



VETERINARY MEDICAL REVIEW

School of Veterinary Medicine
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Grants Awarded To Three Projects

The Research Service of the U.S. Department of Agriculture has awarded \$75,000 in grants to three continuing research projects at the University of Missouri-Columbia School of Veterinary Medicine.

Dr. Gerald M. Buening, assistant professor of veterinary microbiology, was awarded \$10,000 for research in anaplasmosis, a disease appearing only in cattle which produces severe anemia by damaging red blood cells. Dr. Buening's research is an attempt to evaluate the role of cell-mediated immunity and hopefully develop protective measures against the disease.

Dr. Raymond W. Loan, professor of veterinary microbiology, and Dr. John Berg, research associate in veterinary microbiology, received a \$30,000 grant for continuing research of "Foot Rot in Cattle." Foot rot is characterized by inflammation of the sensitive tissue of the foot and severe lameness, and causes the greatest economic loss in dairy and feedlot cattle. The project is an effort to determine the role of the bacteria *Fusobacterium necrophorum* in the etiology and pathogenesis of the disease in cattle.

A \$35,000 renewal grant was awarded to a project under the direction of Dr. LeRoy D. Olson, associate professor of veterinary pathology, "Abscesses in Swine." Research is being pursued in the pathogenesis or development of abscesses, how the disease is spread under field conditions, and the development of effective means of prevention and control. Dr. L. G. Morehouse, professor of veterinary pathology, is a co-investigator in the project.



Dr. Robert W. Copelan, center, equine practitioner from Paris, Kentucky, was a recent speaker at a meeting of the student chapter of the AVMA. He presented slides showing his hospital and a surgery procedure typical of the type he frequently performs in his practice which is limited to racing horses. Visiting with Dr. Copelan after the meeting is Dr. Roger Brown, left, and Dean Kingrey.

Two New Faculty Appointed

Two research associates have been appointed to the faculty at the School of Veterinary Medicine.

Dr. Robert S. Youngquist, Tyler, Minn., has been appointed as a resident in veterinary medicine and surgery at the Hospital-Clinic and Dr. Earl G. Komer, Columbia, as a research associate in veterinary physiology and pharmacology.

Dr. Youngquist is a 1971 graduate of Iowa State University School of Veterinary Medicine and has been in private practice in Tyler, Minn. A native of Kiron, Iowa, he is a member of Lambda Chi Alpha, Alpha Zeta, Phi Zeta, and

Gamma Sigma Delta fraternities.

Dr. Komer received his B.S. degree in 1965, M.S. degree in 1968 and Ph.D. in agricultural chemistry at the University. He has been a graduate research assistant in the College of Agriculture since 1965.

Listed in Who's Who in American Colleges and Universities, Dr. Komer is a member of Sigma Xi, Gamma Sigma Delta, Alpha Zeta, Phi Theta Kappa, Phi Lambda Upsilon, the American Association of Animal Science, and the American Association for the Advancement of Science. He is a native of Agency, Mo.

Toxicologist To Be Phi Zeta President

A working day for Dr. Arthur A. Case could never be described as typical. The veterinarian, professor, toxicologist, extension specialist, amateur photographer, and national president-elect of Phi Zeta, the veterinary honorary society, schedules his time on computerized sheets with number codes for various activities. The man with the bushy, snow-white handle-bar mustache uses a lot of numbers.

Dr. Case has been a professor of medicine and surgery at the University of Missouri-Columbia School of Veterinary Medicine for 25 years. When the School had just received its new status as a school, rather than a department in the College of Agriculture, Dr. Case was the only instructor in toxicology. He still teaches classes in poisonous plants and toxicology, but now over 50 per cent of his time is devoted to extension activities. The 61-year-old professor constantly travels throughout Missouri conducting short courses for area agricultural agents, veterinarians, food and fiber producers, and special interest groups.

Consultations with veterinarians and cattle, sheep, and swine producers are part of his numerous trips. Dr. Case considers the history and signs when animals become sick and owners and their veterinarian suspect poison. He says at least half the situations he works with involve a management correction, rather than a hazard from poisonous plants. His primary recommendation in these situations is: "If the hazard is recognized, keep the animals away from it. If a particular water source or pasture is making animals ill, fence it off. Something as simple as a fence may mean the difference between a healthy or a very sick herd. After good nursing and feeding, the animals will often regain their health."

