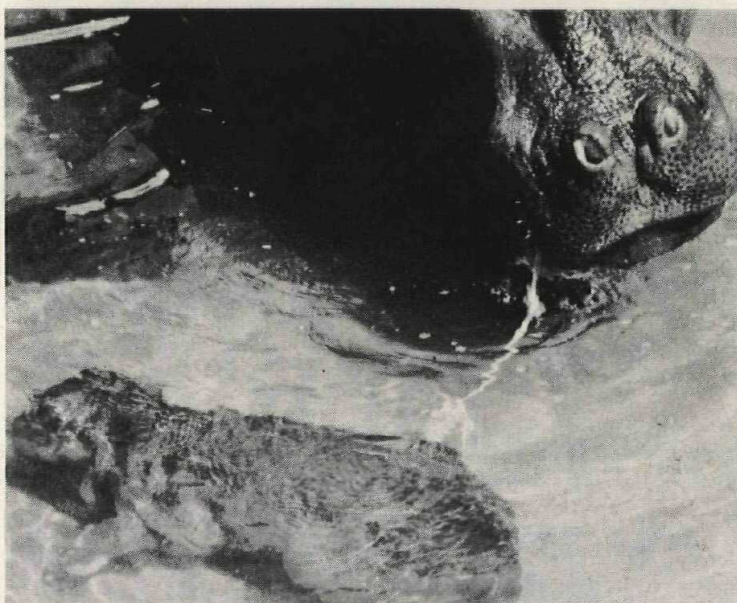
If the staff was unduly nervous, Maggie certainly was not and gave no indication of labor. Maggie settled herself comfortably in the water, since hippos give birth under water, and thanks to Keeper Dale Thompson, the event was recorded on film for us. Dale is a fine photographer and although as nervous and anxious as anyone, he managed to "find" his camera at the right moments.

It took about 40 minutes for the youngster to arrive, attached to Maggie by the umbilical cord which was between four and five feet in length. Everyone waited anxiously and a cheer went up when the new arrival surfaced, took her first breath of air, twitched her ears at the adoring public, and went down again to Maggie, who was able to sever the umbilical cord herself. It was two hours or so before Maggie's offspring started feeding, but once the milkbar had been located, all was well and Maggie and her daughter happily settled down. The young suckle under water and surface for air approximately every 35 seconds.

Since the female hippo with an infant usually becomes extremely aggressive in their defense and in captivity will often try to drive their mates entirely away, Curly was removed to a place of greater safety which didn't bother him since from his manner, he had very little interest in the great event the day Maggie's daughter was born.



The young hippo coming into our world feet first.

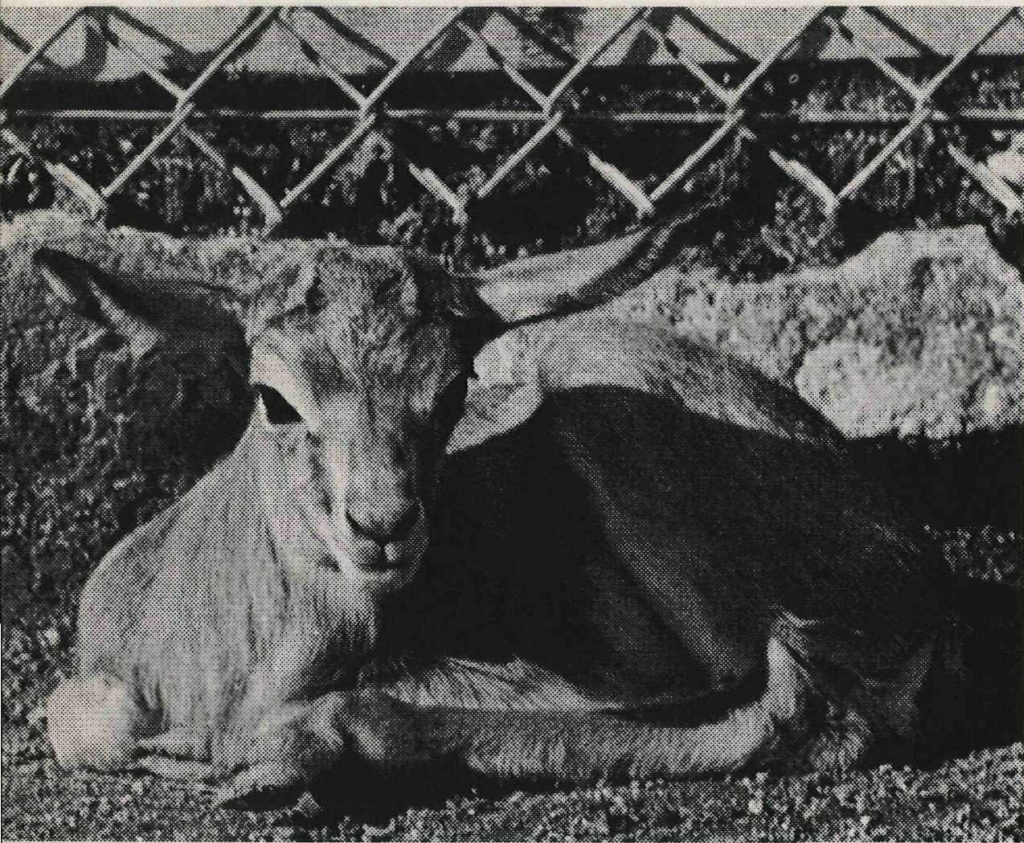


Maggie in the process of severing the umbilical cord.



The arduous task of giving birth now over, Maggie happily settles down with her daughter.

