Types and frequencies of movements onto and off of Vermont dairy farms

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Introduction

Preparedness for highly contagious animal diseases requires an understanding of the frequency and types of movements onto and off of farms and how to mitigate the risks of direct or indirect disease spread through those contacts. A survey of Vermont dairy farms was conducted to collect information on recent animal movements, farm visitors, and various biosecurity practices.

Materials and Methods

In the spring of 2010, surveys were mailed to half of the dairy farms inspected by the Vermont Agency of Agriculture, Food and Markets. A stratified, semi-randomized sample was obtained by selecting every other farm on a list sorted by county. Of 494 surveys mailed, 266 (54%) responses were included in the analysis.

Results

Of 265 respondents, 22.2% affirmed the farm was certified organic. Most (62.2%) of 262 respondents had < 100 mature cows; a little over a third (34.4%) had between 100 and 699 mature cows; and only 3.4% had > 700, putting them in the category of a large farm operation in Vermont.

Bull calves and cows going to slaughter were the most likely animal types to have recently left farms. Within the month before completion of the questionnaire, bull calves were moved from 81.6% of farms and cows were sold for slaughter from 63.3% of farms.

Out of 266 respondents, 153 (120 conventional and 33 organic) indicated that no springing heifers or cows had been introduced onto their farms in the past 12 months. However, in 2009, 23% of farms purchased cattle and > 56% of those cattle were purchased from known sources. Of purchased replacements, the majority (80%) originated from within Vermont and 57% of those originated from within the same county. Cattle not originating from Vermont were purchased from New York, New Hampshire, Maine, Maryland, Pennsylvania, New Jersey, and Wisconsin.

Milk was picked up at least daily from 26% of 260 respondent farms, and most farms (71.5%) indicated milk was picked up every other day. Almost one-third of respondents reported never using the service of an artificial breeding technician; just over one-third reported never hiring a hoof trimmer; and about one-quarter reported visits by a veterinarian less than once per month. About 50% of respondent farms were visited by an artificial breeding technician at least once a week; about 50% were visited by a hoof trimmer less than once a month; and 74% were visited by a veterinarian more than once a month. Visits by feed trucks, supply trucks, door-to-door delivery services, waste haulers, tour groups, salespersons, nutritionists, DHIA technicians, on-farm butchers, and a number of custom operators were also reported. Of 264 respondent farms, 3.4% did not drive tractors or farm equipment on or across town roads for farm operations. The distance traveled by a farm employee ranged from 0 to 65 miles.

Significance

Nearly two-thirds of milk produced in New England is from Vermont. A better understanding of the rates of animal movements and indirect contacts will be useful for focusing preparedness efforts for contagious disease control. Rates reflecting regional practices are valuable when planning is supported by models such as the North American Animal Disease Simulation Model.