

Preliminary program outcomes from the Atlantic Johne's Disease Initiative

Karen MacDonald-Phillips, BSc, DVM; Greg Keefe, DVM, MSc, MBA; Shawn McKenna, DVM, PhD
Department of Health Management, Atlantic Veterinary College, Charlottetown, PE, Canada, C1A 4P3

Introduction

Johne's disease is an incurable, chronic, infectious enteritis of ruminants. It has been identified as one of the top animal health priorities for the Canadian dairy industry by the Dairy Farmers of Canada. As such, the Atlantic Johne's Disease Initiative (AJDI) was launched as a voluntary, long-term farm strategy. The overall objective of the program is to reduce the spread, prevalence, and overall impact of Johne's disease in Atlantic Canada through education, strategic testing, and management programs. This report outlines program implementation statistics, preliminary prevalence data, and primary management plan recommendations.

Materials and Methods

Full details on the AJDI implementation can be found at www.atlanticjohnes.ca. For the preliminary data in this report, herd testing was conducted with an environmental culture (EC) procedure. For each participating herd, trained technical staff collected six mixed manure samples from prescribed locations. The fresh manure samples were cultured at the Maritime Quality Milk Laboratory of the Atlantic Veterinary College using the *para*-JEM broth culture system (TREK diagnostics). After incubation, all cultures were acid-fast stained and any samples which were positive for growth as detected by the TREK sensor or visually contained acid-fast organisms were confirmed positive for MAP with a PCR assay (VetAlert™, Tetracore). All veterinarians participating in the AJDI were certified by the completion of an advanced education program designed by the AJDI. For this report, herd results were delivered to the herd manager only by the certified veterinarian. Additionally, at the time herd results were delivered, the certified veterinarian conducted a farm-specific risk assessment and developed a management plan with a maximum of three recommendations. A risk assessment workbook, designed by use of the Canadian national standards for risk assessment, was used for this process.

Results

At the initiation of the program there were 694 herds in Atlantic Canada. Within the first 10 months, 371 herds (53.5%) were enrolled in the AJDI, 280 herds had EC samples collected, and 206 herds had laboratory data completed. Of the herds with complete laboratory data, 42 (20.4%) were categorized as EC-positive. Among these 42 herds, 13, 3, 3, 6, 2, and 15 were 1, 2, 3, 4, 5, or 6 out of six EC sites positive, respectively. Risk assessments and management programs (RAMPs) have been completed for 130 herds, of which 108 (83.1%) were for EC-negative herds. For herds with completed RAMPs, the top three most commonly recommended best management practices were "animals are not purchased (the herd is closed)," "more than 90% of calves are removed from the dam within 30 minutes", and "no calves ever nurse the cow." For the EC-positive herds (n = 22), the two best management practices that were recommended most frequently were "more than 90% of calves are removed from the dam within 30 minutes" and "animals are not purchased (the herd is closed)."

Significance

Within 10 months, the AJDI program was successful at achieving participation of more than half of the dairy herds in Atlantic Canada. The herd prevalence of Johne's disease was found to be 20.4%; which was higher than previous estimates using individual animal Johne's disease diagnostic tests. Herd-specific RAMPs are the cornerstone of all successful Johne's disease control programs. This study indicates that best management practices to control Johne's disease were understood by the certified veterinarians. Practices to maximize external biosecurity for EC-negative herds and both external and internal biosecurity for EC-positive herds were recommended most frequently.