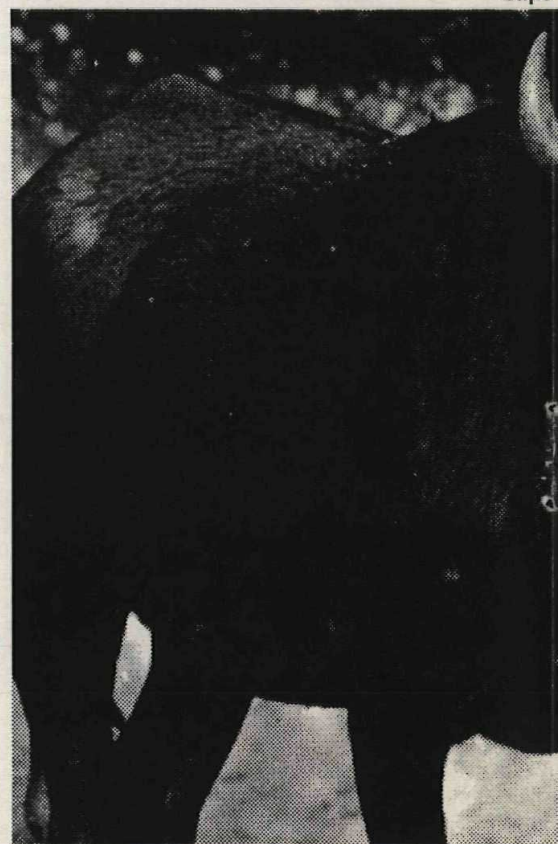
Photos courtesy Los Angeles Zoo



Springbok



Axis deer

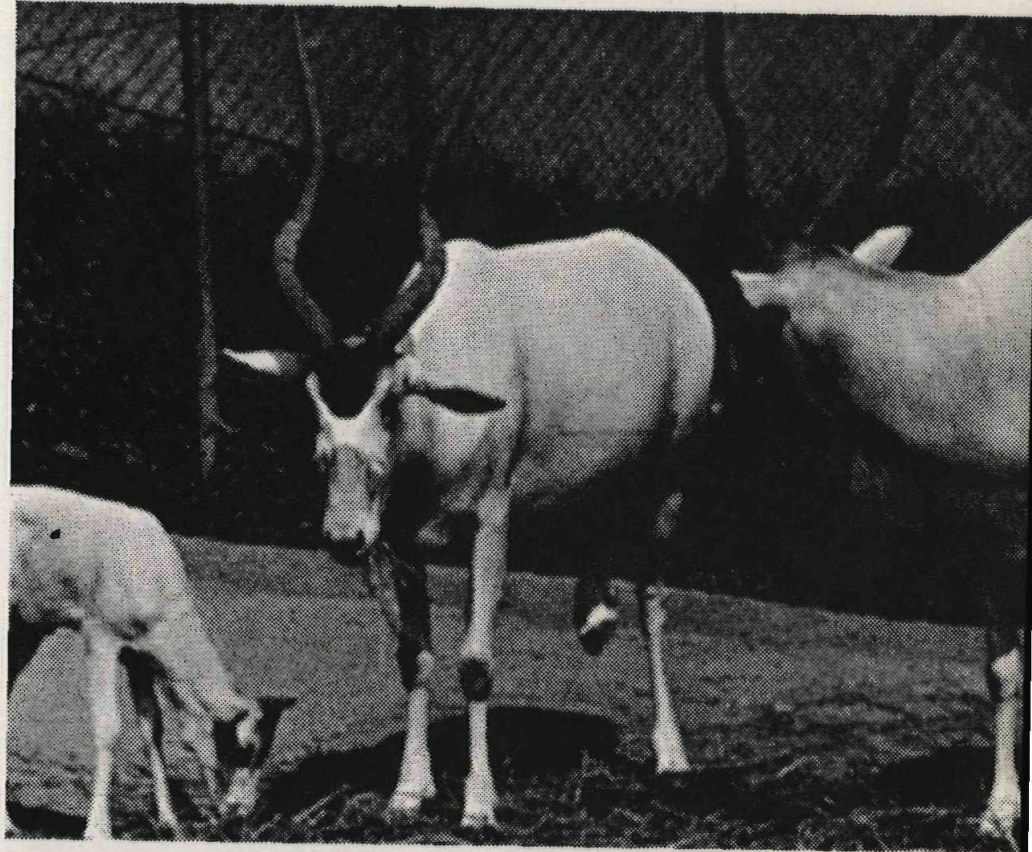


Cape

Featured in this hoofed animal montage are Greater kudu, Axis deer, Cape buffalo, Springbok and Addax, all born in recent months. The Addax is the only member of this group which is endangered.

Photos courtesy Los Angeles Zoo

MORE NEW BABIES

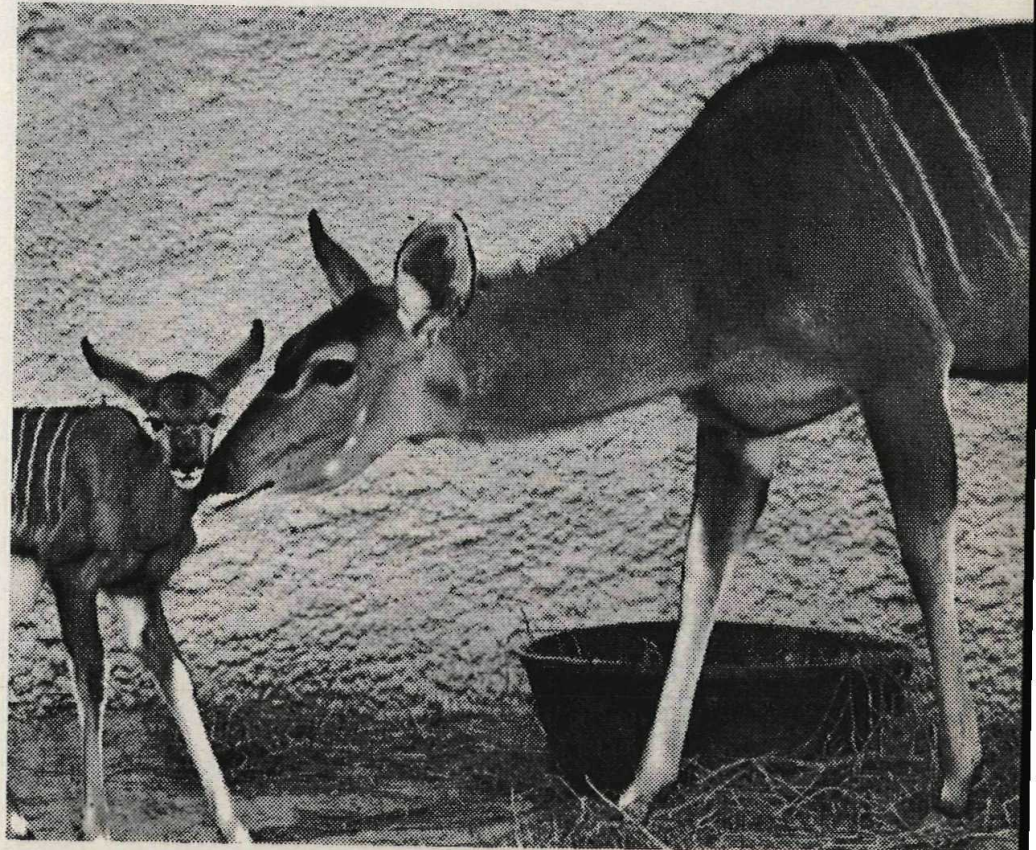


Addax

buffalo



Greater kudu



feeding of HORSES

... TAKEN STEP BY STEP



Many horse owners acquire their animal and afterwards realize that they know very little about how to care for and feed horses. The 1972 Thoroughbred Record Nutrition Supplement has useful practical information on feeding horses.

Some of the major considerations in feeding horses are as follows:

- Provide an adequate supply of clean water. Horses drink water by the gallon, not by the glass as we do.
- The ration should provide sufficient roughage, usually half - to one pound per 100 pound bodyweight. Roughages refer to pasture and hay.
- Feeds should be free of molds and relatively of dust and foreign materials.
- A regular feeding program is important, as horses are animals of habit.
- At feeding time horses should be watched for abnormalities. Feeding time is a good period to just watch your horse for a couple of minutes for any problems.
- Especially aggressive or timid horses should be separated if horses are grouped.
- Any sudden changes in feed or feeding procedures should be avoided. Gradual change in feeds and/or feeding schedules are best.
- Concentrates (such as oats, corn, grain by-products) should be fed by weight rather than by measure. If you know how much a measure weighs, then you are all right. Sudden changes in feeding concentrates could result in founder and digestive disturbances.
- Oversupplementation of the diet should be avoided. Often tonic and vitamin preparations are overdone by horse owners. If a little is good, a lot is not necessarily better. Oversupplementation is a waste of money and may be hazardous to the horse.
- Daily exercise should be provided for horses. A routine exercise program is best. Obese and poorly exercised horses are more prone to problems.

Many horses are fed hay. In general, hay should be cut at an early stage of maturity, cured enough to prevent heating and molding and baled with enough moisture content to prevent breaking of stems and leaves. Hay with foxtails should be avoided.



Inquisitive Morgan colt looking into a mobile Veterinarian Clinic.

horses

Need Yearly Vaccinations

by C. M. Baxter, D.V.M.,
Veterinary Practitioner
and Morgan Horse Breeder

Concerned horsemen have their horses given protective vaccines each spring. The diseases for which horses need yearly protection are: Tetanus, three kinds of encephalitis, and influenza. Also, they need protection against distemper and equine rhinopneumonitis. Your veterinarian can usually give the protective vaccines in two trips 4 to 8 weeks apart.

"Lockjaw" (Tetanus) is familiar to almost everyone, yet most people have not seen a case of it. It is not a pleasant thing to see. The disease is widespread but does not appear as an epidemic because it is a wound disease — one contracted from an infected wound. Most animals are susceptible, but man and the horse are most susceptible. A high percentage die even though provided the most thorough and modern treatments. Preventative vaccination with tetanus toxoid is

given and a yearly toxoid dose is given. If we know of a recent wound, a booster is given.

There are three kinds of "sleeping sickness" or encephalitis for which we routinely give vaccinations. Eastern Equine Encephalomyelitis was first described along the East Coast of the United States. Western Equine Encephalomyelitis was first described in California, and Venezuelan Equine Encephalomyelitis (VEE) was first described in South America. Any of these types may suddenly appear in epidemic proportions in any area of the United States. These diseases are highly fatal and are of danger to man also.