This advice is sometimes difficult for the producer to take, especially if a particular pond or field has been the primary source of water or food for his herd. Fences are expensive. But Dr. Case says this is the simplest and quickest treatment. If an owner allows his herd to drink from contaminated water, they may become sick and in turn expose another producer's herd which drinks from the same or adjoining sources. The cycle will extend and the expense will mount.

In regard to poisonous plants, Dr. Case advises that particular plants are detrimental to an animal's health only during certain seasons and under particular conditions. If herds stop grazing in these fields for the remainder of a season, the problem will usually not reoccur the next season.

Dr. Case's photography hobby is an aid to his toxicology lectures. Having traveled throughout the United States photographing wild flowers and shrubs in their natural habitat, he uses over 400 of these color slides for instructional aids. His camera interest dates back to the 1920's when he took his first black and white picture. He now has more than 9,000 pictures of plants and flowers.

"Any photographer can pick a flower and then take a picture in his lab, but he destroys the source and the natural beauty," Dr. Case says. "I visit state and national parks and travel to locations where the only equipment you're allowed to have is a camera. This way the natural situation is not destroyed. A picture allows you to see the beauty and to learn about the environment, with the subject still intact in its natural habitat for others to enjoy."



Dr. Arthur A. Case, new president of Phi Zeta, examines a specimen of Verbena in his office at the Veterinary School Hospital-Clinic.

When Dr. Case discusses environmental problems, his clear, blue eyes light up and soft, Kansas drawl fades with quicker, sharper tones. He supported ecology long before preserving the environment became fashionable. "People just don't recognize the difference between destructive and constructive ecology. Ecology is the study of an organism in its environment. People carelessly use pesticides, hunters shoot eagles and hawks, seals are killed for their fur. This may upset the balance of nature and man feels the repercussions."

As a toxicologist, Dr. Case describes the science as a hybrid from all major fields of knowledge. A toxicologist's work is a cross-section of botany, chemistry, physiology, pathology, and mathematics. With this broad background, he feels that toxicology is basically a science of judgment. If elements in nature are out of balance, the probability of trouble increases. "There could be 30 or more elements under consideration in a field where cattle or swine become ill, but knowing exactly which one is the root of the problem is a toxicologist's dilemma," Dr. Case says.

Dr. Case's veterinary background extends to boyhood in Manhattan, Kansas. His father was a veterinarian, and he and his two brothers, now practicing in Illinois, decided to continue the family profession. He received his B.S., M.S., and D.V.M. degrees from Kansas State University. He holds memberships in 31 professional veterinary organizations and will be installed as the national president of Phi Zeta this month at the group's annual meeting in New Orleans.

Allyn Dietzel Interns with Hales and Hunter

A fourth-year student in the School of Veterinary Medicine will intern with Hales and Hunter Co., an animal production organization, for the next four months and use specimens of the poultry he inspects for laboratory work which will potentially lead to his Master of Science degree.

Allyn Dietzel, a senior veterinary student from Jamestown, will work with the regional headquarters of Hales and Hunter Co., a division of Cargill Inc., Marshall, Mo., as an animal health advisor and travel to animal production units in a 100-mile radius of Columbia. Dietzel will observe feeding systems and animal care and study sample specimens at the Veterinary School Diagnostic Laboratory.

Dietzel's lab work is under the supervision of Dr. E. L. McCune, associate professor of veterinary microbiology and

in the diagnostic laboratory. The student's study will be part of his avian medicine training program at the Veterinary School. The program emphasizes poultry health management and research experience. A thesis on research problems from clinical material is anticipated. Dietzel's specific research interest is colibacillosis, an infection with *Escherichia coli*, an intestinal bacteria of man and other animals.

The student's four-month internship is during two optional blocks of his course work at the Veterinary School. Third and fourth year veterinary students at the School enroll in a block system which requires that they complete eight, two-month courses in a period of 24 months. This provides eight months or four blocks of optional time. During these optional periods, students intern in areas of veterinary medicine.

