VETERINARY MEDICINE

Fight Animal Diseases

More meat, milk and other food are among the benefits expected from the FAO fight on rinderpest and other animal plagues.

➤ FIVE and a half million tons more milk per year for Europe, fewer famines in China, and large quantities of fresh meat from Ethiopia to feed undersupplied populations. These are among the benefits expected for a hungry world from the fight on rinderpest and other animal plagues now being waged by the Food and Agriculture Organization of the United Nations.

The story of this fight from its hush-hush beginning on a remote Canadian island during the war was told by Dr. K. V. L. Kesteven, Australian doctor of veterinary medicine, now adviser on animal diseases to the FAO. Dr. Kesteven spoke as guest of Watson Davis, director of Science Service, on Adventures in Science radio program under the auspices of Science Service over the Columbia Broadcasting System.

Rinderpest, fortunately unknown in North and South America, kills according to conservative estimates 3,000,000 animals per year in other parts of the world, Dr. Kesteven declared.

Foot and mouth disease, now being fought in Mexico, is considered only a minor disease in countries that have rinderpest, Dr. Kesteven explained. This is because rinderpest kills off such a very large proportion of the animals, sometimes as much as 90%, in an area when an outbreak does occur.

This is one of the things that brings famine to China and other parts of the Far East. When the animals are killed, all cultivation of crops must be done by hand, and hand cultivation cannot produce enough food to keep the populations alive.

During the war, Dr. Kesteven related, it was feared that rinderpest might be used as a biological warfare weapon. For this reason Canada and the United States set up a research laboratory on Grosse Ile in the St. Lawrence River. As a result of the research work done by this team, a new type of vaccine was produced by growing the rinderpest virus in eggs. Rinderpest is such a contagious disease, however, and travels so very fast, that the risk of keeping virus in even an isolated place like Grosse Ile was too great, so at the end of the war this work finished.

It was realized by FAO that this was a possible vaccine for use in the rinderpest countries of the world. A team of scientists was employed in China, first of all with UNRRA and later on by FAO, to assist the Chinese technicians in the production of this vaccine. At the same time FAO helped develop another vaccine which was prepared by growing the virus in rabbits. Tremendous steps were taken in the practical production and use of these vaccines by this team of workers, in cooperation with the Chinese officials.

At the present time all the countries have the necessary strains for the production of a cheap and efficient vaccine, one which gives lifetime immunity and is easy to administer, so that it is possible for any country with enough technicians and the necessary laboratory equipment to carry out an eradication program and be rid of rinderpest.

Ethiopia, in the center of Africa, is another major danger spot for this cattle disease. While it continues to be infected, the disease cannot be wiped out of bordering countries and there is always a possibility of its being spread over wide areas. At the present time there are actually too many cattle in Ethiopia, but other countries dare not import Ethiopian meat because of the danger of importing the rinderpest virus along with the meat. FAO experts are at work there now carrying on a vaccination program, but funds for this will be used up by the end of 1949 and the country has no trained technicians of its own to continue the work.

Millions of tons more milk for Europe are expected from new techniques, using penicillin, to control mastitis. Mastitis is a streptococcus infection, often chronic, of the udders of cattle. It reduces immediate production and limits the life of the cow in the herd. Where milk is not pasteurized, control of mastitis would result in a very appreciable reduction in the incidence of certain human infections, such as some types of "strep sore throat."

Recent developments in the control of mastitis are such that it now appears this disease can be reduced to a very low figure. Using new techniques, the cost of this is extremely small when compared with the returns. For instance, the expenditure of a small amount of money in Europe on the production of penicillin in a suitable form, education of the farmers, and the teaching of new techniques to laboratory workers, would increase milk production in Europe by more than 5,000,000 metric tons per year. This would be done without the cost of any additional feedstuff, so short in Europe today.

Science News Letter, February 19, 1949

The frequent *high winds* of the Great Plains area did little damage when it was only an Indian hunting ground, merely waving the tall grasses on which the buffalo fed; today, they do much damage because of plowing and overgrazing.