"Flu" (Equine Influenza) is a common serious respiratory disease of horses. It is a virus disease that is highly contagious and is often fatal, especially when complicated with other infections and in foals. The symptoms are primarily severe cold type, such as eye discharge, nasal discharge, cough and high fever.

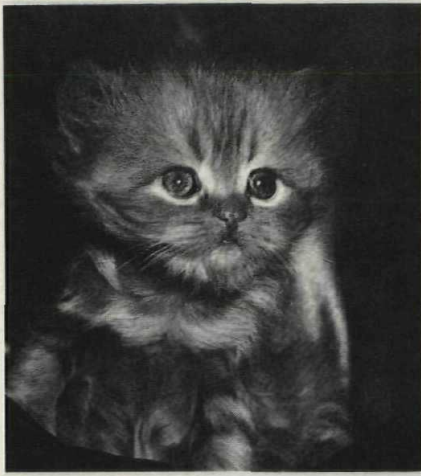
All of these diseases are worse when the animal is debilitated as with a severe worm infestation.

The threat of encephalitis becomes greater in years of increased rainfall. Additional moisture promotes more mosquitoes and mosquitoes are known carriers of the virus of encephalomyelitis.

Vaccination against equine distemper prevents serious consequences from this respiratory disease. Many will develop abscesses and become very debilitated or die.

A recent equinal vaccine is very effective in controlling the course of one of the largest economic losses in equine production. This vaccine is a preventative against equine rhinopneumonitis. Symptoms of colds are seen in young horses and the virus causes abortion in mares during their late pregnancy.

It is better to give the horses protection against these diseases during the "off season" than to wait until an emergency or epidemic occurs.



your ANIMAL'S HEALTH and you

by
George N. Thomas, D.V.M.



In choosing your puppy or kitten be as sure as possible to get a strong and healthy pet. Choose an active, lovable type, not a shy, timid, runty individual. By contrast, neither should you choose a hyperactive, psychotic animal. Compare with others in the litter and when you have made your choice, make your purchase subject to your Veterinarian's approval. If, on examination, your Veterinarian detects any abnormality in body formation or health, you are then permitted to return the pet for exchange or refund of money.

Now, assuming your pet passes the purchase examination, your doctor will routinely recommend a fecal examination for internal parasites, so if possible take a small fresh sample in a clean jar or baggy. A laboratory test is set up and if infested, parasitic ova, or eggs can be seen microscopically. The most prevalent internal parasite is the ascarid, or "Ronny" Roundworm. The next most common is the tapeworm, or "Tony" Tapeworm; then "Hairy" Hookworm and "Woody" Whipworm. Vermifuges, or worm medicines, are specific for each type and can be administered in the home or the animal hospital, depending on the owner's experience and facilities. Another internal parasite of tremendous interest is the coccidia, which is recognized as a spherical oocyte. It lives in the wall of the intestine causing a foul smelling hemorrhagic diarrhea with

rapid loss of weight. Proper medication usually effects a rapid response with early detection. Your doctor will advise you on the severity and treatment of each condition.

Another parasite of importance is the Heartworm, *Dirofilaria Immitis*, whose larvae are transmitted through external parasites such as the mosquito and possibly the flea, the lice and tick. The adult worm lives in the chambers of the heart, and the larvae, microfilaria, are in the peripheral blood, and can be detected on microscopic examination of a prepared slide. This parasite is usually a condition of older dogs and would not be expected in a new puppy, but is given for information. Also, it was once restricted to certain areas, such as in the South where mosquitoes were prevalent, but with modern transportation of cargo, people, and animals, Heartworm can be found anywhere.

Next procedure is to protect your pet from the common diseases by inoculations.

For the kitten, we immunize against Panleucopenia, (cat fever). Usually two injections are used, four to six weeks apart. There is also a Pneumonitis vaccine thought to be beneficial, but the total number of viruses that can be involved is staggering. But, if you want to use Penumonitis vaccine with its limitations, use it. Rabies vaccine is used for both cats and dogs.

For the puppy, the most important diseases are distemper, hepatitis, and

leptospirosis. At four to six weeks, a distemper - measles vaccine can be used on a healthy puppy, at 10 - 12 weeks, the first adult Distemper Hepatitis Leptospirosis (DHL) is given, followed in 4 - 6 weeks by a second DHL. We recommend annual DHL boosters to keep the immunity high.

Rabies vaccine is given at 4 months of age and it is required by law. The immunity is accepted for 2½ years in California.

Caring for your pet properly should certainly include good food in proper amounts. As a general rule, no sweets or starches. Buy quality food in cans, packs, or sacks. Remember, the cost of the can (metal) and the canning time, experience, etc. are a large percent of the cost of a can of food - so if you get a can of food(?) for 10 cents, you can get an idea of the quality inside.

Feed properly so as to maintain good conditioning, but NEVER too fat, since this puts undue stress on vital organs such as the heart and lungs. Obesity also causes a breakdown in circulation and inhibits proper exercise. This may also cause an undue stretching or rupture of ligaments and tendons which incapacitates a pet unnecessarily. Remember, the best cure is prevention, so don't kill with kindness.

We will now discuss the most important external parasite, which is the flea. The flea is an intermediate host for the dog tapeworm. The larva of the flea eats the egg of the tapeworm, and they more or less grow up together. The adult flea (with a tapeworm inside) bites the pet, the pet doesn't especially appreciate this invasion of privacy, so he reciprocates by biting the flea. He swallows the flea with its tapeworm, which immediately sets up housekeeping. Soon there are myriads of tape segments being passed in the stool to start another round of flea larva, tape egg cycle. This cycle can be broken by proper worming, proper sanitation and flea control, which we will cover with insecticides.

The flea is also incriminated in the transmission of a very important cat disease, Feline Infectious Anemia. This is a red blood cell parasite, Hemobartonella, which causes a high fever and extreme anemia. It is a serious disease involving blood transfusions, antibiotics and supportive therapy with guarded prognosis. Again, parasite control is definitely beneficial in preventing the disease.

Proper care of your pet also includes controlling your pet. Keep in, or on a leash. This is as important for your cat as for the dog, although only the dog is covered by law. Proper control prevents fights, accidents, loss of pets, and heartache.

Proper care of your pet also includes yearly check-ups. In cases of

cardiac stress, proper medication can be very valuable. In obesity the doctor can advise proper steps for correction. Dental problems with tartar can be most important and proper cleaning and treating can save teeth, or if they have been neglected too long, removal can eliminate teeming cesspools of infection. The infections involving teeth have been incriminated for many years with arthritis and systemic infections. Proper mouth hygiene can prevent many problems. Skin tumors may be brought to your doctor's attention and removed at the annual checkup. Also, blood tests and urinalysis may detect early cases of nephritis, cystitis, prostatitis or even leukemia.

Now a word about the control of external parasites - *Organo Phosphates*. The flea collar is good if used properly - use correct collar - cat collar on a cat, dog collar on a dog. Use in dry conditions - put on a dry pet, in dry weather, or when kept dry - out of rain, bath tub, etc. Put on comfortably loose, and not so the pet, especially cats, can get it into its mouth. Watch for irritation, and watch pet's eating habits. Also, whether he is active or listless, whether he is drooling or spastic. If you are using a flea collar and you see these symptoms, remove the collar fast, and see your veterinarian.

Pet sprays prepared for pets are good - use as sparingly as will do the job - use in ventilated area, away from open flame, away from any open food. Pet sprays give a quick flea kill, quite impressive, and can be used weekly with relative safety, with certain precautions worthy of repeating. Avoid prolonged inhalation. Avoid excessive usage.

Fly strips, fly sprays, and kitchen sprays are all strong. The fly sprays and kitchen sprays are not to be used on pets, and one should remember the residue which falls to the floor, can be picked up on feet of highly susceptible pets and cause toxicity. This residue from fly strips, fly spray, and kitchen sprays for roach control can last from three to six months.

