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Agent-based mathematical model for Johne's disease epidemiology and economy

Johne's disease is one of the most economically important diseases in the dairy industry. We recently developed a discrete deterministic model for Johne's disease epidemiology. The model was used to evaluate cost-effectiveness of disease control measures based on an improved diagnostic test. In the 2012 REU program, we aim to build an agent-based model based on the existing model for better understanding of Johne's disease epidemiology and economy. Students will have a chance to visit a dairy farm to learn cattle management practice, interact with veterinarians, and learn how to build/evaluate an agent-based model with user-friendly software.

**This is an Undergraduate Poster