

INFO SHEET

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Biosecurity Practices on U.S. Equine Facilities

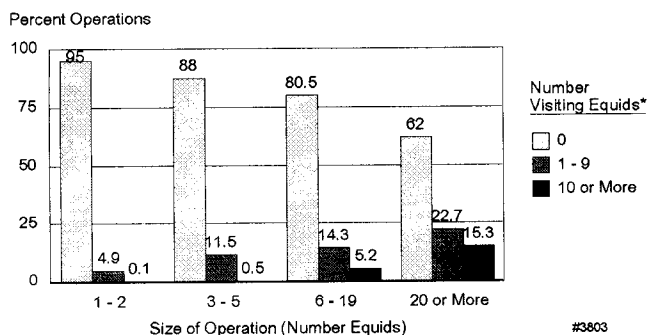
What is biosecurity? Biosecurity procedures are management practices that limit exposure to disease. These practices can limit spread of disease causing organisms from one location to another or from one animal to another. Biosecurity is a concept used more and more in all animal health industries.

Introducing new animals to a group can result in introduction of a wide range of infectious agents such as parasites, viruses, and bacteria. One of the greatest threats to a horse's health is transmission of disease-causing organisms from another equid, whether by direct contact or through contact with contaminated aerosols, surfaces, equipment, vehicles, or the clothes and skin of people.

The USDA's National Animal Health Monitoring System (NAHMS) collected data on equine health and management practices via personal interview on a representative sample of equine operations in 28 states¹. These operations represented about three-fourths of the equine population and three-fourths of operations with equids in the U.S. For this study, equid was defined as horses, miniature horses, ponies, mules, donkeys, and burros. Overall 2,904 operations with one or more equids participated in the Equine '98 Study's first interviews from March 16 through

Figure 1

Percent of Operations by Number of Visiting Equids* and Size of Operation, 1997



*Non-resident equids that came to the operation for fewer than 30 consecutive days.

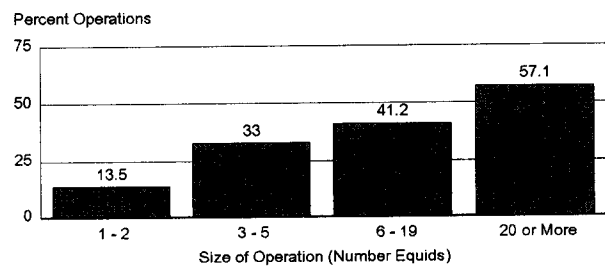
April 16, 1998. More detailed information on the study and the sampling methodology is available in NAHMS Equine '98 tabular summary reports.

Equine '98 data distinguished between transient equine visitors and resident animals (those animals expected to spend more time at the operation than at any other operation throughout the year). Overall during 1997, 22.0 percent of operations added new resident equids, while 11.2 percent of operations had non-resident equine visitors for less than 30 days. Larger operations were more likely to have had visiting equids (Figure 1) and to have added new resident equids.

One method of managing disease risk posed by introducing equids to an operation is isolation or quarantine of new arrivals for a period of time that exceeds the incubation period for disease onset. Approximately one-third (34.0 percent) of operations that added new resident equids routinely quarantined these new arrivals from their resident equine population. As the size of operation increased, larger percentages of operations routinely quarantined new arrivals (Figure 2). For operations that routinely quarantined newly added equids, the average routine length of quarantine was 28.5 days. The percentage of equine operations with new additions that routinely quarantined new arrivals exceeded that reported for dairy operations in the NAHMS Dairy '96 Study (13.6 percent quarantined at least one-half of new additions) and was similar to that for cow-calf operations according to the NAHMS Beef '97 Study² (38.9 percent quarantined all or some).

Figure 2

Percent of Operations* that Routinely Quarantined New Arrivals by Size of Operation, 1997



* For operations that added new equids to the resident equine population during 1997.

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¹ Alabama, California, Colorado, Florida, Georgia, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Missouri, Montana, New Jersey, New Mexico, New York, Ohio, Oklahoma, Oregon, Pennsylvania, Tennessee, Texas, Virginia, Washington, Wisconsin, and Wyoming.

² Dairy '96 Part II: *Changes in the U.S. Dairy Industry, 1991-1996*. USDA:APHIS:VS, CEAH. N210.996.

Beef '97 Part II: *Reference on 1997 Beef Cow-Calf Health & Health Management Practices*. USDA:APHIS:VS, CEAH. N238.797.

