Foot-And-Mouth Disease Encyclopedia Article

Foot-And-Mouth Disease

The following sections of this BookRags Literature Study Guide is offprint from Gale's For Students Series: Presenting Analysis, Context, and Criticism on Commonly Studied Works: Introduction, Author Biography, Plot Summary, Characters, Themes, Style, Historical Context, Critical Overview, Criticism and Critical Essays, Media Adaptations, Topics for Further Study, Compare & Contrast, What Do I Read Next?, For Further Study, and Sources.

(c)1998-2002; (c)2002 by Gale. Gale is an imprint of The Gale Group, Inc., a division of Thomson Learning, Inc. Gale and Design and Thomson Learning are trademarks used herein under license.

The following sections, if they exist, are offprint from Beacham's Encyclopedia of Popular Fiction: "Social Concerns", "Thematic Overview", "Techniques", "Literary Precedents", "Key Questions", "Related Titles", "Adaptations", "Related Web Sites". (c)1994-2005, by Walton Beacham.

The following sections, if they exist, are offprint from Beacham's Guide to Literature for Young Adults: "About the Author", "Overview", "Setting", "Literary Qualities", "Social Sensitivity", "Topics for Discussion", "Ideas for Reports and Papers". (c)1994-2005, by Walton Beacham.

All other sections in this Literature Study Guide are owned and copyrighted by BookRags, Inc.



Contents

Foot-And-Mouth Disease Encyclopedia Article.....1

Contents.....2

Foot-And-Mouth Disease.....3

Foot-And-Mouth Disease

Often called hoof-and-mouth disease, this highly contagious virus causes blisters in the mouth and on the hoofs of animals with cleft, or divided hoofs, such as sheep, cattle and hogs. The disease was first noted in Europe in 1809; the first outbreak in the United States came in 1870. Although it seldom spreads to humans, it can be transmitted through contaminated milk or the handling of infected animals.

Outbreaks are expensive for the animal owners who must kill the infected animals and bury them in quicklime. Then the animals' living quarters are disinfected, while feed and litter are burned. The farm is quarantined by state and federal officials who can decide to extend the quarantine to the general area or the whole state. Friedrich August Löffler (1852-1915), a German bacteriologist who discovered the bacillus of diphtheria in 1884, also demonstrated in 1898 that a tiny virus causes hoof-and-mouth disease. It was the first time a virus was reported to be the cause of an animal disease.

An infected animal can take up to four days to begin showing symptoms of fever, smacking of lips and drooling. Eventually, blisters appear on the mouth, tongue and inside of the lips, and the animal becomes lame just before blisters appear in the hoof area.

Löffler, working with Dr. Paul Frosch (1860-1928), a veterinary bacteriologist, extracted lymph from the blisters on the mouths and udders of diseased cattle. The lymph was diluted in sterile water and passed through filters. The researchers expected the filtrate to be an antitoxin of foot-and-mouth disease similar to the one for smallpox.

But Löffler and Frosch were wrong; when the filtrates were injected into healthy animals, they became sick. Therefore, they concluded the causative agent was not a bacterial toxin, but instead was a non-toxin producing bacterium too small to be seen under the microscope, yet small enough to pass through the filters. It wasn't until 1957 that scientists were able to get their first look at the causative agent--one of the smallest viruses to cause an animal disease. Scientists now know that this virus has several different strains and numerous sub-variants. Extremely contagious, the virus spreads easily, including via air currents, clothing, animal feeds, and human contact.