



VETERINARY MEDICAL REVIEW

School of Veterinary Medicine
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Three Appointed To School's Staff

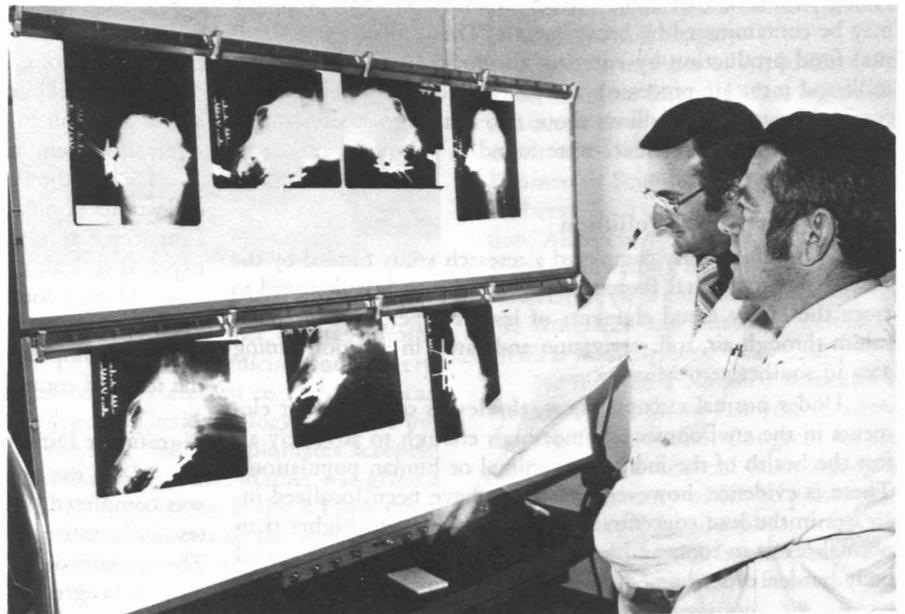
Three appointments to the School of Veterinary Medicine have been announced. Dr. Robert Wilson has been named professor of veterinary pathology. He has been an associate professor at the Massachusetts Institute of Technology since 1969. Before that time he was also an assistant scientist at the Hospital for Sick Children, Toronto, and at Brigham Young University as an assistant professor. He received a B.S. degree from Utah State University, a D.V.M. from Washington State University and a Ph.D. from the University of Toronto. He interned at Angell Memorial Animal Hospital in Boston.

He is a member of the AVMA, American Diabetes Association, American Institute of Nutrition, New York Academy of Sciences, American Society of Veterinary Physiologists and Pharmacologists, Alpha Zeta, Alpha Tau Alpha and Phi Zeta.



Dr. Wilson

(Con't on page 3)



Dr. Lewis Corwin, assistant professor of medicine and surgery, consults with Dr. Mears on a case in the radiology portion of the Medical Service Block.

Practitioner Completes Three Instructional Blocks

Dr. William A. Mears is the second practitioner to enroll in a mid-career education program at the School of Veterinary Medicine. He selected the small animal medicine, small animal surgery and medical services (anesthesiology and radiology) blocks of the segmented curriculum.

Dr. Mears is a graduate of Ontario Veterinary College, Guelph, Ontario, Canada, and was in large animal practice in Worthington, Minn., four years and at Slayton, Minn., 16 years. Due to

a truck accident about a year ago, he was unable to continue in large animal practice and felt he needed to update his knowledge before going into a small animal practice, according to Dr. William F. McCulloch, director of Continuing Education in Veterinary Medicine.

Dr. Mears felt his experience at the School was outstanding and appreciated the excellent cooperation from both faculty and students.

He is now associated with a small animal group practice at Paradise Pet Hospital in Las Vegas, Nev.

Environmental Study Traces Heavy Metals In Food Chain

There is much concern in the world today about how the environment man has created for himself in the 20th Century will ultimately affect his health and well being. Some of the ways in which air and water pollution directly affect man's quality of life are well known. Pollution sources, however, also affect man in a more indirect way, by the effects pollutants have upon the plants and animals he raises for food.

