

## Biosecurity Practices of U.S. Dairy Herds

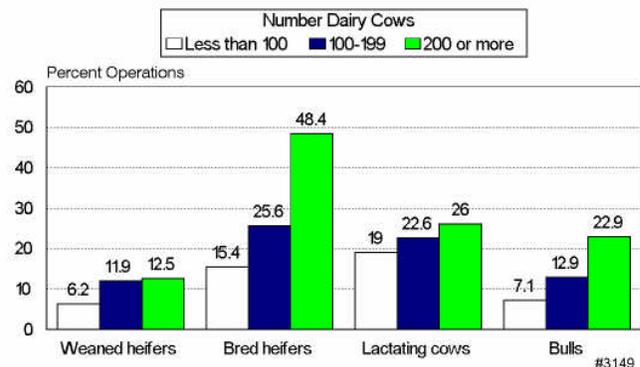
Dairy producers are increasingly confronted with evidence that their herds may be at risk of disease through animal-to-animal transmission. Reports of increased incidence of clinical or subclinical mastitis and recent outbreaks of acute diseases associated with bovine viral diarrhea (BVD) virus after introduction of cattle to dairy operations are practical reminders of the risks involved.

One of the objectives of the USDA's Dairy '96 study was to provide national estimates of risk of disease transmission due to various biosecurity management practices. This National Animal Health Monitoring System (NAHMS) study was designed to meet animal health informational needs of the dairy industry and included data collected from randomly selected dairy operations that represented 83.1 percent of the U.S. dairy population. Data were collected from 2,542 dairy producers from 20 states<sup>1</sup> who voluntarily responded to a questionnaire administered in person by enumerators from the National Agricultural Statistics Service.

**Forty-four percent of dairy operations brought some dairy or beef cattle onto the operation in 1995**, although this varied by herd size. Overall, 18.5 percent brought on bred heifers, and 19.9 percent brought on lactating cows. Just under 9 percent of dairy operations brought new bulls onto the operation. Figure 1 shows that a higher percentage of large herds brought these classes of dairy cattle onto the operation, representing an increased risk of disease

Figure 1

Percent of Operations Bringing Classes of Cattle onto the Dairy Operation by Herd Size



associated with disease pathogens introduced to these herds.

One method of managing risk associated with introduction of cattle to an operation is to isolate the cattle for a period of time that exceeds the incubation period for disease onset. For example, an isolation period of at least 21 days is often recommended to prevent diseases associated with BVD virus. **Few dairy operations quarantined or isolated introduced cattle from those already present**, an indication of the impracticality of either the recommended quarantine on most dairy operations or its perceived value. Percentages of cattle that were isolated included only 6.0 percent of introduced lactating cows, 15.3 percent of introduced of bred heifers, and 11.2 percent of introduced bulls.

Other methods of reducing risk of disease from spreading animal to animal include requiring vaccinations or specific tests of introduced cattle or herds of origin before entry to the operation.

<sup>1</sup> Participating states: California, Florida, Idaho, Illinois, Indiana, Iowa, Kentucky, Michigan, Minnesota, Missouri, New Mexico, New York, Ohio, Oregon, Pennsylvania, Tennessee, Texas, Vermont, Washington, and Wisconsin.

Figure 2

About half of dairy herds required individual animal vaccinations for brucellosis, BVD virus, infectious bovine rhinotracheitis (IBR), or leptospirosis before introducing cattle to the operation (Figure 2). A higher percentage of herds with at least 200 milk cows required vaccinations for brucellosis (73.8 percent of herds), BVD (59.3 herds), IBR (58.9 percent), and leptospirosis (55.8 percent) before introduction of cattle. Also, some herds required individual animal testing for specific disease presence before introduction of cattle (Figure 2). These measures tend to reduce disease risks to the operation.

