Survey of Management Practices in Indiana Dairy Farms Related to Bovine Viral Diarrhea Virus Control

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Introduction

Bovine viral diarrhea virus (BVDV) is a Pestivirus from the Flaviridae family. Several countries from the European Union have included BVDV as part of their list of notifiable diseases. In the United States, several professional associations like the Academy of Veterinary Consultants and the American Association of Bovine Practitioners have called for the establishment of BVDV control programs and eventual eradication of BVDV in the US. Nevertheless, in order to establish sucessful control programs, we must address those particular management areas that represent a potential source of BVDV infection to the farms. This will assist herd owners and veterinarians being more efficient in their efforts.

Materials and Methods

The study population included all dairy producers enrolled in the Indiana Board of Animal Health's Premise ID. Information provided included name, address, and phone number of livestock owners of nearly 1,600 producers. Nevertheless, the unknown status of those farms enlisted did not allow us to determine the exact number of active dairy farms in Indiana. In order to increase participation in our study, dairy practitioners received letters promoting our study and asking for their collaboration. During the fall of 2008, an introductory letter along with a questionnaire and a postage-paid return envelope was mailed to all producers on the list (n = 1,600); questionnaire is available upon request. During the spring of 2009, a second questionnaire was sent to those producers that failed to reply the first time. The questionnaire included a total of 40 questions, with a combination of open and closed-ended questions divided into six categories: producer information, herd size, animals other than dairy cattle, management, reproduction, and disease control/vaccination practices.

Results

Of 225 returned questionnaires (13.4%), 208 (12.3%) were eligible for further analysis. Herds with less than 100 head comprised 60% of the surveyed farmers followed by herds with 100-499 heads (33%). The majority of farms reported an outside replacements source (open herd 62%), whereas the rest reported they raised their own replacements (close herd). Only 50% of producers with open herds answered the questions regarding biosecurity measures when introducing new animals. Out of 67 responses, 69% of the producers do not ask for BVDV history and/or vaccination programs of herds from which they acquire new animals, 10% producers purchase animals regardless of farm history, and 21% do not purchase animals if they are unaware of their origin. Out of 68 responses, only 13% quarantined new additions for at least 30 days. Two out of 66 producers (3%) test new additions for BVDV prior introduction to the farm. Only 23 out of 176 producers (13%) were aware of the BVDV status of the bull used for breeding regardless of the method used for insemination. Of all producers (n=208), 64.5% reported using a BVDV vaccine. Producers most commonly reported using only killed vaccines containing BVDV (36%), followed by using only modified live virus vaccine (MLV) containing BVDV (29%), and lastly a combination of both (9%). Approximately 79% of the producers that use a BVDV vaccine reported administering annual boosters. The three most common animal groups vaccinated against BVDV were milking cows (88%), replacement heifers (70%), and calves (55%).

Significance

The study indicates that preventive measures against BVDV introduction to the farm by purchased animals like animal history, quarantine, and BVDV testing are not commonly performed among open herds. The use of a BVDV vaccine was commonly reported by producers, however, not all animals groups are vaccinated within herds, which does not allow full herd protection. Dairy producers should be aware that vaccination should be complementary to a comprehensive biosecurity program. In terms of herd size distribution, the study population represent Indiana dairy population. In summary, this study highlights the weak points of management practices of BVDV control on Indiana dairy farms.