The thing to remember on the use of *Organo Phosphates* is that they control insects and pests. Our lives are happier without the annoying bite of the fly, flea and mosquito. Our pet is healthier and happier and we enjoy him more. But, caution on the use of *Organo Phosphates* should always be exercised. Use as directed for best results. Remember, the residue is toxic to pets, especially cats. If you are using any fly strips, fly sprays, flea sprays or kitchen sprays, be very observant of your pet, and if you see any symptoms of drooling, listlessness, loss of balance, nervousness, convulsions, spasticity or any strange symptoms, take immediately to your veterinarian.

Now of great interest is breeding your pet, and I have suggestions to make. Breed only if you have quality. Breed only if you have a real need or desire. Breed only if you have prepared and have good homes for the offspring. Society does not need more unwanted pets to be picked up and impounded, and eventually destroyed because John Doe didn't care enough to prevent indiscriminate breeding. The responsibility rests with each individual owner, not the town, city, county, or state.

If you do not plan to breed your pet, your veterinarian can perform a hysterectomy on her. Included is: examination, pre-anesthetic sedation, anesthetic, surgery room, surgeon, anesthetist, surgery assistant, hospital care, antibiotics, admitting and discharging personnel, re-examination and removing sutures - all for about 1/3 the cost of a human anesthesiologist for a tonsillectomy!

In summation, for best results, let me emphasize the following points:

- (a) Keep your pet confined or on a leash, thereby obeying the law and protecting your pet from accidents, and possible loss of life.
- (b) Feed properly and exercise regularly for good health and long life. Keep it slender and trim.
- (c) Practice good sanitation and parasite control for your pet's comfort and good health, remembering to use caution with *Organo Phosphates*.
- (d) Have regular check-ups for proper dental care, diet, blood work and urinalysis as indicated, with tumor removal as needed.
- (e) Have annual boosters for cat fever, and in the dog - distemper, hepatitis, and leptospirosis to insure high immunity.
- (f) Finally, I suggest and request that you love and respect your pet as a valuable loving member of the household. Spend as much time as possible with him, and you will be repaid with many happy hours of healthy fun and frolic.

PREVENTIVE MEDICINE

The old adage that an ounce of prevention is worth a pound of cure is still quite valid in the field of medicine. There are several diseases for which there are no complete cures and it is very likely that there will always be certain diseases for which a complete cure is not available.

Veterinarians have always stressed preventive medicine in dealing with animals but, many times, to the public preventive medicine seems dull as opposed to the emergency situation in which the animal receives the total attention of the veterinarian and his staff during a critical period of time.

Disease is a condition in which the bodily health of the animal is impaired and it is interesting to note, in general, what causes disease and what can be done to prevent disease.

Heredity is the cause of certain diseases like congenital heart disease and certain cases of diabetes. To prevent the development of such conditions, it is advisable not to breed animals with serious detrimental hereditary conditions.

Another group of diseases result from the deficiency of some substance necessary for optimum health of the individual. Vitamin and mineral deficiencies typify this situation.

Rickets is a disease seen all too often by veterinarians. Rickets is a sufficient softening and malformation of bone due to lack of calcium in the diet. Calcium deficiency is, most often, the result of feeding animals only meat. Deficiency diseases have decreased greatly in the past 50 years due to the development of well bal-

anced diets for animals.

Mechanical and thermal injuries comprise a third group of causes of disease. Typical examples include animals that have been burned. If people would put their pets on a leash when taking them for walks, many of the auto injuries could be prevented.

A fourth group of causes of diseases are poisons. Mercury poisoning is presently making the headlines. Mercury poisoning affects animals just as it does humans. Common sources of poisoning for pet animals include fertilizers and insect sprays. Be sure that poisons are kept out of the reach of pets as well as children.

The last group of causes of disease comprises the living organisms which invade the animal's body and produce injuries of various kinds. Viruses, bacteria, fungi, and worms are examples of this group. Providing animals with a clean and sanitary environment will reduce the risk of a number of these diseases. For several of the more serious diseases, vaccinations have been developed but, in order to be effective, vaccinations must be given before exposure. Distemper in dogs is a disease that can be prevented by vaccination, but once a dog gets distemper his chances of recovery are about 50 per cent even with medical attention.

Periodic medical check-ups and vaccinations by your veterinarian is only one aspect of preventive medicine. To be effective, preventive medicine must involve you since it is the animal's owner who, to a large extent, controls the animal's environment and his habits.

ANIMAL identification

By

Dr. W. A. Young, *Exotic Animals*
Editor ANIMAL CAVALCADE

IS YOUR DOG . . . TATTOOED?

Animal identification, in one form or another, is about as old and as varied, as mankind itself.

The pages of history record that men and women have marked themselves with everything from vegetable dyes to open wounds. Some markings have been solely for identification while others were basically decorative. For example, sailors have traditionally worn tattoos all over their bodies, ranging from initials and social security numbers to buxom blondes and hound dogs chasing rabbits.

Legal needs in courts, governmental actions, estate settlements, property rights, and all sorts of disputes are daily users of means of positive identification.

Mankind found it necessary, centuries ago, to mark its animals in some manner so that he could honestly keep track of his property, reclaim it if lost and, in general, accept his responsibility of ownership. The animal owner needed to be able to say "That's my beast and I can prove it."

Man decorated his animal possessions with collars, tags, bells, and all sorts of gadgets to serve as identifiers. Thieves and unscrupulous crooks compelled animal owners to devise more permanent ways of proving ownership. Cattle branding is a time worn illustration of this endeavor.

The army identified its horses with neck or hoof brands for accurate record keeping. The lip tattoo for thoroughbred horses makes the crooked ringer a near impossibility at today's race tracks. Breed groups such as the Sicilian Donkey Association maintain accurate records of ownership and breeding with the aid of lip tattoos. Our neighbors in Canada have government requirements for registration of purebred animals making use of tattoo letters and numbers.

The dognapping scandal, which reached its climax several years ago, led to the passage of federal laws and regulations designed to stop the laboratory dog racket, wherein unscrupulous dealers could sell any sort of dog, stolen or otherwise. The new regulations call for identification and certification of ownership of animals offered for such sales. These laws have nearly stopped the stealing of common dogs, but they may have centered the dog thief's attention on the valuable purebred animals, which are worth the risk of stealing in one city and transporting for sale to another city hun-

dreds of miles away. Faked papers often go with this racket. Effective animal identification and registration will stop the thief who steals purebred dogs.

Genetic record keeping of purebred animals, exotic animals in zoological gardens, fur farm species and accurate recording of the uses of research animals are all dependent on a real means of positive identification of each individual animal.

Even the proof positive for hip dysplasia dogs hangs on a tiny thread of honesty of all who are involved. How can a buyer really know for certain that a particular X-ray negative is that of the dog he is about to buy for a tidy sum of hard earned dollars? A tattoo placed on the dog and the X-ray negative at the time of X-raying, or before, with a certified statement of ownership, would be a reliable bit of evidence that the dog at hand is really the one with or without hip dysplasia.

The same logic applies to the registration certificates we all treasure so greatly for our purebred animals. A dishonest shop operator could easily use the registration of a dead dog to beef up the sale price of some unknown . . . but . . . "look alike" pooch, he has available to pawn off on some unsuspecting customer.

A permanent, lifetime, number on the dog's body and registered with a central and reliable agency will stop most such phony dealings.

What is true animal identification?

It must be a means whereby anyone can easily, and without great expense, learn the ownership of an animal which might come into his possession. It might also provide owners with undeniable proof of ownership.

Many methods have been tried. Nose printing of dogs appeared more than a quarter of a century ago. While this can be the means of accurate identification, it requires a fair degree of skill to make a legible nose print and, indeed, much skill and experience to read and evaluate the prints.

Cryobranding (freeze branding) is a relative newcomer to the scene. It gives promise of supplanting the painful and hide damaging hot iron brand. Cryobranding may well fill the needs for identification of farm livestock. After application of the freeze brand, the hair in the brand falls out and in a few months is replaced with permanent white hair. This may be satisfactory for cattle and some horses, but

not for dogs — and especially not for white dogs.

Certainly, hot iron branding and acid branding are too painful for consideration for dogs and cats, and in fact for any animal.

Ear punching with holes and nicks makes a lifetime mark, but who wants to mutilate a fine show animal? Tags, rings and such may be easily torn or damaged, removed or accidentally ripped out and lost. What, then, can be done to mark an animal legibly for a lifetime? Tattooing has been used successfully, as mentioned, in Canada and on certain breeds.

