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Sommario/riassunto	Mathematical models are useful tools to understand the epidemiology and agent-host interaction of diseases. They are developed and applied since over a century, but with increasing computer capacity, they become increasingly prominent as part of evidence based decision making. Mathematical models are frequently used to construct preparedness and contingency plans for highly contagious diseases such as foot-and-mouth disease. This allows proposing effective strategies to control the spread of the disease in case of an incursion, and avails useful tools to support decision making during an outbreak. They are also used to monitor, prevent and control endemic diseases within populations or farms. In addition, mathematical models improve our understanding of the contact structure between farms, pointing out risky elements in the contact network for disease introduction or further spread within the population. This Research Topic presents valuable studies presenting different aspects and implementations of mathematical modeling for disease spread and control in the veterinary field. The areas covered include model construction, network analysis, tools for decision makers, and cost-effective control of endemic diseases.