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Original Article

Implementation of an algorithm for selection of antimicrobial therapy for diarrhoeic calves: Impact on antimicrobial treatment rates, health and faecal microbiota

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Highlights

- Use of an algorithm for treatment of diarrhoeic calves resulted in a reduction of 80% in antimicrobial treatment rates.
- The reduction of antimicrobial treatment rates in diarrhoeic calves did not have a negative impact on the health of the calves.
- Changes in management practices on dairy farms can have a positive impact on the faecal microbiota of healthy calves.
- Changes in management practices in dairy farms may affect the faecal microbial diversity of healthy calves.

Abstract

This study evaluated the impact of an algorithm targeting antimicrobial therapy of diarrhoeic calves on the incidence of diarrhoea, antimicrobial treatment rates, overall mortality, mortality of diarrhoeic calves and changes in the faecal microbiota. The algorithm was designed to target antimicrobial therapy in systemically ill calves from on two dairy farms. Retrospective (farm 1: 529 calves; farm 2: 639 calves) and prospective (farm 1: 639 calves; farm 2: 842 calves) cohorts were examined for 12 months before and after implementation of the algorithm. The Mantel-Haenszel test and Kaplan-Meier survival curves were used to assess the cumulative