During the past few years, as many as a dozen plans have been offered to the dog owner. Each proposed to be "it," but again, one by one, they withered on the vine and many died. Some of the plans have been ingenious; e.g., have your social security number tattooed on your dog. The federal authorities are not happy about this idea. What happens when a dog is sold, or when one has several dogs? And where does one find room on a dog for those nine digits in a social security number?

Some plans have been better for the promoters than for the dog owner. What a heartbreak for a dog owner to enroll his beloved pet in a system that fails to function or that goes out of business after the first promotion! Some operations only provided a number for one's animal and the owner had to search for someone to place the number on the animal. He had to pay a fee for the price charge for the number and another for the tattoo job itself. Then when the animal might become lost, how could you, the owner, be identified and found so that the lost animal would be returned to you? The seller of the number might be fishing or just not available.

The American Humane Association, which is the national amalgamation of the vast majority of animal protective organizations (SPCAs), has approved tattooing as a practical and humane means of animal identification.

The American Kennel Club has accepted tattooing for pure bred dogs and makes no objection to proper tattooing for show dogs.

Several SPCAs (Humane Shelters) are tattooing and registering animals for interested owners. Other shelters are tattooing and registering the dogs which are "adopted" from these shelters.

Veterinary Medical Associations, after exhaustive investigation, are suggesting to their members that they provide this valuable protective service to their clients, using a soundly backed and effectively operated system of registration which means that a tattooed and registered dog will have an excellent chance of being identified and returned to its owner.

So, today, we are at the threshold of a nationwide surge of animal identification.

How is it done?

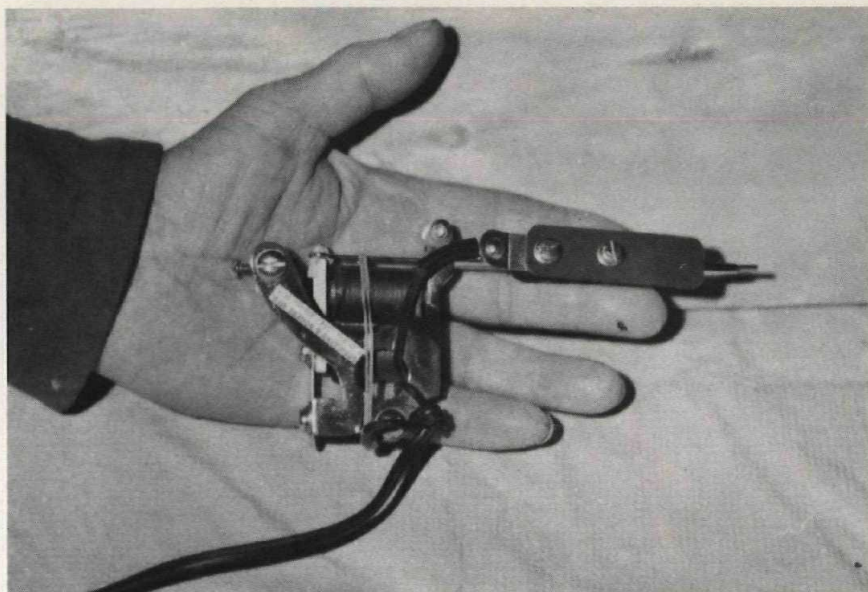
Certainly, these individuals who contemplate having their dog tattooed should register it with a central, national registry. An example of such a registry is the Canine Bureau of Identification Company, at 17 Battery Place, New York, New York 10004. This well established and experienced registry is aligned with Western Union via Telex and thus is open to receive messages from dog finders 24 hours a day. They even pay the telegram charges and then send a prepaid wire to the owner of the lost animal. This is real animal identification and service to all who find a tattooed dog.

Electrical tattooing is far more desirable than the clamp method for dogs. There is little pain or distress with this method.

General anesthesia is not required. Local anesthesia offers some benefit but is not a requirement. Tranquilizers are useful for an animal which is overly sensitive or unduly nervous. Generally, no sedation of any sort is required, and muzzeling is seldom needed. Some veterinarians schedule tattooing when the patient will be anesthetized for other treatment, such as dental care, etc.

When tattooing dogs, the animal is placed on its right side and restrained by a handler who holds the animal quietly and comfortably by gripping the dog's right fore limb with his right hand and with his forearm over the animal's neck. The handler's left hand holds the dog's left fore limb and tucks the dog's body close to his. This grip is one that all dog owners might well use whenever they need to restrain their own animal for any reason such as toenail trimming or first aid. A second assistant holds the dog's left hind limb securely and away from the area of tattooing. The tattooer works from the side opposite the handlers. He grips the patient's right hind limb firmly at mid-tibial region (just below the hock joint). The tattooer clips the hair from the mid-thigh region . . . inside the dog's right thigh; cleans the area with an antiseptic; applies a very light coating of plain vaseline and freehands the assigned numbers across the thigh area.

Continued on Page 27



One of the Good tattoo machines available



One of the author's Australian Kelpies



The author . . . assisted by his wife and daughter

FELINE LEUKEMIA

by G. Caroline Engle, D.V.M.
Jenkintown, Pa.

Leukemia is the most common type of cancer in cats and in the broad sense means any malignant proliferation of blood forming tissues. Any of the different types of blood cells may be involved in the cancerous process, the most common type in cats being a type of white blood cell called the lymphocyte. Leukemia is estimated to occur twice as frequently in dogs and four times as frequently in cats as in humans. In 1964 tumor viruses called C-type particles, similar to those that cause leukemia in chickens and mice, were found to cause the disease in cats. The exact relationship of these virus-like particles to feline leukemia is not yet known. The C-type virus particles have not been found in all cases of cat leukemia. Some cats that live a normal life span and show no symptoms of the disease, or any other signs of ill health, have the C-type particles in their tissues. On the other hand, leukemia viruses have been found in cats afflicted with other diseases such as feline infectious peritonitis and myeloproliferative disease.

A point of concern has been the possibility that the C-type viruses found in cats may infect humans or other animal species. When cat leukemia viruses are added to a tissue culture containing human embryonic

cells the viruses will infect the cells. However, this has *only* been shown to happen under *experimental* conditions in a tissue culture that contains nutrients and other supportive substances (usually amino acids, vitamins, glucose, inorganic salts, and cells). It also has been demonstrated that the viruses will infect dog and pig cells in tissue culture under the same experimental conditions. But it is important to remember that the growth of a virus in certain cells, in special tissue culture, under very special conditions does *not* prove that an entire animal under *natural* conditions is susceptible. To date there has been no evidence that cat leukemia can infect any other species. All evidence indicates that the leukemia virus found in cats is specific to that species.

If cats could transmit leukemia to humans we would expect the infection rate among veterinarians to be abnormally high. A recent survey has shown that veterinarians experience no greater incidence of leukemia than that found in the general population. A few years ago I worked directly with leukemic cats in research examining and treating cats, taking biopsies, and preparing virus infected material for tissue culture and electron microscopic examination. This direct exposure to the virus has not been harmful to me or to the other researchers who worked with me.

Symptoms

The symptoms of leukemia in cats are associated with a variety of clinical signs that are dependent on the sites of malignancy, the extent to which normal structures have been destroyed, and the duration of the of the disease process. In the early stages, leukemia does not usually cause abnormalities that can be detected by physical examination. In later stages there is always progressive anemia, weight loss, poor appetite, weakness, and other symptoms that correlate with the anatomical distribution of the disease. The most common type of leukemia in cats is called lymphosarcoma. This is a malignant tumor of lymphatic tissue and may originate anywhere in the body. Some investigators feel that the disease may actually be multicentric in origin; that is that it starts simultaneously in many areas of the body. Cats with tumor infiltration of the *digestive tract* may have diarrhea, constipation, or vomiting depending on the degree and type of tumor involvement.

Lymphosarcoma of the *chest* usu-

Continued on page 30



**WELCOME TO CAVALCADE!
DON'T MISS A SINGLE ISSUE.
SEE PAGE 26**

The Cat in the Window!

