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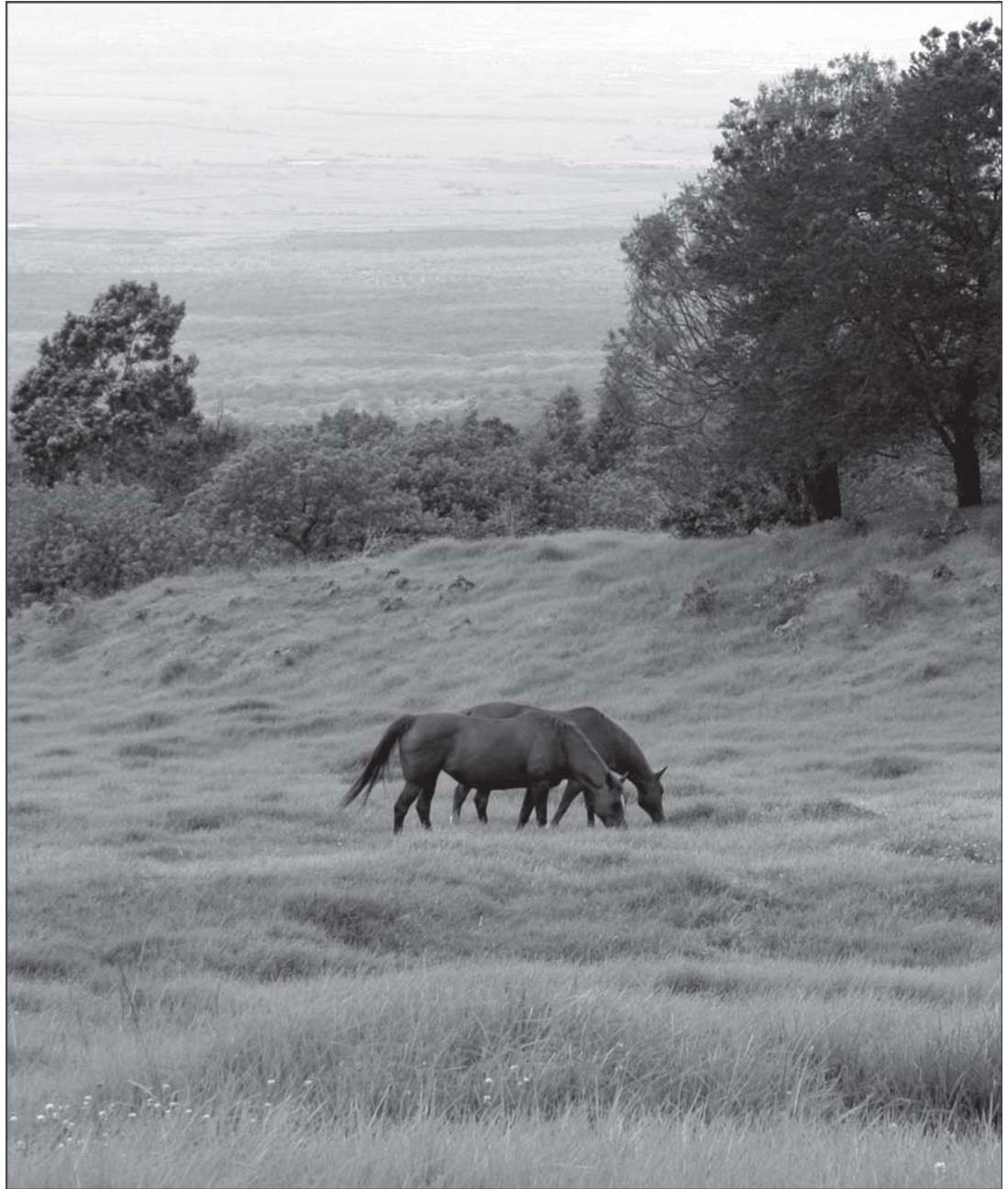
National
Animal Health
Monitoring
System

November 2006



Equine 2005

Part I: Baseline Reference of Equine Health and Management, 2005



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All participants are to be commended, particularly the producers whose voluntary efforts made this report possible.

A handwritten signature in black ink, appearing to read 'L. Granger', written in a cursive style.

Larry Granger
Director
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Introduction

The National Animal Health Monitoring System (NAHMS) is a nonregulatory division of the United States Department of Agriculture (USDA) designed to help meet the Nation's animal-health information needs.

Equine '98 was NAHMS' first national study on equine baseline health and management. Equine '98 provided participants, industry, and animal-health officials with information on the Nation's equine population for education and research.

Equine 2005 is NAHMS' second study of the U.S. equine industry. Like its predecessor, Equine 2005 was designed to provide participants, industry, and animal-health officials with information on the Nation's equine population that will serve as a basis for education, service, and research related to equine infectious disease control.

Study objectives for Equine 2005 were developed by exploring existing literature, attending equine industry meetings to learn about information gaps, and with input regarding priorities for equine health from animal-health officials. The objectives of the study focused on describing health-management factors that could impact the occurrence of equine infectious diseases. Infectious diseases can result in lost use of the animals and in some cases death. There are many potential control points for preventing or minimizing the impact of infectious disease outbreaks. These include early identification of outbreaks, reducing exposure to infectious agents, and optimizing resistance to disease through vaccination.

The USDA's National Agricultural Statistics Service (NASS) collaborated with VS to select a statistically representative sample such that inferences could be made to the population of operations with 5 or more equids and equids on operations with 5 or more equids in the 28 States participating in the study (see map). The sample provided 3,349 participating operations. The 28-State target population represents 78.0 percent of the equids and 78.6 percent of operations with 5 or more equids in the United States* (See Section II Methodology and Appendices II and III.)

*NASS, 2002 Census of Agriculture

Equine 2005 Participating States



Part I: Baseline Reference of Equine Health and Management, 2005 is the first report that describes results from the NAHMS Equine 2005 study. NASS enumerators collected data for this report via questionnaires administered on-site from July 18 through August 12, 2005. Results of the Equine 2005 study and other NAHMS studies are accessible at <<http://nahms.aphis.usda.gov>>.

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**Terms Used In
This Report**

Equid: Animal of the family *Equidae*. Only domestic horses, miniature horses, ponies, mules, donkeys/burros, and zedonks (zebra-donkey cross) were included.