Dr. C. R. Dorn, associate professor of community health and medical practice and associate professor of veterinary microbiology, explains that under certain circumstances food supplies may be contaminated by heavy metals. These metals affect animal food production by entering the food chain long before milk and meat are processed. An example of this phenomenon received newspaper headlines about two years ago when dangerously high levels of mercury were found in fish being processed for human consumption.

Study Traces Metal Pollution

Dr. Dorn recently completed a research study funded by the federal Environmental Protection Agency which was designed to trace the heavy metal elements of lead, copper, zinc and cadmium through air, soil, vegetation and cattle in a major mining area in southeastern Missouri.

Under normal circumstances, the levels of these four elements in the environment are not high enough to adversely affect the health of the indigenous animal or human populations. There is evidence, however, that there have been localized increases in the lead concentration of soil, leading to higher than normal levels in roots and foliage, and resulting in an increased body burden of lead among certain population groups.

Food Chain Affected

Lead ore mining and lead production result in the addition of lead, zinc, copper and cadmium to the levels naturally present in the soil, the extent of the contamination depending upon the amounts contributed by various sources. In turn, the level of contamination will affect the quantities of these elements in the food chains. Since some of these food chains involve human foods, environmental contaminants may be transported long distances in these food products, exposing remote human populations to contaminants originating in a mining area.

In his study, Dr. Dorn, assisted by Dr. James O. Pierce, associate professor of bioengineering and community health and medical practice and director of the Environmental Trace Substances Center, and Dr. Gerald R. Chase, associate professor of statistics and community health and medical practice, undertook the estimation of the contaminants present in the soil of a lead mining area, its effect on vegetation and grazing animals, and the levels of contamination of meat and milk produced by cattle grazing on contaminated pastures.

Study Conducted in Southeastern Missouri

The study was conducted with the cooperation of livestock owners and the lead industry in Iron and Reynolds Counties in southeastern Missouri with the aim of providing quantitative information on the impact of lead contamination in the area and guidance in eliminating problems that currently exist. The Iron-Reynolds County area has become in the last decade the world's largest lead producing district, producing over 74 percent of the entire U. S. lead production.

In his report to the EPA, Dr. Dorn notes the multiple sources of lead contamination in the study area, including processing emissions, lead ore concentrate spillage from trucks, and dust from stockpiled ore. Dr. Dorn points out that these sources are in addition to the normal background sources of lead contamination from automobile emissions and other sources.

During the test period, Dr. Dorn and his co-workers made collections of dustfall, soil and vegetation root and top samples four times at varying distances from the road on a test farm exposed to lead production sources of heavy metal contamination and on a control farm outside the lead production area. At the end of the test period, hair, blood, milk, liver, kidney, muscle and bone samples were collected for analysis from cows on both the test and control farms.

Significant Differences Found

When the final tabulation of the study's tests and analyses was completed, significant differences were found between the test and control farm samples in all types of samples compared. The amount of lead found in vegetation tops, for instance, was 50 times as great in the test farm samples as in those of the control farm, while the soil at the test farm was found to have about five times the lead concentration of the control farm.

In the animal samples, the figures were also significant, with 15 times as much lead being found in the liver and kidneys of a cow on the test farm, as compared with a cow on the control farm. In addition, the test farm animal sample analysis showed blood and milk lead levels approximately four times that of the control cow's levels. These results clearly indicate that the consumption of meat and milk from cattle exposed to production sources of lead would result in a higher lead intake than from nonexposed cattle.

Dr. Dorn points out, however, that all natural foods contain some lead and our total intake depends on other dietary components, in addition to the amount of lead in the air we breathe. But because the buildup of lead and other heavy metals in the soil is increasing in the study area and many other areas in the U.S., he adds, it is becoming increasingly important to try to control contamination sources and to continue existing monitoring programs to ensure a safe food supply for the consumer.

Dr. Nicoletti, '56 Speaks to Students

Dr. Paul Nicoletti was a recent guest speaker at the student chapter of the American Veterinary Medical Association. He spoke to the group on his experiences in Iran the past four years working with the Food and Agriculture Organization of the United Nations on public health and animal health disease problems. His topic, "Veterinary Medicine and the American Family in Iran," included the cultural, social and economic problems which affect the health problems of the country. He also spoke to the public health block and to the pathology seminar at noon. He consulted with students interested in the international aspects of veterinary medicine as well.