By
Ella B. Nelson

On their way to school, Don and his twin sister Anne peeked through the fence in front of a large white house. Ann pointed to the window and said, "Look, that tiger cat is waving at us." (The cat reached out his paw to catch a fly, but the children couldn't see the fly!)

When they got to school that Monday morning the twins told their second grade teacher about the cat waving at them. When they got home, they told their mother about it, too.

Tuesday morning they saw the cat lying on a table near the window. They stood by the fence and called - "Kitty, kitty, kitty." The cat woke up, stared at the children, then stretched and yawned. "Look," said Don, "now he is smiling at us."

Wednesday, Thursday and Friday mornings they watched for the cat in the window, but he wasn't there! On Saturday they asked their mother if they could go and find out what had happened to the cat. Their mother gave her permission and the twins scampered off. When they arrived at the house they couldn't see the cat anywhere, so they went inside the white fence, up to the door, and rang the bell. A nice lady with a big smile opened the door.

"Hello, children. What are your names?" she asked.

"I am Don, and this is my twin sister, Anne. What is your name?"

"Oh, I am Mrs. Parker. Would you like to come in?"

"No," Don replied, "Mother told us not to bother you. We just want to know what happened to your cat."

"He smiles and waves when we go by," Anne added. "But he hasn't been in the window for a long time. We thought maybe he was sick or something."

Mrs. Parker stepped out on the porch, stooped down, and put her arms around the twins. "How nice of you to come and ask about Tiger. He is in the animal hospital. He got his leg caught in a rat trap out in the barn."

"Was his leg broken?" asked Don.

Mrs. Parker stood up and walked with the twins as far as the sidewalk. "No," she answered, "his leg wasn't broken, but he does have a deep cut. Would you like to come and see Tiger when he gets home?"

Don nodded, but Anne clapped her hands and said, "Oh, goody! We'll watch for him every day."

When the twins got home they told their mother about Tiger's accident, and asked if they could take him a present when he came home. Mother thought a catnip mouse would be just the right gift. The catnip grew in their back yard, so the twins picked leaves off the catnip plant and left them in the hot sun to dry.

Continued on page 27

PUPPY HOUSE

The kids' old play pen is a great place to put young puppies. It makes a wonderful see-through house with puppy-resistant mesh sides, washable padded flooring and an open top for easy handling. The puppies are safe from drafts, banging doors, fast-stepping adults, careless children and electric cords. It's handy for sunbaths, affords plenty of free romping space, and best of all, invites them to use the daily newspaper.

This idea came from Karen Sweeney, Calabasas Park, CA



CHILDRENS page...

THE CAT IN THE WINDOW

Continued from page 25

Their mother made a paper pattern of a mouse. She cut some gray flannel cloth for the body, and used red thread to make the eyes. For the mouth she used black thread, and braided strands of gray yarn for a tail. When the catnip leaves were dry she stuffed them into the mouse and sewed it tight.

Friday, on the way home from school, Ann asked, "Do you think Tiger will be in the window today, Don?"

"I hope so, because I want to see the crazy things he does when he gets that mouse," said Don. "Let's hurry and see if he is there yet."

Don arrived at the white fence first. When he glanced at the window he got so excited that he threw the stick he was carrying, high up in the air. "Yippee," he yelled, "he's back, Anne. Tiger's home!"

When Ann saw Tiger in the window she was so excited she did "red hot pepper" with her jump rope. The twins ran all the way home, flew into the house and both shouted to their mother, "Tiger's home!" Anne, out of breath, managed to gasp, "Where's the mouse?"

Their mother laughed as she reached for it up in the cupboard. The mouse was wrapped in white paper and tied with a red ribbon. Four hands stretched up for the present.

Their mother tossed the package into the air. Anne caught it, but dropped it. Don scrambled for it, grasped it with both hands and skooted outside, followed by his disappointed sister.

Mrs. Parker saw the children coming. She greeted them at the open door.

"Tiger is home children, come in and see him."

Tiger meowed a welcome as the twins tip-toed over to his table. He looked the same as usual, except his right front paw was bandaged.

"We brought him a present," Don said as he pulled the package out of his pocket. The cat began to sniff, then he reached down with his good front paw, fastened his claw into the ribbon and jerked it out of Don's hand.

The children laughed and laughed.

Mrs. Parker helped Tiger open his gift. He rolled over and over on the table, kicking the mouse with his back feet, biting it and tossing it from side to side. The twins were sitting on the window seat and they thought it was great fun when Tiger batted the mouse off the table and it landed in Anne's lap!

"Let's celebrate Tiger's homecoming and have a party." Mrs. Parker wheeled a tea cart into the window area. "Here is a saucer of milk for you, Tiger." She placed the saucer between his paws. He lapped it eagerly. "Now that he is busy with the milk, we will put the mouse away for awhile. He has played long enough for the first day. Help yourselves to a glass of milk and some cookies, children."

"Thank you," said Don as he reached for a gingerbread man with raisin eyes.

"This is fun," Anne said as she took a chocolate brownie with half a walnut on top.

When they were through eating, Don said, "It's getting dark Anne — we'd better go home."

"May we come again to see Tiger?" asked Anne as she put on her sweater.

Mrs. Parker opened the door for them. "Yes, come and see him when his leg is all better. He can do several tricks and he loves to have someone watch him."

The twins paused on the sidewalk and peeked through the white fence. Tiger was lying on his back in the window, but even with his head in this upside down position he could still see the twins.

Then, as if he knew it was expected of him, he waved his bandaged paw back and forth in the air.

ANIMAL IDENTIFICATION

Continued from page 23

This operation takes but a few minutes and always looks smeary when applied as the tattoo ink spreads over the vaselined area. This smear is readily cleared by simply blotting with a paper towel. The dog will lick away any final bit of tattoo ink; it is non-toxic, and no after-care is needed. Black tattoo ink suffices for most animals — even Labradors have a skin which will show clearly a black ink tattoo. Other colors of tattoo ink are available, such as green, red, etc.

How can an animal owner choose the system which offers the best chance of protecting his dog against loss and failure to be identified?

Let us summarize a list of criteria:

- A. The method of marking must be for the lifetime of the animal.
- B. The marks must be easily legible to the average person.
- C. The numbers must be tattooed on the animal, and not just listed somewhere in a dusty file.
- D. The owner must receive a certification of the number and its recording in a central registry.
- E. The application must be humane and substantially painless.
- F. The system and the means of marking should be approved by humane organizations and veterinary authorities, as well as by animal owners.
- G. The entire operation must be in the hands of reliable operators.
- H. The costs should be within the reach of the ordinary dog owner, with lifetime values and without a lot of subsidiary costs, extra fees, etc.
- I. The system must be functionally practical. Communication between finder and owner must be via a medium that functions rapidly, to a permanent central agency which can correlate matters so that the owner and animal are promptly reunited. It must be a sound, reliable, permanent business.

Is your dog, or other companion animal, safe from . . . stealing . . . false claims of ownership, etc., due to a lack of positive identification? Join the many animal owners who are having their pet tattooed and registered so both man and animal can sleep soundly and safely tonight and all the nights. Contact your veterinarian, petshop operator, poodle parlor, dog handler, SPCA or animal shelter for safeguarding your treasured animal. Or write to *ANIMAL CAVALCADE FOR GUIDANCE*.

Editor's Note:

Dr. W. A. Young is a veterinarian who had administered SPCAs and is a former Director of the Los Angeles Zoo.

EFFECTS OF CASTRATION ON FIGHTING, ROAMING, & URINE SPRAYING IN ADULT MALE CATS

by Benjamin L. Hart, D.V.M., Ph.D.,
and Ralph E. Barrett, D.V.M.

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Vol. 163, No. 3

SUMMARY

A survey, based on interviews with clients, was conducted to evaluate changes in patterns of objectionable behavior in 42 male cats castrated in adulthood. A pronounced and rapid postoperative decline in fighting, roaming and urine spraying occurred in 53, 56 and 78% of the cases, respectively. A gradual decline in these patterns of behavior occurred in 35, 38 and 9% of the cases, respectively. In the remaining cases, a decline in these patterns of behavior was not evident. In the same cat, a rapid decline in one pattern often occurred with only a gradual or unnoticeable reduction in one or both of the other patterns. Age at time of castration was not related to rate of decline.