Foal: Equid less than 6 months of age.

Horse: Domestic equid generally more than 14 hands (56 inches) high at the shoulder (near the last hairs of the mane). An equid less than 14 hands high may also be considered a horse if its breed registry defines it as such (other than miniature horse). Horses include light breeds (e.g., Arabian, Quarter Horse, Appaloosa, Morgan, Trakehner, etc.) and draft horses (e.g., Clydesdale, Belgian, and Percheron).

N/A: Not applicable.

Operation: An area of land managed as a unit by an individual, partnership, or hired manager.

Operator: The person responsible for the day-to-day decisions on the operation.

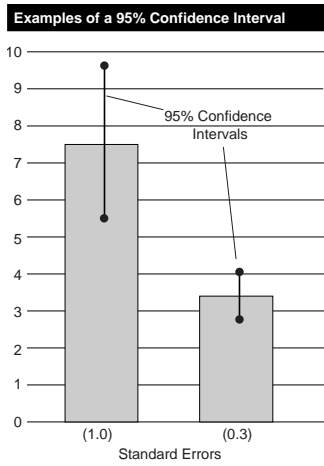
Operation average: A single value for each operation is summed over all operations reporting and divided by the number of operations reporting.

Perceived cause (of illness or death): Causes of illnesses or deaths were derived from observations of clinical signs reported by participants and not necessarily confirmed by a veterinarian or laboratory testing.

Percent equids: The total number of *equids* with a certain attribute, divided by the total number of equids.

Primary function of operation: The main purpose of the operation, i.e., boarding/training, breeding farm, farm/ranch, and residence with equids for personal use.

Primary use of equids: What the majority of horses on the operation are used for, i.e., pleasure, lessons/school, show/competition, breeding, racing, farm/ranch work.



Population estimates: Estimates in this report are provided with a measure of precision called the standard error. A 95-percent confidence interval can be created with bounds equal to the estimate, plus or minus two standard errors. If the only error is sampling error, the confidence intervals created in this manner will contain the true population mean 95 out of 100 times. In the example to the left, an estimate of 7.5 with a standard error of 1.0 results in limits of 5.5 to 9.5 (two times the standard error above and below the estimate). The second estimate of 3.4 shows a standard error of 0.3 and results in limits of 2.8 and 4.0. Alternatively, the 90-percent confidence interval would be created by multiplying the standard error by 1.65 instead of 2. Most estimates in this report are rounded to the nearest tenth. If rounded to 0, the standard error was reported (0.0). If there were no reports of the event, no standard error was reported (—).

Regions

- **South:** Alabama, Florida, Georgia, Kentucky, Louisiana, Maryland, Oklahoma, Tennessee, Texas, and Virginia
- **Northeast:** New Jersey, New York, Ohio, and Pennsylvania
- **West:** California, Colorado, Montana, New Mexico, Oregon, Washington, and Wyoming
- **Central:** Illinois, Indiana, Kansas, Michigan, Minnesota, Missouri, and Wisconsin

Resident equid: An equid that spent or was expected to spend more time at the operation than at any other operation, whether or not it was present at the time of the interview. The operation was its home base.

Sample profile: Information that describes characteristics of the operations from which Equine 2005 data were collected.

Size of operation: Size groupings were based on number of equids present on July 1, 2005. Size of operation was categorized as small (5-9), medium (10-19), and large (20 or more). For the purpose of this report, small operations include operations that had five or more equids per the NASS list frame (primarily comprised of equine information from the 2002 Census of Agriculture) but had fewer than five equids on July 1, 2005; approximately 70 percent of these operations had three to four equids on July 1, 2005.

Section I: Population Estimates

A. General

1. Equid distribution

Nine of 10 operations (92.2 percent) had 19 or fewer equids present on the operation on July 1, 2005. These operations accounted for 70.8 percent of resident equids and 70.3 percent of all equids. Resident equids are defined as equids that spent more time at the operation than at any other operation (whether or not present on July 1, 2005). Although large operations represented only 7.8 percent of all operations, they accounted for 29.2 percent of resident equids and 29.7 percent of all equids.

a. Percentage of operations, percentage of resident equids, and percentage of all equids, by size of operation:

Size of Operation (Number of Equids)	Percent Operations		Percent Resident Equids		Percent All Equids*	
	Percent	Std. Error	Percent	Std. Error	Percent	Std. Error
Small (5 to 9)**	66.1	(0.8)	36.6	(0.8)	36.1	(0.8)
Medium (10 to 19)	26.1	(0.8)	34.2	(1.0)	34.2	(1.0)
Large (20 or more)	7.8	(0.3)	29.2	(1.1)	29.7	(1.1)
Total	100.0		100.0		100.0	

*All equids present on operation whether or not residents of the operation.

**Operations that had five or more equids per the NASS list frame (primarily comprised of equine information from the 2002 Census of Agriculture) but fewer than five equids on July 1, 2005, were included in this category.

2. Primary function of operations

Operations with a primary function of farm/ranch and residence with equids for personal use accounted for over three-fourths of all operations (77.3 percent), followed by equine breeding farms (14.4 percent). The percentages of operations by primary function were similar across regions. The “other” category included riding stable, guest ranch, motion picture, party service, sanctuary, and carriage service operations.

a. Percentage of operations by primary function and by region:

Percent Operations										
Region										
	South		Northeast		West		Central		All Operations	
Primary Function	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Boarding/ training	5.4	(0.6)	9.2	(1.4)	4.9	(0.9)	5.9	(0.9)	5.9	(0.4)
Breeding farm	15.1	(1.0)	12.1	(1.8)	15.7	(1.6)	13.4	(1.3)	14.4	(0.7)
Farm/ranch	38.4	(1.6)	40.7	(2.9)	45.3	(2.2)	39.3	(2.1)	40.3	(1.0)
Residence with equids for personal use	38.9	(1.6)	35.5	(2.8)	31.6	(2.1)	38.6	(2.1)	37.0	(1.0)
Other	2.2	(0.4)	2.5	(0.8)	2.5	(0.6)	2.8	(0.7)	2.4	(0.3)
Total	100.0		100.0		100.0		100.0		100.0	