Percent of Operations that Required Vaccinations and Testing Before Bringing Dairy Cattle onto the Operation

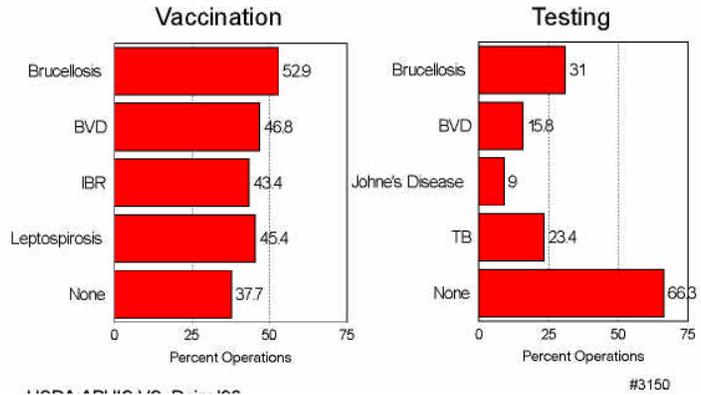


Figure 3

Percent of Operations that Required Evidence of Mastitis Control Measures Before Bringing Dairy Cows onto the Operation by Herd Size

Mastitis is one of the most common and costly diseases dairy producers face on a day-to-day basis. Overall, few dairy herds required mastitis status information on individual cows or the herd of origin before introducing cattle to the operation, but this practice did vary by herd size (Figure 3). Larger percentages of herds with 200 or more cows required bulk tank somatic cell count (27.4 percent) and bulk tank milk culture information (23.4 percent) before introducing cattle into their own herds.

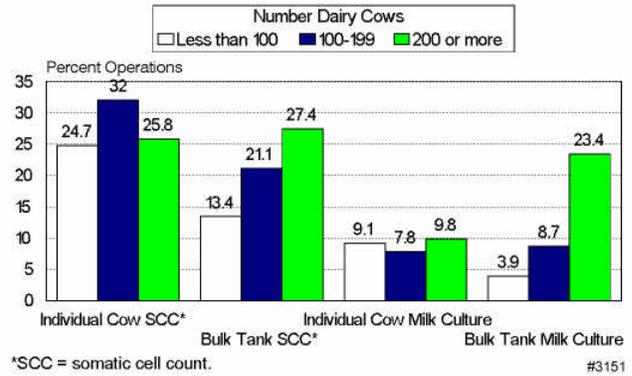
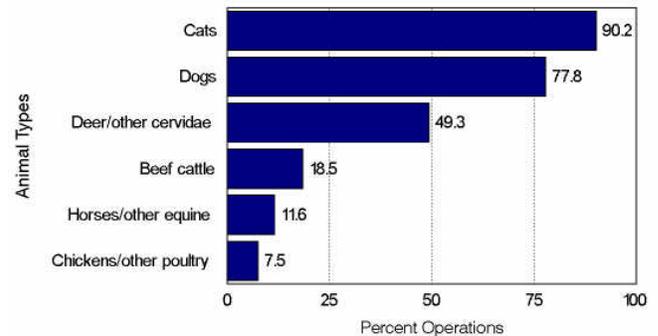


Figure 4

Percent of Operations Where the Following Animals Had Contact with Female Dairy Cattle\*

Risk of disease introduction to dairy cattle also exists from contact with other species, whether through animal-to-animal contact or contact with their feed or water. Risk of disease transmission from other species has been generally considered low, but should not be forgotten when considering herd management strategies. Diseases to consider include: tuberculosis and brucellosis from deer or other cervidae; sarcosporidiosis, hydatid disease, and rabies from dogs; and toxoplasmosis and rabies from cats.



Cats have the most contact with U.S. female dairy cattle (on 90.2 percent of operations), followed by dogs, deer, beef cattle, and horses (Figure 4.) Cat and dog exposure did not vary significantly by herd size, but exposures to deer, beef cattle, and horses were markedly lower in dairy operations with at least 200 milk cows: deer, 25.2 percent; beef cattle: 10.8; and horses: 6.9 percent.

\* Or female dairy animals' feed, minerals, or water supply. #3116

NAHMS collaborators on the Dairy '96 study included the National Agricultural Statistics Service (USDA); State and Federal Veterinary Medical Officers and Animal Health Technicians; and the National Veterinary Services Laboratories (USDA:APHIS:VS).

Other information from the Dairy '96 is available on culling practices. For more information, contact:

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