It is generally accepted that if male cats are castrated before puberty, fighting, roaming, and urine spraying will be largely prevented. Frequently, however, male cats are castrated in adulthood after one or more of these behavioral patterns has become objectionable. Although clients assume that these behavioral patterns will then decline, opinions as to the effectiveness of the operation when performed on adults vary. Certainly more information is needed as a basis for giving clients some idea of what kinds of behavioral changes to expect after castration of adult male cats. Additional information might also be of use when the clinician is consulted about the advisability of prepuberal versus postpuberal castration. Some owners, for example, might prefer to delay castration to allow for the development of typical masculine morphologic characteristics such as a larger body and head — providing postpuberal castration is effective in reducing undesirable behavioral patterns.

Male cats, especially young adults during the first few years in a new neighborhood, may fight a great deal and consequently acquire fight wounds and abscesses. Spraying of urine on vertical surfaces by cats and a few other mammals is considered to be a type of territorial scent marking response. Although data regarding fighting and urine spraying in cats are not available, experimental findings suggest that castration of adult male cats should be expected to alter these behavioral patterns. For example, cas-

tration readily alters sexual behavior of sexually experienced male cats. Fighting declines within 2 to 4 weeks after castration of male mice; similar observations have been made for rats and gerbils. Castration of adult male hamsters and gerbils leads to a decline in scent marking within a couple of weeks.

This report is concerned with a survey conducted in an effort to evaluate the rate of postcastration decline in fighting, roaming, and urine spraying, which had become objectionable in adult male cats.

Postoperative Changes in Different Behavioral Categories. — Cat owners were quite confident of the reliability of their observations, which is not surprising, in that owners had gone to the extent of having their cats castrated because of their concern over the objectionable behavior. An occasional comment made in instances of a rapid decline of an objectionable behavioral pattern was that the animal had become a "great cat" and that the owner was pleased with the operation. When change was not apparent, owners said they were unhappy with the operation; one owner gave away a cat 1 year after it was castrated because urine spraying continued.

On initial evaluation, postoperative occurrences of fighting, roaming, and urine spraying were considered independently, regardless of whether they occurred alone or in combination; the percentage of cats in which there was either rapid decline, gradual decline, or no change was determined in the different categories. In more than 50% of the cases, castration resulted in a rapid reduction of fighting, roaming, and urine spraying. In all categories there were some cats with only a gradual decline in objectionable behavior as well as a few cases in which no change in objectionable behavior was noticed. Many owners who reported a rapid or gradual decline in an objectionable behavioral pattern still noticed an occasional (infrequent) occurrence of the behavior. In none of the instances of rapid decline, however, was there a report of an appreciable return of an objectionable behavioral pattern at a later date.

Rate of Decline of Different Behavioral Patterns in the Same Cat — When more than one objectionable behavioral pattern was a concern in the same cat, a rapid reduction was often reported in one pattern, whereas only a gradual decline or even no change was noticed in one or both of the other behavioral patterns. To obtain more specific information on this point, the 14 cases in which fighting and roaming were both a concern, and the 14 cases in which fighting and urine spraying were both a concern, were further examined. Cases without

change were included with those for which a gradual decline was reported. In 12 of 14 cats, a rapid or gradual decline in roaming was accompanied by similar rates of decline in fighting. In only 5 of 14 cats, however, did the rate of decline in fighting agree with the rate of decline in urine spraying. In some cases there was even an apparent negative correspondence between the decline of fighting and urine spraying, as indicated by comments of some owners. One owner complained, for example, that fighting gradually declines, but urine spraying increases after castration.

BOOK REVIEW

THE CAT'S GOT OUR TONGUE

by Claire Necker

172 pages 1973 \$5.00

Cats have a way of appearing in unexpected places, and now they've turned up in the world of dictionaries...

THE CAT'S GOT OUR TONGUE, the first dictionary devoted solely to cats, introduces the reader to their use in our language — cat words, cat comparisons, cat proverbs, and familiar quotations about cats. The dictionary section includes all words which include the word *cat*, or a synonym of *cat*, or associations with *cat*, with a subject listing of cat words in special fields appended. The section on proverbs includes foreign as well as English proverbs, with notations as to origin. A selection of proverbs found in early English literature and in popular American 19th century books are included.

This work offers unique reading pleasure for anyone interested in cats, or in linguistics or folklore, and it furnishes hard-to-find information in an easy-to-use presentation for the librarian and others seeking elusive cat facts.

About the author: Ms. Necker is currently a library cataloger. She has written a number of books about cats, including *FOUR CENTURIES OF CAT BOOKS: A Bibliography, 1570-1970*, which was published by Scarecrow Press in 1972.

This book is recommended for every home, even those where no cats reside. The various derivatives of the word "cat" and their meanings are surprising reading.

Example: Cat's whiskers — the thin wire wavelength locator which made contact with the crystal in the earliest type of radio.

CREATURE CROSSWORD ANSWERS

Continued from page 6

ACROSS

1. CUB
4. SOAP
8. CLAW
12. OSA
13. TUNA
14. HIVE
15. DEN
16. ORANGUTAN
18. ADDERS
20. TOM
21. ILK
22. FHA
23. HOG
26. DUCKS
28. LET
29. OWL
30. EROS
31. PER
32. BLEU
33. EGO
34. SEA
35. POSSE
36. RET
37. HAS
38. RAT
39. LAC
40. OISEAU
43. GREYHOUND
47. IBM
48. NORN
49. CREE
50. NEB
51. IBEX
52. KISS
53. SLO

DOWN

1. CODA
2. USED
3. BANDICOOT
4. STORKS
5. OURS
6. ANA
7. PANTHER
8. CHUM
9. LIT
10. AVA
11. WEN
17. GOAT
19. ELKS
22. FLEAS
23. HOLSTEINS
24. OWES
25. GLUE
26. DEER
27. URGE
31. PEACOCK
32. BOAS
34. SHAH
35. PRIDES
39. LYNX
40. ONES
41. ABEL
42. UMBO
43. GNI
44. ROB
45. ERE
46. URI

FELINE LEUKEMIA

Continued from page 24

ally starts in the thymus gland and then will cause respiratory symptoms, coughing and difficult breathing, as the tumor mass grows and displaces vital chest structures. Chest vibrations and noises may be detected and the cat may breathe with his mouth open due to fluid accumulation and tumor enlargement. He will be reluctant to lie down and when he does will lie on his chest instead of his side. If the liver is involved, one of the symptoms will be jaundice which can be detected by checking the white of the cat's eyes for a yellowish discoloration. Another common site for lymphosarcoma is the kidney. The symptoms are similar to those of kidney failure since the malignant growth destroys the normal kidney tissue. The cat will become dehydrated, drink more water than normal, and urinate more frequently. He will lose weight, stop eating and, as more cells are destroyed, he will develop uremia which results in vomiting, weakness, dehydration, and a urine-like odor to the breath. The kidneys will be much larger than normal and will feel lobular to the touch.

Lymphosarcoma also may develop in any of the lymph nodes. These are commonly called glands and are the areas of the body where the lymphocytes are manufactured. Any of the peripheral lymph glands of the neck and legs or the internal ones of the abdominal cavity or chest may be involved. Large malignant masses can develop in the abdominal lymph glands and cause acute symptoms of intestinal obstruction, or they may grow in the chest and cause acute respiratory symptoms. Malignant tumors are sometimes found in several areas of the body at once. The intestines, thymus, lymph nodes, liver, kidneys, and spleen may all be involved in the terminal stages of the disease. One type of leukemia predominately affects the bone marrow resulting in an abnormally high white blood cell count and cancerous cells in the circulating blood.