As operation size increased, the percentage of operations that reported their primary function as residence with equids for personal use decreased. In contrast, as the size of operation increased so did the percentage of equine breeding farm and equine boarding stable/training operations. A higher percentage of small and medium operations reported farm/ranch as a primary function (40.3 percent and 42.5 percent, respectively), compared to large operations (32.3 percent).

b. Percentage of operations by primary function and by size of operation:

Primary Function	Percent Operations					
	Size of Operation (Number of Equids)					
	Small (5-9)		Medium (10-19)		Large (20 or More)	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Boarding/training	2.8	(0.5)	10.4	(1.1)	17.2	(1.5)
Breeding farm	9.2	(0.8)	21.8	(1.5)	34.1	(2.0)
Farm/ranch	40.3	(1.4)	42.5	(1.8)	32.3	(1.9)
Residence with equids for personal use	46.0	(1.4)	22.2	(1.5)	10.4	(1.3)
Other	1.7	(0.3)	3.1	(0.6)	6.0	(0.9)
Total	100.0		100.0		100.0	

3. Primary use of equids

A higher percentage of operations in the West region used equids primarily for farm/ranch work (33.2 percent) compared to operations in the South and Central regions (21.3 percent and 21.7 percent, respectively). The percentages of operations reporting the primary use of equids as pleasure, breeding, racing, and "other" were similar across regions. Other primary uses included carriage rides, buy and sell or horse trader, transportation, outfitting or hunting, party service, pony rides, advertising for business, and used to make motion pictures.

a. Percentage of operations by primary use of equids and by region:

Primary Use	Percent Operations									
	Region									
	South		Northeast		West		Central		All Operations	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Pleasure	46.8	(1.6)	42.5	(2.8)	39.4	(2.2)	50.7	(2.1)	45.7	(1.0)
Lessons/ school	0.9	(0.3)	2.0	(0.6)	1.6	(0.5)	1.9	(0.5)	1.4	(0.2)
Show/ competition	11.5	(1.0)	9.0	(1.7)	7.0	(1.1)	8.6	(1.2)	9.6	(0.6)
Breeding	17.2	(1.1)	13.9	(1.9)	16.2	(1.6)	14.7	(1.3)	15.9	(0.7)
Racing	1.4	(0.4)	1.4	(0.6)	1.8	(0.6)	0.8	(0.4)	1.4	(0.2)
Farm/ ranch work	21.3	(1.3)	29.0	(2.6)	33.2	(2.0)	21.7	(1.7)	24.8	(0.9)
Other	0.9	(0.3)	2.2	(0.8)	0.8	(0.3)	1.6	(0.5)	1.2	(0.2)
Total	100.0		100.0		100.0		100.0		100.0	



APHIS photo by Charles Kerlee

The percentage of operations that used equids primarily for pleasure decreased as operation size increased. In contrast, the percentage of operations that used equids primarily for breeding increased as operation size increased. A higher percentage of large operations used equids primarily for showing/competition (15.7 percent) compared to medium and small operations (9.5 percent and 8.8 percent, respectively).

b. Percentage of operations by primary use of equids and by size of operation:

Percent Operations						
Size of Operation (Number of Equids)						
Primary Use	Small (5-9)		Medium (10-19)		Large (20 or More)	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Pleasure	53.7	(1.3)	33.0	(1.7)	20.1	(1.6)
Lessons/ school	0.9	(0.2)	2.1	(0.5)	4.1	(0.8)
Show/ competition	8.8	(0.8)	9.5	(1.1)	15.7	(1.5)
Breeding	10.6	(0.8)	23.7	(1.5)	36.3	(2.0)
Racing	1.2	(0.3)	1.3	(0.4)	2.7	(0.7)
Farm/ranch work	23.7	(1.1)	29.2	(1.6)	19.2	(1.6)
Other	1.1	(0.3)	1.2	(0.4)	1.9	(0.5)
Total	100.0		100.0		100.0	

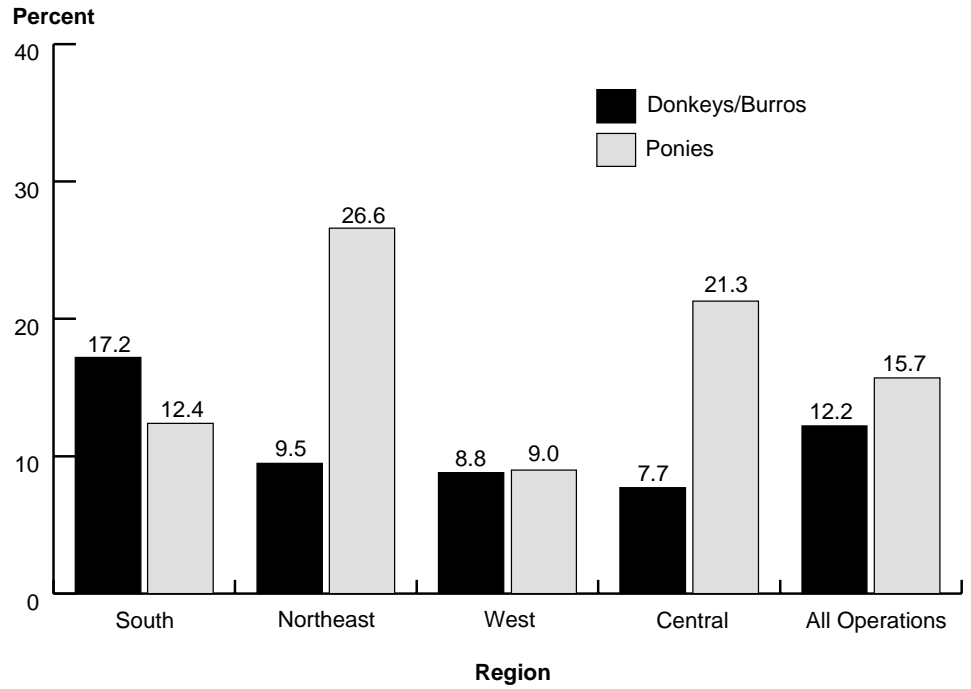
4. Type of equid

More than 9 of 10 operations (95.6 percent) had horses (full-size, including draft horses). One of three operations (34.8 percent) had domestic equids other than full-size horses. A higher percentage of operations in the South region (17.2 percent) had donkeys or burros compared to operations in the Northeast, West, and Central regions (9.5 percent, 8.8 percent, and 7.7 percent, respectively). Operations in the Northeast and Central regions had a higher percentage of ponies (26.6 percent and 21.3 percent, respectively) compared to operations in the South and West regions (12.4 percent and 9.0 percent, respectively). Percentages of operations with mules, miniature horses, and full-size horses were similar across regions. "Other" equids included zebra and zedonk (zebra-donkey cross).

