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Foot-and-Mouth Disease: What Every Consumer Should Know[1]

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Introduction

Have you ever wondered what it would be like to go into your favorite restaurant, sit down, and look through the menu for your usual filet mignon or pork chops, only to find that they no longer serve beef or pork and that chicken is the only option. This scenario could be possible if the American livestock population were to be infected by Foot-and-Mouth Disease (FMD). This article will explain what FMD is, how it is transmitted, and describe the major areas affected by this virus.

FMD: One Resilient virus

Foot-and-Mouth Disease, more commonly referred to as FMD, is a highly contagious viral disease of cloven-hoofed animals. It has had devastating effects on livestock in many European countries. Foot-and-Mouth Disease is a constant threat worldwide, and could potentially cause enough damage to livestock populations to wipe out entire cattle herds, swine farms, and other cloven-hoofed animals used as food sources. According to the Florida Cattlemen's Association (2001), the disease is common in about two-thirds of the world. The only continents that do not have FMD are Australia, Antarctica, and North America. The United States Department of Agriculture (2001) states that FMD is spread through the movement of infected animals, vehicles, hay and feedstuffs, contaminated equipment, and infected water sources. Although FMD does not have any effect on human health, humans do serve as vectors for the spread of the virus. The virus can live for about four days on clothes, shoes, animals, and wind drift, with an incubation period of three to eight days. FMD produces blisters in and around the hooves, mouths, and teats of infected animals. Because there is no known cure, infected animals must be destroyed and their carcasses burned or buried to stop transmission of the virus.

Transmission of FMD

Foot-and-Mouth Disease is most commonly transmitted through direct contact with infected animals, especially through respiration. According to the Florida Department of Agriculture (2001), once an animal has been exposed to the virus, it becomes a virus "factory" capable of spreading high numbers of virus particles to other animals and into the

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surrounding environment. The virus is transmitted not only by infected animals, but also by people who have been exposed to the virus. To prevent this from occurring, all clothing should be destroyed or disinfected and strict sanitation and disposal practices should be required in areas where FMD is prevalent. Measures to prevent the spread of this disease into the United States are necessary.

Because there are seven known strains of the FMD virus, it has been difficult to create a vaccine against the virus. According to Kitching (1998) “a vaccinated animal that has contact with the live FMD virus can become a carrier, therefore creating the problem that animals with the FMD virus continue to be excluded from the international trade. Because the animal is potentially a carrier, there is a reluctance to use a vaccine to control FMD in non-vaccinating countries due to the danger of creating carriers.” Kitching (1998) also observed, “that not all ruminants, either vaccinated or unvaccinated, which come in contact with the FMD virus become carriers. Those that become carriers eventually eliminate the virus, but it is not understood how. . . . The majority of ruminants, even the ones from FMD endemic areas, are unlikely to be carrying the live virus; but for international trade purposes, all FMD antibody-positive animals are considered to be potentially infected.” Considering these complicating factors, it is easy to understand why developing a vaccination for the FMD virus is such a problem.

Areas Plagued by FMD

Currently, FMD occurs most commonly in Asia, Africa, the Middle East, and South America. According to Encarta on-line (2001), there was a recent outbreak of FMD in the United Kingdom in February 2001. This outbreak involved over 9,000 farms, resulting in the destruction of over one million animals within a month. Through strict sanitation regulations and disposal practices, the British outbreak was under control by May. All objects that could have been exposed to the virus had to be disinfected before leaving or entering contaminated areas. The United Kingdom hopes that this plan will eradicate FMD from its livestock populations. According to the United States Department of Agriculture (2001), one of the preventative measures that the United States implements is a national emergency response plan to handle any possible outbreaks of the disease on U.S. soil. North Carolina's State Emergency Management Department, for example, is planning a foot-and-mouth response drill for October 2001 to test their emergency response plan.

Conclusion

The FMD virus will not go away unless stricter disposal and vaccination policies are implemented. In order for the United States to maintain its position as a “virus free” country, it must continue implementing policies to protect American consumers and U.S. livestock populations. In addition, U.S. food consumers must recognize the importance in following FMD procedures upon re-entering the United States from other countries. American livestock must be protected from FMD “from the farm to the consumer's plate.” Prohibiting animal importation and exportation by infected countries, monitoring international travel, and continued updates of current disposal plans are necessary steps in further preventing FMD from being the plague of the twenty-first century.

Greater measures need to be taken to support vaccine development to stop the spread of the disease. Through planning and support, the European epidemic of FMD can be eradicated and stopped from infecting the present population of livestock, which plays an important role in agriculture worldwide. So next time you enter a restaurant to order filet mignon or pork chops, just remember: if not controlled, FMD could potentially eliminate your favorite meal.

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