Myeloproliferative disease is a blood disorder that some investigators feel may be related to leukemia complex since C-type particles have been found in the bone marrow of afflicted cats and the disease always results in death. It is a disease of the bone marrow resulting in the production of abnormal, non-functional blood cells. The liver, spleen, and lymph nodes may become enlarged as the abnormal cells leave the bone marrow and proliferate in these organs. Anemia is a constant finding as well as poor appetite, listlessness, weight loss, and dehydration. Diagnosis is based upon finding abnormal cells in the blood and bone marrow. Myeloproliferative disease should

always be considered in the differential diagnosis of anemia which is unresponsive to treatment. In all cases where leukemia is suspected, care should be taken that the diagnosis is differential. In other words, that it considers all probabilities and does not overlook other diagnoses and possible treatments.

Treatment

Unfortunately, leukemia is a fatal disease. I have known cats to live a year or more with treatment and others to die a few weeks after the first symptoms were noticed. Diagnosis is based upon clinical examination, X-rays, blood tests, and biopsies. Other diseases must be ruled out before a positive diagnosis of leukemia can be made. Inflammation of the lining of the chest cavity (pleuritis) can cause the same symptoms as thymic lymphosarcoma. Kidney diseases such as acute nephritis, hydronephrosis, or cystic kidneys can produce enlarged kidneys and symptoms similar to lymphosarcoma. I once treated a cat with enlarged lymph glands that had signs of leukemia. All of the glands of the neck and body were enlarged, the cat was anemic, would not eat, and had lost weight. A biopsy taken of a lymph gland revealed that the cat had a lymph node infection called lymphadenitis which responded well to treatment with anti-inflammatory agents and antibiotics. Anemic cats should also be tested for feline infectious anemia which can be successfully treated, as can some other types of anemia.

If a cat has leukemia, treatment will usually prolong the cat's life, but will not be curative. The same anti-cancer drugs that are used in human leukemia have been used to treat cat leukemia. These agents destroy cells or inhibit cell proliferation. Since they affect normal as well as cancerous cells, their dosage must be carefully regulated. The cells which normally fight off disease may also be destroyed by these agents, and the cat may become very susceptible to infections. For this reason, supportive therapy, including the administration of antibiotics, vitamins and blood transfusions, is necessary.

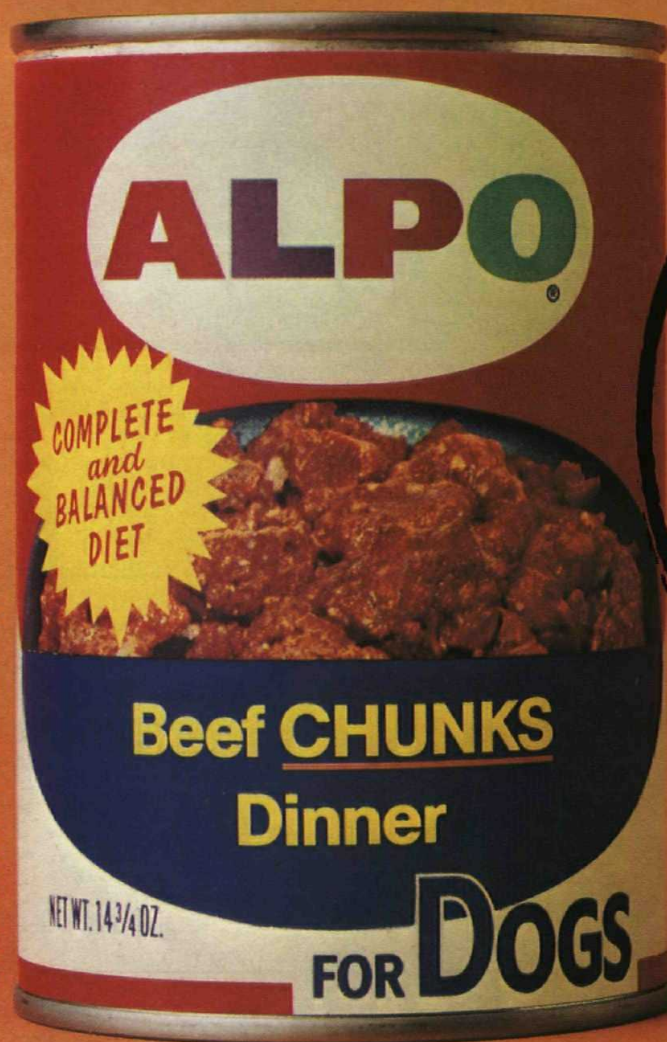
Researchers are working intensively on the leukemia problem. Investigations are continuing into the cause and cure of leukemia in cats, dogs, cattle, chickens, humans, and other species, and will continue until a solution is found. So far, two vaccines have been developed: one protects laboratory mice against leukemia, and the other is effective against avian leukoses, a type of leukemia that occurs in poultry. Hopefully, further investigation will give us insight into the cause of leukemia in other species and make prevention and cure possible.

URGENT!!!

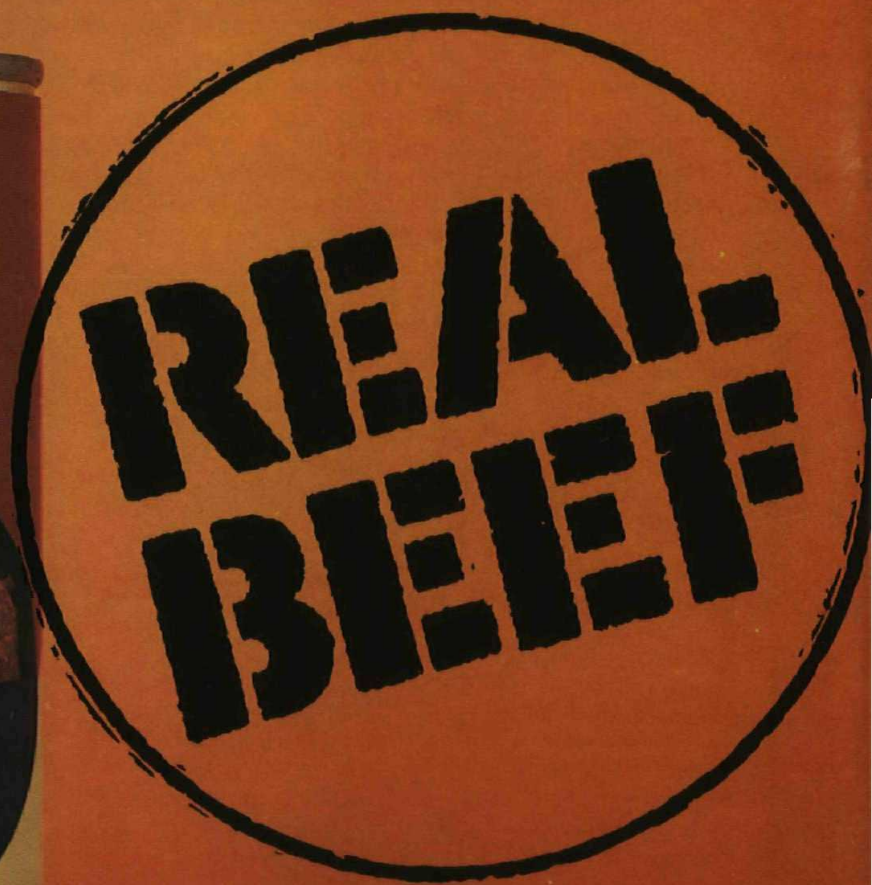
Please notify Animal Cavalcade when you move! Failure to do this costs the Animal Health Foundation funds which should be spent on caring for sick animals or for veterinary medical research.

Send change of address information to Animal Cavalcade, 8338 Rosemead Blvd., Pico Rivera, Calif. 90660.

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Just because a dog food comes in a can doesn't mean it contains any real beef. ALPO Beef Chunks Dinner does!

You'll find lots of real beef and meat by-products in an ALPO can. That's what makes ALPO different from other leading canned dog foods. Most other leading brands don't even come close to the amount of beef that ALPO has. In fact, some of them have no beef at all! But ALPO is famous for its beef. Big, thick, juicy chunks of it.

The kind of beef dogs love gives ALPO Beef Chunks Dinner a difference a dog can taste. So, if you want real beef for your dog—you'll find it in a can of ALPO. Oh, ALPO may cost a little more (you're getting more real beef), but—after all—

doesn't your dog deserve ALPO?