a. Percentage of operations by type of equids present on July 1, 2005, and by region:

Type of Equid	Percent Operations									
	Region									
	South		Northeast		West		Central		All Operations	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Donkeys or burros	17.2	(1.2)	9.5	(1.7)	8.8	(1.2)	7.7	(1.1)	12.2	(0.7)
Mules	6.9	(0.7)	10.2	(1.7)	11.0	(1.4)	6.1	(1.0)	7.9	(0.5)
Ponies	12.4	(1.0)	26.6	(2.6)	9.0	(1.1)	21.3	(1.7)	15.7	(0.7)
Miniature horses	8.0	(0.8)	10.3	(1.8)	6.3	(1.0)	6.2	(0.9)	7.5	(0.5)
Horses (excluding miniature horses but including draft horses)	94.3	(0.7)	95.0	(1.2)	96.7	(0.8)	97.4	(0.7)	95.6	(0.4)
Other	0.2	(0.1)	0.4	(0.3)	0.5	(0.3)	0.2	(0.2)	0.3	(0.1)
Any equid other than full-size horse	36.1	(1.5)	44.3	(2.9)	28.3	(1.9)	32.9	(2.0)	34.8	(1.0)

Percentage of Operations by Presence of Donkeys/Burros and Ponies on July 1, 2005, and by Region



Full-size horses accounted for the highest percentage of equids across all regions (86.6 percent of the overall equine population). Donkeys or burros accounted for a higher percentage of the overall equine population on operations in the South region than on operations in the other three regions. Overall, donkeys or burros and mules accounted for 6.0 percent of the domestic equine population while ponies and miniature horses accounted for 7.3 percent of the overall domestic equine population.

b. Percentage of equids by type of equids present on July 1, 2005, and by region:

Percent Equids										
Region										
Type of Equid	South		Northeast		West		Central		All Operations	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Donkeys or burros	5.8	(0.6)	3.0	(0.7)	2.0	(0.3)	1.6	(0.3)	3.7	(0.3)
Mules	1.7	(0.2)	4.8	(0.9)	2.8	(0.4)	1.8	(0.4)	2.3	(0.2)
Ponies	2.5	(0.3)	6.4	(0.8)	1.6	(0.3)	5.3	(0.5)	3.4	(0.2)
Miniature horses	4.6	(0.7)	3.7	(0.7)	3.8	(0.8)	2.7	(0.5)	3.9	(0.4)
Horses (excluding miniature horses but including draft horses)	85.3	(1.0)	82.1	(1.5)	89.7	(1.1)	88.6	(0.9)	86.6	(0.5)
Other equids	0.1	(0.0)	0.0	(0.0)	0.1	(0.0)	0.0	(0.0)	0.1	(0.0)
Total	100.0		100.0		100.0		100.0		100.0	

The percentage of resident equids by type of equid paralleled the type of equids in the overall equine inventory, as depicted in table b. A resident equid was defined as an equid that spent more of its time at the operation during the previous 12 months than at any other operation (whether or not present on the day of the interview).

c. Percentage of *resident* equids on July 1, 2005, by type of equid and by region:

Percent Resident Equids										
Type of Equid	Region				All Operations	Std. Error				
	South	Northeast	West	Central						
	Pct.	Std. Error	Pct.	Std. Error	Pct.		Std. Error	Pct.	Std. Error	Pct.
Donkeys or burros	6.1	(0.6)	3.0	(0.8)	2.1	(0.4)	1.6	(0.3)	3.8	(0.3)
Mules	1.7	(0.2)	4.8	(1.0)	3.0	(0.5)	1.9	(0.4)	2.4	(0.2)
Ponies	2.4	(0.3)	6.3	(0.8)	1.6	(0.3)	5.4	(0.5)	3.4	(0.2)
Miniature horses	4.2	(0.6)	3.5	(0.7)	4.0	(0.8)	2.2	(0.5)	3.6	(0.3)
Horses (excluding miniature horses but including draft horses)	85.5	(0.9)	82.3	(1.5)	89.3	(1.1)	88.9	(0.9)	86.7	(0.5)
Other equids	0.1	(0.0)	0.1	(0.1)	0.0	(0.0)	0.0	(0.0)	0.1	(0.0)
Total	100.0		100.0		100.0		100.0		100.0	

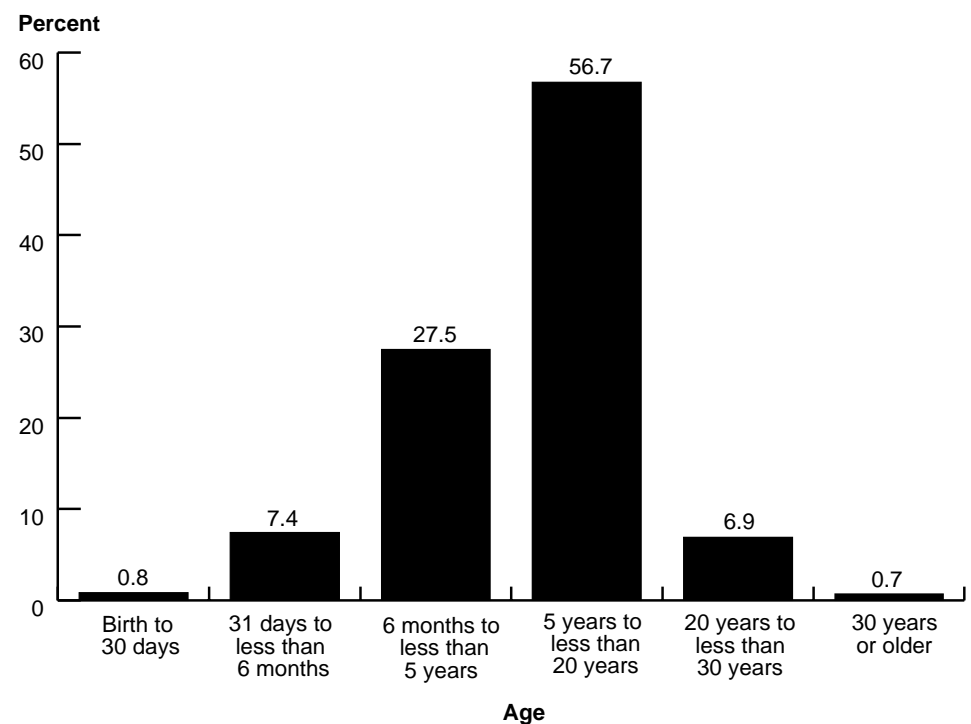
5. Age of resident equids

The majority of resident equids (56.7 percent) were 5 years to less than 20 years of age. Just 7.6 percent of resident equids were 20 years or older. Since the reference date regarding age of resident equids was July 1, the majority of foals were reported to be 31 days but less than 6 months of age.

