

Over the past few years many animal diseases and parasites, once relatively confined to small areas, have penetrated the local defensive barriers of other countries. South African types of foot and mouth disease virus (SAT-FMD), African horse sickness and African swine fever have spread from endemic areas with disastrous results among the domestic animal populations. SAT-FMD was first reported outside of Africa in 1962—spreading to the Middle and Near East and subsequently into Iraq, Israel, Jordan and Syria, Turkey and Iran. Asian Type I FMD was reported in Israel and West Pakistan in 1964. It has since been reported in Russia with serious loss of livestock and now threatens the farm animals of Eastern Europe. The seriousness of this outbreak is emphasized by the lack of an effective protective vaccine for control purposes. African horse sickness spread to the Near and Middle East, subsequently to India, with the result that there has been a devastating reduction in animal transport and power in those countries depending solely on the equine species for such services. African swine fever spread into Portugal, Spain, and France, killing millions of swine. All of these could be brought to the United States to challenge all of our defenses against importation of disease.

Lumpy skin disease of cattle, Rift Valley fever (an important viral disease of sheep, cattle and man) and East Coast fever (a highly fatal protozoan disease of cattle) are being reported in areas far beyond those of their origin.

Great Britain has just experienced the most severe outbreak of foot-and-mouth disease in its history. According to the Animal Health Division of U.S.D.A., over 2,300 herds (415,800 animals) died or were slaughtered from the beginning of the outbreak to February 1968 in a campaign to eradicate this devastating disease.

Diseases and pests continue to travel with man, animals and plants. In our modern world, international commerce in livestock and food products is ever increasing, providing many new opportunities for rapid spread of disease. International trade and travel continue to increase between areas that were formerly remote and not readily accessible. Man can and does, innocently or illicitly, carry with him items of food and plants that are hosts to disease organisms. There has been a steady and rapid increase of this kind of traffic to the United States.

Through inspection of imported animals, poultry, and all animal by-products, veterinarians prevent entry of foreign diseases into the United States. Of the 981,000 animals and 2,950,829 birds presented for import during 1967, 43,961 animals and 9,365 birds were refused entry because they were carrying diseases contagious to man and animals. During the same fiscal year, veterinarians inspected and certified over 69,000 animals for export to foreign countries. Additionally, more than 15.6 million pounds of meat and meat food products from foreign countries were condemned or refused entry in 1967 (figures supplied by U.S.D.A., Animal Health Division).

8. RADIOLOGICAL HEALTH

Nuclear energy and its byproducts affect the biosphere in such a manner that their study necessitates a multidisciplinary approach. Because environmental medicine is the major theme of veterinary education, and because the impact of the environment is studied for many species of mammals and birds, veterinary medicine is an important discipline in radiological health.

The Public Health Service has recognized the important contributions veterinary medicine can make to its various program activities, particularly in the area of biomedical research. The Service's Division of Radiological Health employs fourteen veterinarians. In most instances, these veterinarians have had specialized post-graduate training in radiobiology, radiological health, or associated specialties such as biophysics, radiation pathology, biochemistry, and similar fields.

Further recognition of the importance of veterinary medicine is reflected in the radiological health training grant program sponsored by the Radiological Health Division; one of the most successful of these programs has been conducted since 1961 by the graduate school of the Veterinary Medical College of Colorado State University. The research projects include studies of the developmental and aging effects of radiation exposure on large colonies of animals.

The Atomic Energy Commission also utilizes veterinarians in planning and conducting research. Objects of their studies include the effects of radioactive