Foot-and-Mouth Disease: Britain Strives to Curb Epidemic

London. Spreading like a plague, foot-and-mouth disease caused a quarter of a million animals to be killed in England and Wales in the 5 weeks after the first outbreak was reported in Cheshire, late in October. The epidemic is the worst recorded since serious national efforts to control the disease were first made, in 1870.

The seriousness of the present outbreak has caused the government to negotiate a voluntary ban on imports of meat from countries where the disease is endemic, in order to shut off a possible source of new infection. Such a ban has serious economic and diplomatic implications for Britain. An even more difficult decision faces the government: the choice between (i) adhering to its policy of slaughtering infected animals and those in contact with them and (ii) adopting a policy of vaccinating against the disease.

Foot-and-mouth is a highly infectious virus disease which affects cloven-footed animals—cattle, pigs, sheep, and goats, among domestic animals. Cloven-footed wild animals are also susceptible, and so are hedgehogs and very young rats. Besides being transmitted by diseased animals or carriers, the virus can be carried in meat or milk products, or by birds or other animals, on vehicles, or on the clothing or shoes of humans. It is also believed that the virus may spread by being airborne over fairly short distances.

The disease is seldom fatal. The most familiar symptoms are lesions of the tongue—particularly in cattle—and of the feet, and high fever. Some strains of the virus can be fatal to young animals, but mature animals usually survive. In the case of cattle, however, meat production and milk yield are seriously impaired, and some animals suffer damage to vital organs.

Britain has sought to keep the country free of the disease by a strict policy of slaughter when outbreaks have occurred. The United States and Canada have successfully followed the same policy, and so have Ireland, Australia, and New Zealand. The disease-free countries, however, are in a minority, and other countries—such as those on the continent of Europe, and Argentina, which is a major exporter of meat to Britain—follow a vaccination policy. This means that foot-and-mouth disease is endemic in the vaccinating countries.

As losses have mounted in Britain (farmers are reimbursed by the government for slaughtered animals at market value), a debate over the wisdom of maintaining a slaughter policy has mounted. At the end of November the Minister of Agriculture, Fred Peart, announced that the government was acquiring stocks of the vaccine sufficient for 5 million doses, but that vaccine would be used only as a last resort if the control program broke down completely.

Supporters of the slaughter policy criticize vaccination on the grounds of both cost and effectiveness. Annual vaccination is required and, with a population of susceptible domestic animals of about 45 million, a vaccination program would be extremely costly. Objections to present vaccines are that they do not protect young animals, do not make pigs immune, and do not give any stock complete protection.

On economic grounds it is argued that adoption of a vaccination policy, which would mean that foot-and-mouth disease would become endemic in Brit-

Draft Proposal Favors Science Fields

Draft deferments for graduate students in natural science, mathematics, engineering, and health have been recommended by a federal interagency advisory committee, according to press reports. If the recommendations are accepted by the National Security Council, about half of some 144,000 first-year graduate students, it is estimated, will continue to be deferred after blanket graduate school deferments expire next year. The advisory proposal is also said to contain vague wording that would permit local draft boards to defer graduate students outside scientific and technical fields should the board decide that teachers in these other fields are vitally needed in its own area. If put into effect, the recommendations would take some of the sting out of provisions of the new draft law, passed last summer, that provided for the eventual elimination of most graduate school deferments (*Science*, 21 July and 10 November).

The recommendations were prepared for the National Security Council by the Interagency Advisory Committee on Critical Occupations and Essential Activities, composed of representatives from Selective Service and the departments of Labor, Commerce, Agriculture, Defense, Interior, and Health, Education and Welfare. The committee's report was leaked to the press and has not been made public, but sources who helped prepare it acknowledge that the published summaries are accurate. The National Security Council, which has the power, under the new draft law, to defer graduate students in any fields deemed vital to the national interest, is expected to make a final decision by the end of the year or shortly thereafter. The council is headed by President Johnson and includes the Vice President, Secretary of State, Secretary of Defense, and Director of the Office of Emergency Planning.

The recommendations, which would defer graduate students in the sciences while ignoring those in the social sciences, humanities, and such professional schools as business and law, are sure to provoke controversy. Senator Edward M. Kennedy (D–Mass.), a leading advocate of draft reform, has attacked the proposals and demanded that all graduate students "be exposed equally to the draft."—P.M.B.