a. Percentage of *resident* equids on July 1, 2005, by age:

Age	Percent Resident Equids	Standard Error
Birth to 30 days	0.8	(0.1)
31 days to less than 6 months	7.4	(0.3)
6 months to less than 5 years	27.5	(0.5)
5 years to less than 20 years	56.7	(0.5)
20 years to less than 30 years	6.9	(0.3)
30 years or older	0.7	(0.1)
Total	100.0	

Percentage of Resident Equids on July 1, 2005, by Age



6. Identification method

Nearly half of operations (49.3 percent) had no unique identification (ID) for at least one of their resident equids, and 19.2 percent of operations had no unique ID for any of their equids. Nearly one of three equids (28.7 percent) had no unique ID. The form of unique ID was not mutually exclusive, so that more than one form of ID could have been used for a given equid. The most common forms of unique ID reported were registration papers and Coggins test papers. Only 3.1 percent of operations used a microchip as a form of unique ID, with only 1.5 percent of equids identified by a microchip method. DNA or blood testing were commonly specified “other” forms of unique ID.

a. Percentage of operations and percentage of resident equids that used the following unique ID methods for resident equids (each equid has a different ID; no two equids have the same ID), by ID method:

ID Method	Percent Operations		Percent Resident Equids	
	Percent	Std. Error	Percent	Std. Error
Hot-iron brand	12.2	(0.6)	4.6	(0.4)
Freeze brand	13.8	(0.7)	5.2	(0.5)
Microchip	3.1	(0.3)	1.5	(0.2)
Tattoo	11.7	(0.6)	4.0	(0.3)
Permanent brand inspection (card with markings indicated or sketch)	7.5	(0.5)	4.0	(0.3)
Registration papers	61.7	(1.0)	47.8	(1.0)
Coggins test papers (laboratory test results)	40.0	(1.0)	27.2	(0.8)
Halters or collars with name or number	4.1	(0.4)	3.6	(0.4)
Passport	1.1	(0.2)	0.3	(0.1)
Other unique ID	3.9	(0.4)	2.3	(0.3)
At least one equid with no unique ID	49.3	(1.0)	28.7*	(0.8)
No unique ID for any equids	19.2	(0.8)		

*Percentage of all resident equids without unique ID.

7. Familiarity with the National Animal Identification System (NAIS)

Overall, 41.7 percent of operations had not heard of the NAIS. Only 14.4 percent of operations were knowledgeable about the NAIS. A higher percentage of operations in the South region (16.9 percent) were knowledgeable about the NAIS compared to operations in the Northeast region (9.0 percent). A higher percentage of operations in the Northeast region (47.4 percent) had not heard of the NAIS compared to operations in the West region (37.0 percent).

a. Percentage of operations by familiarity with the NAIS and by region:

Familiarity	Percent Operations									
	South		Northeast		West		Central		All Operations	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Had not heard of	40.7	(1.6)	47.4	(2.9)	37.0	(2.1)	44.1	(2.1)	41.7	(1.0)
Recognized name, not much else	21.4	(1.3)	24.4	(2.5)	23.7	(1.9)	23.4	(1.8)	22.7	(0.9)
Knew some basics	21.0	(1.3)	19.2	(2.3)	25.9	(1.9)	18.7	(1.6)	21.2	(0.8)
Knowledgeable	16.9	(1.2)	9.0	(1.7)	13.4	(1.5)	13.8	(1.5)	14.4	(0.7)
Total	100.0		100.0		100.0		100.0		100.0	

A higher percentage of large operations (20.3 percent) were knowledgeable about the NAIS compared to small operations (13.2 percent).

b. Percentage of operations by familiarity with the NAIS and by size of operation:

Percent Operations						
Familiarity	Size of Operation (Number of Equids)					
	Small (5-9)		Medium (10-19)		Large (20 or More)	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Had not heard of	42.8	(1.4)	40.4	(1.7)	36.8	(2.0)
Recognized name, not much else	23.0	(1.2)	23.1	(1.5)	19.0	(1.6)
Knew some basics	21.0	(1.1)	20.7	(1.4)	23.9	(1.8)
Knowledgeable	13.2	(0.9)	15.8	(1.3)	20.3	(1.7)
Total	100.0		100.0		100.0	

There was not a significant difference across primary function-of-operation categories in the percentages of operations that had not heard of the NAIS.

c. Percentage of operations by familiarity with the NAIS and by primary function of operation:

Percent Operations										
Familiarity	Primary Function									
	Boarding/ Training		Breeding Farm		Farm/ Ranch		Residence with Equids for Personal Use		Other	
	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.
Had not heard of	45.3	(3.7)	37.8	(2.5)	37.4	(1.6)	46.4	(1.8)	52.4	(6.2)
Recognized name, not much else	19.7	(3.0)	22.7	(2.1)	25.2	(1.5)	21.0	(1.5)	16.6	(4.6)
Knew some basics	19.9	(3.1)	24.4	(2.2)	22.3	(1.4)	19.4	(1.4)	15.5	(4.2)
Knowledgeable	15.1	(2.7)	15.1	(1.7)	15.1	(1.2)	13.2	(1.2)	15.5	(4.8)
Total	100.0		100.0		100.0		100.0		100.0	

A higher percentage of operations that used equids primarily for pleasure or racing had never heard of the NAIS compared to operations that used equids primarily for farm/ranch work.

d. Percentage of operations by familiarity with the NAIS and by primary use of equids:

Percent Operations														
Primary Use of Equids														
Familiarity	Pleasure		Lessons/ School		Show/ Compe- tition		Breeding		Racing		Farm/ Ranch Work		Other	
	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.
Had not heard of	47.0	(1.6)	44.3	(7.7)	40.7	(3.3)	37.2	(2.3)	55.4	(8.2)	33.8	(2.0)	48.4	(9.0)
Recognized the name, not much else	21.0	(1.3)	20.9	(6.6)	20.8	(2.7)	21.6	(1.9)	18.9	(6.7)	27.5	(1.9)	29.1	(8.4)
Knew some basics	18.7	(1.2)	22.4	(6.1)	24.6	(2.9)	25.6	(2.1)	12.4	(4.7)	22.4	(1.7)	13.9	(6.6)
Knowledgeable	13.3	(1.1)	12.4	(4.9)	13.9	(2.2)	15.6	(1.7)	13.3	(5.5)	16.3	(1.6)	8.6	(3.8)
Total	100.0		100.0		100.0		100.0		100.0		100.0		100.0	

B. Health and Health Management

1. Primary method of recording equine information

Nearly half of operations (48.5 percent) used hand-written notes in a designated log or on a calendar or check book as primary methods of recording equine health information. A higher percentage of large operations (32.5 percent) used a designated logbook or health card to record health information compared to small operations (21.0 percent). On 20.2 percent of all operations, equine health information was maintained by a veterinarian. A higher percentage of small operations (22.0 percent) relied on a veterinarian to maintain equine health records compared to large operations (12.2 percent). Large operations were more likely to use computerized health records maintained on the operation compared to medium and small operations.

a. Percentage of operations by primary method of recording equine health information and by size of operation:

Method	Percent Operations							
	Size of Operation (Number of Equids)							
	Small (5-9)		Medium (10-19)		Large (20 or More)		All Operations	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	
Computerized health records maintained on the operation	6.2	(0.7)	9.1	(1.0)	17.5	(1.6)	7.8	(0.5)
Hand-written in designated log (e.g., health card, logbook)	21.0	(1.1)	25.0	(1.5)	32.5	(1.9)	22.9	(0.9)
Hand-written notes (e.g., calendar, checkbook)	25.0	(1.2)	27.5	(1.6)	24.1	(1.7)	25.6	(0.9)
Operation records maintained by veterinarian	22.0	(1.2)	17.9	(1.4)	12.2	(1.3)	20.2	(0.9)
No written or computerized records	25.8	(1.2)	20.5	(1.5)	13.7	(1.4)	23.5	(0.9)
Total	100.0		100.0		100.0		100.0	

Operations with primary functions of farm/ranch and residence with equids for personal use were less likely to use computerized health records as a primary method of recording equine health information than boarding/training and breeding farm operations. Farm/ranch operations were most likely to have no written or computerized equine health records when compared to other categories of primary operation function. Boarding/training and breeding farm operations were more likely to have some method of recording health information than farm/ranch or residence-with-equids-for-personal-use operations.

b. Percentage of operations by primary method of recording equine health information and by primary function of operation:

Method	Percent Operations									
	Primary Function									
	Boarding/ Training		Breeding Farm		Farm/ Ranch		Residence with Equids for Personal Use		Other	
	Std. Pct.	Std. Err.	Std. Pct.	Std. Err.	Std. Pct.	Std. Err.	Std. Pct.	Std. Err.	Std. Pct.	Std. Err.
Computerized health records maintained on the operation	14.8	(2.4)	17.8	(1.9)	4.2	(0.7)	6.3	(0.9)	13.9	(4.3)
Hand-written in designated log (e.g., health card, logbook)	30.3	(3.4)	37.4	(2.4)	16.3	(1.2)	22.6	(1.5)	30.9	(5.9)
Hand-written notes (e.g., calendar, checkbook)	16.5	(2.6)	25.7	(2.2)	27.0	(1.5)	25.8	(1.6)	21.1	(4.7)
Operation records maintained by veterinarian	29.7	(3.6)	16.0	(1.9)	17.6	(1.3)	22.9	(1.5)	26.3	(5.5)
No written or computerized records	8.7	(2.2)	3.1	(0.7)	34.9	(1.6)	22.4	(1.5)	7.8	(2.8)
Total	100.0		100.0		100.0		100.0		100.0	

2. Testing

A higher percentage of operations in the Northeast region (19.0 percent) performed fecal testing for parasites on resident equids during the previous 12 months compared to operations in the West and Central regions (10.6 percent and 10.3 percent, respectively). A higher percentage of operations in the South region (10.6 percent) performed feed or pasture analysis during the previous 12 months compared to operations in the Central region (5.1 percent). A higher percentage of operations in the Northeast region performed a water analysis during the previous 12 months compared to the other regions. Overall, less than 15 percent of operations performed fecal tests for parasites, feed or pasture analysis, or water analysis during the previous 12 months.

a. Percentage of operations by testing performed during the previous 12 months and by region:

Test	Percent Operations									
	Region									
	South		Northeast		West		Central		All Operations	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Fecal test for parasites	15.1	(1.1)	19.0	(2.2)	10.6	(1.3)	10.3	(1.2)	13.5	(0.7)
Feed or pasture analysis	10.6	(0.9)	7.7	(1.4)	6.7	(1.1)	5.1	(0.9)	8.1	(0.5)
Water analysis	6.3	(0.8)	13.8	(2.0)	7.4	(1.2)	7.6	(1.1)	7.8	(0.5)

As the size of operation increased so did the percentage of operations that performed fecal testing for parasites, feed or pasture analysis, or water analysis.

b. Percentage of operations by testing performed during the previous 12 months and by size of operation:

Test	Percent Operations					
	Size of Operation (Number of Equids)					
	Small (5-9)		Medium (10-19)		Large (20 or More)	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Fecal test for parasites	11.9	(0.9)	14.9	(1.3)	23.2	(1.7)
Feed or pasture analysis	6.2	(0.7)	9.3	(1.0)	20.3	(1.6)
Water analysis	7.0	(0.7)	8.8	(1.0)	11.2	(1.3)