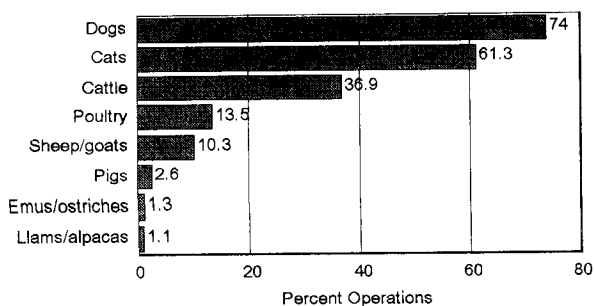
Other methods of reducing the risk of disease spreading from animal to animal are assuring optimal health status of new arrivals through veterinary examination, requiring vaccination and deworming of the newcomer prior to arrival, and requiring the newcomer to be tested for contagious diseases. Over one-half of equine operations that added new resident equids required a test for equine infectious anemia (EIA). About 40 percent always or sometimes required an official health certificate and about the same percentage required an examination by a veterinarian other than for an official health certificate. Over 50 percent of operations that added new resident equids required vaccinations and deworming of new additions prior to arrival. Larger percentages of operations required an official health certificate, a veterinary examination other than for an official health certificate, and deworming for new residents as size of operation increased. Approximately one in four operations with new arrivals (24.2 percent) had no health requirements for new arrivals. Resident animals could be at risk for infectious disease if a quarantine and/or program for testing newcomers on arrival are not used.

Risk of introduction of an infectious disease in equids also includes their exposure to other types of animals, whether through animal-to-animal contact or contact with feed or water. Risk of disease transmission from other animal species has generally been considered low but should not be forgotten when considering health management strategies. Examples of diseases to consider are rabies from dogs, cats or wild animals such as foxes/skunks/bats, or *Salmonella* from rodents or other domestic animals such as poultry, swine, or cattle.

During 1997, dogs and cats had physical contact with resident equids (or their feed) on 74.0 percent and 61.3 percent of operations respectively (Figure 3). Cattle (36.9 percent of operations), poultry (13.5 percent of operations), and sheep and goats (10.3 percent of operations) had contact with resident equids or their feed on over 10 percent of operations.

Contaminated water and feed can be sources of infectious disease agents for equids. Most (94.4 percent) of operations fed grain/concentrate. The majority of these operations

Figure 3
Percent of Operations Where the Following Animals Had Physical Contact with Equids or Their Feed, 1997

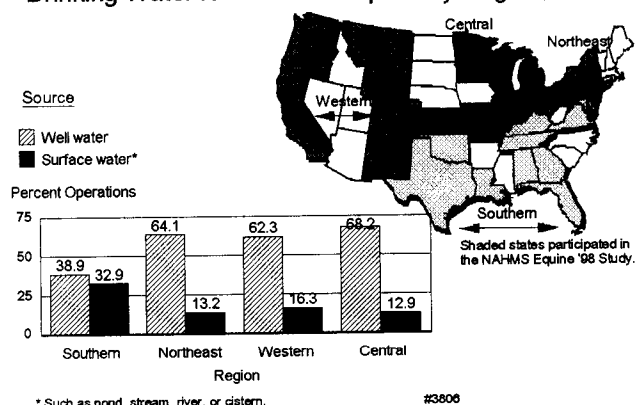


(86.8 percent) obtained grain for equids from a retail source in bags. Bagged feed is theoretically protected from fecal contamination from rodents or birds during transport and storage at the feed supply store as long as the bag is intact. The majority (82.9 percent) of operations that fed grain/concentrate in 1997 reportedly stored grain in a rodent-proof container. This practice may help reduce equine exposure to pathogens through grain.

Just over 40 percent of operations fed dried forage or hay primarily loose on the ground, while the remainder fed in some sort of trough, rack, net, or other container. Feeding forage loose on the ground could expose equids to parasite ova/larvae or enteric pathogens as well as result in ingestion of sand if it is present in the soil or stall floor.

Overall 54.1 percent of operations used well water and 22.0 percent used surface water as the predominant source of drinking water for equids on the operation in 1997. Over 60 percent of operations in the Northeastern, Western, and Central regions used well water as the predominant source of water for resident equids (Figure 4). Depending on the frequency of monitoring and actions taken to assure quality of the well and surface water, as determined by coliform counts and mineral content, these sources of drinking water could pose health risks to equids. Well and surface water

Figure 4
Percent of Operations by Predominant Source of Drinking Water for Resident Equids by Region, 1997



should be tested periodically.

When developing a biosecurity program for an equine operation, several factors must be kept in mind, including health status of equine additions, quarantine on arrival, quality of feed and water sources, and contact with other types of animals. An optimal plan would assure the health of resident equids while accommodating use of the animals and operation of the facility.

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