would be wrong. Rabies is widespread in Western Germany where, in 1963, 726 cases among domestic animals and 2,660 among wild animals were diagnosed positively. In the same year, the incidence of rabies near Rome increased. In 1964 it spread across the Danish-German border, and it is now at the Dutch border. The perennial appeal by dog fanciers that dogs vaccinated against rabies should be allowed entry into Britain is best answered by the recommendation of the WHO Expert Committee which reported in 1966 that "countries now free of rabies should continue either to prohibit the importation of dogs and cats or to subject them to a prolonged period of quarantine, preferably four or more months, at the port of entry. If the quarantine period is only four months, leashing and surveillance for an additional two months are recommended". Once the disease reaches wild animals, particularly foxes and weasels, it is extremely difficult, costly and dangerous to eradicate.

Mycoplasmas in Plants?

from our own Correspondent

VIROLOGIST delegates to the first International Congress of Plant Pathology which ended last week were excited to learn that a new type of organism, resembling the mycoplasmas found in animals, has been found in plants. Professor H. Asuyama of the University of Tokyo described how he found small bodies of variable shape, between 80 and 1,000 m μ in diameter, in the sieve tubes and phloem parenchyma of plants infected with various diseases including aster yellows, mulberry dwarf and rice yellow dwarf. These are all similar diseases with symptoms always involving some disturbance of the leaves or petals, and they are all transmitted by leaf hoppers. The causative agents have been thought to be viruses, although nobody has been able to transmit the diseases from one plant to another in infected sap, or to see clearly typical virus particles in the infected tissues. The organisms which Professor Asuyama has found show staining reactions for both DNA and RNA, whereas plant viruses have so far been found to possess only RNA.

The newly discovered bodies are also differentiated from bacteria by the two layered limiting membranes which they have instead of cell walls, and which give them their variable shape. In gross morphology and fine structure these bodies are most similar to the mycoplasmas that cause diseases such as pleuropneumonia, which is sometimes fatal in domestic animals.

In animals, mycoplasmas are susceptible to tetracyclines, and one of the outstanding features of Professor Asuyama's work is that he has apparently cured infected plants by treating them with these antibiotics. With treatment the symptoms of mulberry dwarf and rice yellow dwarf have disappeared, so that the resulting plants have upper leaves which are healthy, while the lower leaves which have not received tetracyclines are deformed and weak. It will not be certain that these symptoms are caused by the mycoplasma-like organisms until these bodies have been cultured and used to infect healthy plants. After this there should be some very interesting prospects for the control of certain plant diseases.

Cells for Vaccines

from a Correspondent

A ROUND table conference on human diploid cell lines, convened at the Fondation Merieux, Lyons, France, on April 25-26, 1968, covered various practical aspects of the use of diploid cell lines, and culminated in the adoption of criteria for the acceptability of diploid cell populations as substrates for virus vaccine production.

Opening the conference, Dr D. Merchant reviewed the current status of cell cultures available for vaccine production and discussed the problems of standardization, reproducibility and contamination inherent in use of primary cultures. The concept of a standardized cell seed stock as proposed by Ikic and others was recognized as a major objective, but the WI 38 human diploid cell line is the only line which currently meets the required standards.

Dr Moorhead, discussing the karyology of diploid cell lines, noted that the stability of the karyotype is characteristic of human fibroblasts and that the karyotype of the rabbit seems to have even greater inherent stability. According to Dr V. Defendi, all known methods have so far failed to demonstrate that human diploid cell lines can produce tumour growth. The dangers of tumour production in recipients of vaccines would arise from the presence of oncogenic agents rather than from tumorigenicity of the cells used for virus production. Dr A. Boue felt that latent viruses may be a problem in diploid cell lines of animal origin but that they are unlikely to be a problem with lines of human origin. Using more than 400 specimens obtained from abortions and grown in culture, he has not been able to isolate a latent virus except in one case, a spontaneous abortion in a mother who had had rubella two weeks earlier.

Contaminating mycoplasmas can be detected in cell culture and they can often be eliminated by treatment with 'Tylosin'. But, as Dr L. Hayflick pointed out, certified stocks of WI 38 and other cell lines free of mycoplasmas are available through the American Type Culture Collection (ATCC), Rockville, Maryland, and, except in rare instances, he believes it would be better to throw out stocks which are contaminated and start with fresh material. The supply logistics of human diploid cells were discussed by Dr Hayflick. WI 38 can be split 1 : 4 once a week and at the current rate of use the supply will last for at least 10-15 years.

Dr S. Dzagurov reported that extensive tests have failed to reveal the presence of any known viruses in WI 38 cells. No evidence of oncogenicity was noted during a period of two years after the use of measles vaccine prepared in these cells. Dr F. Perkins and Dr O. G. Andzapidze felt, however, that study of those vaccinated will give little useful information concerning the safety of vaccines because of the probable long latent periods involved.

Dr D. Ikic reported that there is no evidence of an increase in virulence of a vaccine strain as a result of passage through WI 38. In fact, measles virus was attenuated by such passage. In response to a question about the changes in antigenicity of viruses as a result of passage, Dr H. Koprowski stated that antigenicity of rabies virus was increased by passage in WI 38. The general feeling of the meeting was that line WI 38 should be used for vaccine production because it is the only