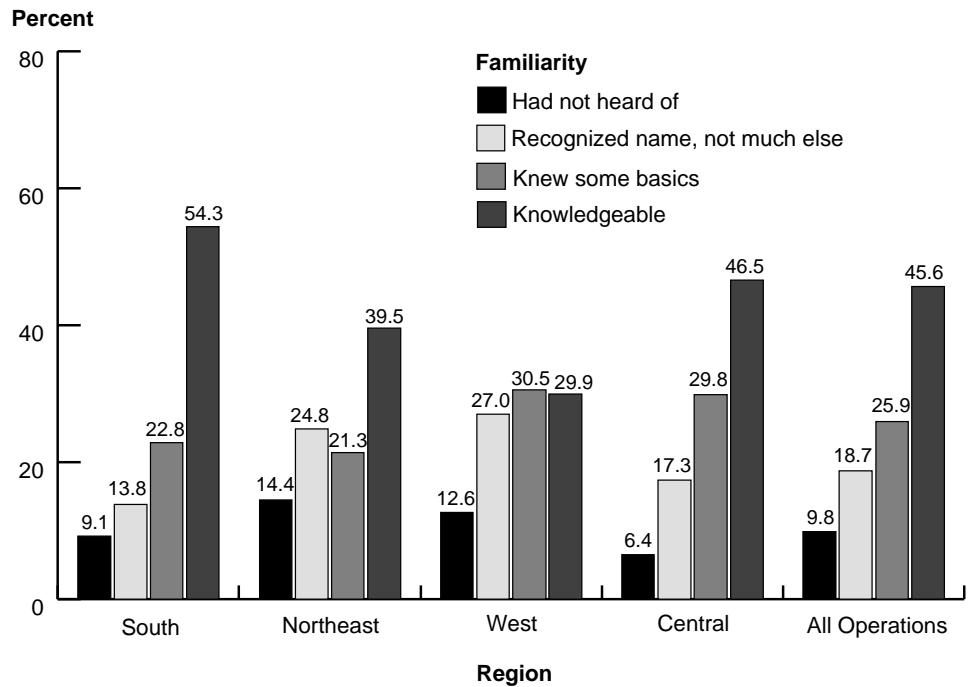
3. Familiarity with equine infectious anemia (EIA)

Overall, 45.6 percent of operations were knowledgeable about EIA, a disease often diagnosed via the Coggins test. Only 9.8 percent of operations had never heard of EIA. A higher percentage of operations in the South region (54.3 percent) were knowledgeable about EIA compared to operations in the Northeast, West, and Central regions (39.5 percent, 29.9 percent, and 46.5 percent, respectively).

a. Percentage of operations by familiarity with EIA and by region:

Familiarity	Percent Operations									
	Region									
	South		Northeast		West		Central		All Operations	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Had not heard of it before	9.1	(0.9)	14.4	(2.1)	12.6	(1.5)	6.4	(1.1)	9.8	(0.6)
Recognized the name, not much else	13.8	(1.1)	24.8	(2.5)	27.0	(2.0)	17.3	(1.7)	18.7	(0.8)
Knew some basics	22.8	(1.4)	21.3	(2.4)	30.5	(2.1)	29.8	(2.0)	25.9	(0.9)
Knowledgeable	54.3	(1.6)	39.5	(2.8)	29.9	(2.0)	46.5	(2.1)	45.6	(1.0)
Total	100.0		100.0		100.0		100.0		100.0	

Percentage of Operations by Familiarity with EIA and by Region



A higher percentage of boarding/training and breeding farm operations were knowledgeable about EIA compared to farm/ranch or residence-with-equids-for-personal-use operations.

b. Percentage of operations by familiarity with EIA and by primary function of the operation:

Percent Operations										
Primary Function										
Familiarity	Boarding/ Training		Breeding Farm		Farm/ Ranch		Residence with Equids for Personal Use		Other	
	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.
	Had not heard of	4.0	(1.7)	5.6	(1.2)	13.5	(1.1)	8.7	(1.0)	5.7
Recognized name, not much else	8.0	(1.9)	9.0	(1.5)	24.6	(1.4)	18.1	(1.4)	14.2	(4.4)
Knew some basics	18.4	(2.9)	26.3	(2.2)	23.2	(1.4)	29.4	(1.6)	31.6	(5.8)
Knowledgeable	69.6	(3.5)	59.1	(2.5)	38.7	(1.6)	43.8	(1.8)	48.5	(6.1)
Total	100.0		100.0		100.0		100.0		100.0	

In general, familiarity with EIA increased as size of operation increased. For large operations, 63.3 percent were knowledgeable about EIA and only 4.5 percent had never heard of EIA.

c. Percentage of operations by familiarity with EIA and by size of operation:

Familiarity	Percent Operations					
	Size of Operation (Number of Equids)					
	Small (5-9)		Medium (10-19)		Large (20 or More)	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Had not heard of	10.7	(0.9)	9.0	(1.1)	4.5	(0.8)
Recognized name, not much else	20.1	(1.1)	17.8	(1.4)	10.6	(1.2)
Knew some basics	26.3	(1.2)	26.3	(1.6)	21.6	(1.7)
Knowledgeable	42.9	(1.3)	46.9	(1.8)	63.3	(2.0)
Total	100.0		100.0		100.0	