He is presently a regional epidemiologist with the U.S. Department of Agriculture in Jackson, Miss. He was a 1956 graduate of the UMC School of Veterinary Medicine and also received an M.S. in epizootiology from the University of Wisconsin.

New Faculty Con't



Dr. John Edward Harkness has been appointed research associate in veterinary pathology. Since 1968 he has been an assistant professor of veterinary physiology with the USAID project in Nigeria sponsored by Kansas State University.

Dr. Mather Elected Diplomate In College of Theriogenology



Dr. Edward Mather, assistant professor of veterinary medicine and surgery, was recently elected to the American College of Theriogenology as one of five in the first class of diplomates accepted into the College. Dr. Mather was given a written examination at the AVMA meeting last summer and the oral exam in November at a meeting held in conjunction with the annual meeting of the Society for the Study of Breeding Soundness.

The newly organized College was recognized by the AVMA last year and accepted 28 charter members. Dr. C.J. Bierschwal, professor of medicine and surgery, and Dr. C.E. Martin, associate professor of medicine and surgery, are two of the charter diplomates.

He received a B.S. from Rollins College (Fla.), a D.V.M. from Michigan State and a teaching certificate from Wayne State University. He also was a chemistry teacher in the Detroit secondary schools before receiving his D.V.M.

Wayne L. Miller is a research assistant in veterinary physiology and pharmacology. He recently completed an M.S. in veterinary physiology at UMC. He also holds a B.A. from Slippery Rock State College (Penn.).

Dr. Mather received a D.V.M. from Iowa State University, and an M.S. and Ph.D. from the University of Missouri. He was in private practice in Fennimore, Wis., before coming to the School of Veterinary Medicine in 1966 as an instructor. He is director of the Veterinary Reproduction Laboratory and serves on the Clinic Council as director of graduate studies and research for the Department of Medicine and Surgery.

He is a member of Alpha Zeta, Phi Zeta, Gamma Sigma Delta, Sigma Xi, American Association for the Advancement of Science, American Men and Women of Science, Who's Who in the Midwest, Society for Study of Reproduction, American Veterinary Society for the Study of Breeding Soundness, American Association of Veterinary Clinicians and the American and Missouri Veterinary Medical Associations.

He received a National Institutes of Health Travel Grant last year to attend the 7th International Congress on Reproduction and Artificial Insemination in Munich, Germany where he presented a paper on reproductive physiology. He also attended the 6th International Congress in 1968 on a grant from the National Science Foundation.

The College of Theriogenology was organized for the advancement of undergraduate, graduate and continuing education, research and service in theriogenology by: The establishment of a certifying agency to recognize veterinarians as specialists in theriogenology; the encouragement of scientific investigations and the reporting of these; the development of methods and programs in continuing education for veterinarians, especially practitioners; the development of graduate study and residency programs; and the establishment of high standards and guidelines for professional attainment and specialization. The College has a dedicated commitment to increase the competence in theriogenology among veterinary practitioners and educators and shall develop procedures for evaluating, recognizing and certifying special competence among practitioners.

Faculty Notes

Dr. E. L. McCune, associate professor of veterinary microbiology and the Veterinary Diagnostic Laboratory, presented a talk on *E. coli* at the 20th Annual Turkey Day which was held in Columbia on January 31. *Dr. LeRoy Olson*, associate professor of veterinary pathology, also gave a report on Cholera.

Dr. Gerald Buening, associate professor of veterinary microbiology, presented a paper at the 6th National Anaplasmosis Conference, March 18 to 21. The conference was sponsored by Research Workers in Anaplasmosis.

Dr. B. D. Rosenquist, associate professor of veterinary microbiology, was in East Lansing, Mich., from March 5 through March 8 at a symposium sponsored by the AVMA. He presented a paper on "Immunity to Selected Infectious Diseases of Cattle."

Dr. L. G. Morehouse, professor of veterinary pathology and director of the Diagnostic Lab., was in Phoenix March 7-9 at the Swine Health Seminar. The seminar was sponsored by the Arizona VMA, Arizona Pork Producers and Cooperative Extension Service, University of Arizona. Dr. Morehouse presented discussion of eight infectious diseases of young swine.

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