Dr. Sprouse Receives Histoplasmosis Grant

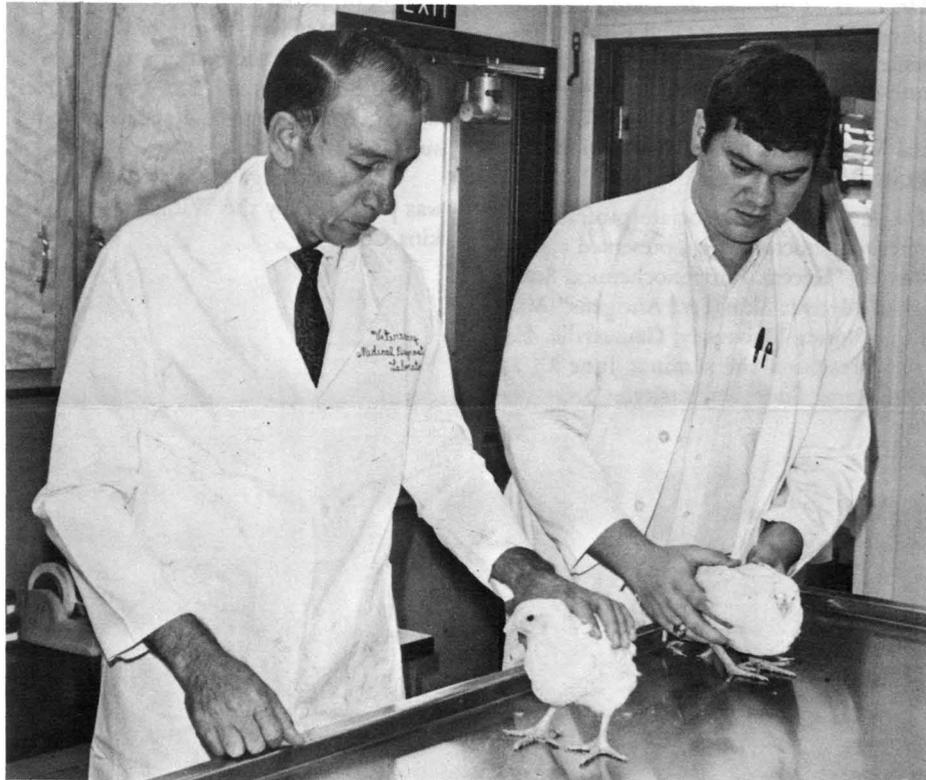
Dr. Ronald F. Sprouse, associate professor of veterinary and medical microbiology, is the recipient and principal investigator of the \$122,890 grant awarded by the U.S. Public Health Service for the possible synthetic production of a new skin-test antigen for histoplasmosis.

Histoplasmosis, which resembles tuberculosis, is produced by a fungus which grows in the soil of the Mississippi, Missouri and Ohio river valleys. A high percentage of individuals and animals inhabiting these areas come in contact with the microorganism. However, only a very small percentage develop serious disease.

Unlike tuberculosis, the disease is non-contagious and requires considerably different therapy. Currently a skin test, similar to that for tuberculosis, assists the physician in determining the disease. However, the skin-test antigen, crude histoplasmin, is not 100 per cent reliable. The objective of the present grant is to develop a synthetic skin-test antigen specific for detection of histoplasmosis.

Trained in microbiology and biochemistry, Dr. Sprouse has conducted research on mycotic chest diseases since 1963, while associated with Dr. Howard W. Larsh, University of Oklahoma, and the late Dr. Carroll E. Palmer, head of the tuberculosis research section of the U. S. Public Health Service. He has published extensively on various facets of skin-test antigens and delayed hypersensitivity.

Dr. Sprouse received his appointment to the University of Missouri in 1968. He has been senior research scientist and chief of the immunology unit, National Communicable Disease Center, U.S. Public Health Service, Kansas City. Dr. Sprouse is a member of the Sigma Xi chapter-at-large and was awarded the 1967 Sigma Xi cash research award for innovative procedures in purification and standardization of crude skin-test antigens and has been a member of the antigen standardization committee for the American Thoracic Society and the physiologic review board for the National Science Foundation.



Dr. E. L. McCune (left) prepares to examine two specimens with fourth-year student Allyn Dietzel at the Diagnostic Laboratory. The chickens are samples from animals which Dietzel inspects at various production units during his internship with Hales and Hunter Co., Marshall.

— About the Faculty —

Dr. R. E. Hoffer, associate professor of veterinary medicine and surgery, presented an exhibit on "Small Animal Surgery in 3-D" at the American Animal Hospital Association meeting in April in Las Vegas, Nev. He also presented a paper on "Use of Diverting Colostomy in Small Animals" to the Gastroenterology Society there.

Dr. J. D. Rhoades, associate professor of veterinary medicine and surgery, spoke on various small animal medicine topics at the Southeast Missouri Veterinary Medical Association meeting Apr. 19 in Desoto, Mo.

Dr. C. E. Short, associate professor of veterinary medicine and surgery, and *Dr. R. R. Paddleford*, resident in veterinary medicine and surgery, presented a workshop on "Inhalation Anesthesia" for local practitioners Apr. 23 in Wichita, Kan. Dr. Short also presented an anesthesiology workshop to local practicing veterinarians May 14 in Houston, Tex. He also gave programs on "Large Animal Anesthesia and Respiratory Function" and "Equine Anesthesia and Management of Complications" to a conference of veterinarians May 19-21 at the University of Georgia.

Dr. J. N. Berg, instructor in veterinary microbiology, presented a paper on "Quantitation of *Fusobacterium necrophorum* and Other Bacteria in Bovine Liver Abscesses" at the American Society for Microbiology meeting Apr. 23-28 in Philadelphia, Pa. The paper was coauthored by Dr. R. W. Loan and Dr. B. D. Rosenquist.

Dr. E. C. Mather, assistant professor of veterinary medicine and surgery, gave a paper on "Clinical Application of Uterovarian Physiology" at the School of Veterinary Medicine Apr. 25 in Athens, Ga.

Dr. H. E. Jensen, associate professor of veterinary medicine and surgery, presented a paper on "Comparative Ophthalmology and Pathology in Domestic Animals" at a meeting of the Association for Research in Ophthalmology, Inc., Apr. 25 in Sarasota, Fla.

Dr. W. R. Threlfall, resident in veterinary medicine and surgery, presented a seminar in "Radioimmunoassays" Apr. 26 in College Station, Tex.

Dr. E. R. Ames, associate professor of veterinary microbiology, presented a paper, "Toward Learning Mastery - A Way to Begin," at the 14th annual meeting of the Health Sciences Communication Association May 8-10 in Toronto, Canada.

Dr. L. G. Tritschler, assistant professor of veterinary medicine and surgery, presented a talk on "The Present and Future of Venezuelan Equine Encephalomyelitis in Missouri" to the West Central Veterinary Medical Association May 13 in Boonville.

Dr. R. F. Sprouse, associate professor of veterinary microbiology, presented a seminar on "Recent Antigenochemical Studies of Mycotic Skin Test Antigens" May 19 at Florida University, Gainesville. He also presented the seminar June 13 at Oklahoma State University.

Dr. A. A. Case, professor of veterinary medicine and surgery, participated in workshops and seminars on toxicological problems June 5-8 at the Nebraska Veterinary Medical Association meeting in Ogallalah, Neb.

Dr. M. E. Tumbleson, associate professor of veterinary physiology and pharmacology, presented a paper on "Protein-Calorie Undernutrition in Young Sinclair (S-1) Miniature Swine: Serum Biochemical and Hematologic Values" as part of the Veterinary Biomedical Profiling Symposium at the Technicon International Congress June 11-14 in New York, N.Y.

Dr. McClure Contributes to Book

Dr. R. C. McClure, professor of veterinary anatomy is the veterinary medical editor of the recently released 22nd edition of *Stedman's Medical Dictionary*.

Dr. McClure is one of 33 editors who worked on the edition, with 24,877 revised definitions and 7,199 new entries which cover 44 medical specialties and sub-specialties.

The 1,620 page illustrated dictionary was published by the Williams and Wilkins Co.

School of Veterinary Medicine

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