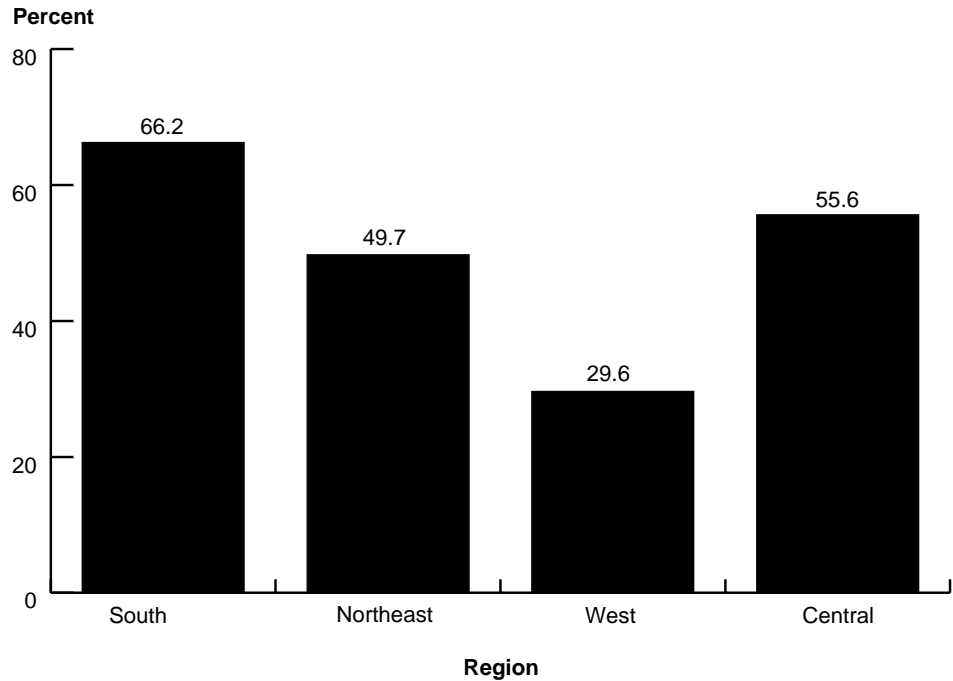
4. EIA testing

Operations in the West region were least likely to have tested at least one equid for EIA during the previous 12 months compared to operations in the other regions. Operations in the South region were most likely to have tested at least one equid for EIA during the previous 12 months compared to operations in the other regions. The percentages of operations that tested for EIA were similar on operations in the Northeast and Central regions.

a. Percentage of operations that performed at least one Coggins or other test for EIA during the previous 12 months, by region:

Percent Operations									
Region									
South		Northeast		West		Central		All Operations	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
66.2	(1.5)	49.7	(2.8)	29.6	(1.9)	55.6	(2.1)	54.1	(1.0)

Percentage of Operations that Performed at Least One Coggins or Other Test for EIA During the Previous 12 Months, by Region



The percentage of operations that tested at least one equid for EIA during the previous 12 months increased as the size of operation increased: 75.4 percent of large operations tested at least one equid for EIA compared to 62.7 percent of medium operations and 48.3 percent of small operations.

b. Percentage of operations that performed at least one Coggins or other test for EIA during the previous 12 months, by size of operation:

Percent Operations					
Size of Operation (Number of Equids)					
Small (5-9)		Medium (10-19)		Large (20 or More)	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
48.3	(1.3)	62.7	(1.7)	75.4	(1.8)

At least 44 percent of each operation type (primary function) tested at least one equid for EIA during the previous 12 months. Boarding/training, breeding farm, and “other” operations were more likely to have tested at least one equid for EIA during the previous 12 months than farm/ranch or residence-with-equids-for-personal-use operations.

c. Percentage of operations that had performed at least one Coggins or other test for EIA during the previous 12 months, by primary function of operation:

Percent Operations									
Primary Function									
Boarding/ Training		Breeding Farm		Farm/ Ranch		Residence with Equids for Personal Use		Other	
Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.
81.9	(3.0)	69.9	(2.4)	44.8	(1.6)	52.2	(1.8)	76.9	(5.2)

A lower percentage of operations where the primary use of equids was pleasure or farm/ranch work had tested at least one equid for EIA during the previous 12 months compared to operations where the primary use of equids was lessons/school, show/competition, breeding, or racing.

d. Percentage of operations that had performed at least one Coggins or other test for EIA during the previous 12 months, by primary use of equids:

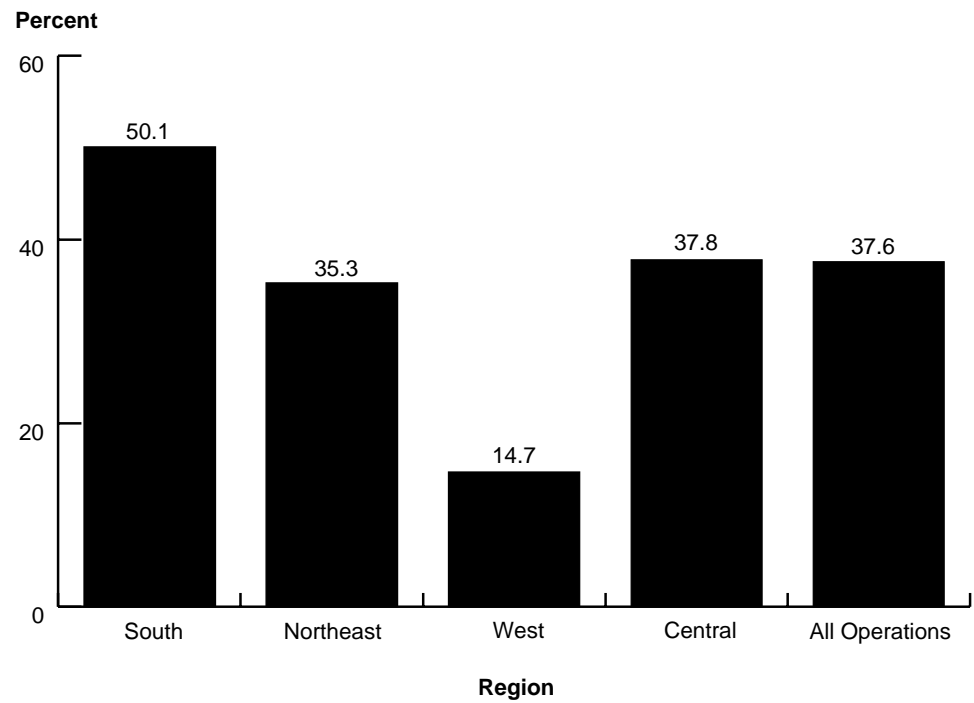
Percent Operations													
Primary Use of Equids													
Pleasure		Lessons/ School		Show/ Compe- tition		Breeding		Racing		Farm/ Ranch Work		Other	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
49.5	(1.6)	80.1	(6.5)	85.4	(2.4)	68.5	(2.3)	83.7	(6.3)	37.7	(2.0)	63.7	(8.6)

Compared to the West region, the South region tested a higher percentage of equids for EIA. Operations in the Central and Northeast regions tested approximately the same percentage of equids for EIA.

e. Percentage of resident equids tested for EIA during the previous 12 months, by region:

Percent Resident Equids									
Region									
South		Northeast		West		Central		All Operations	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
50.1	(1.4)	35.3	(2.2)	14.7	(1.5)	37.8	(1.6)	37.6	(0.8)

Percentage of Resident Equids Tested for EIA During the Previous 12 months, by Region



Nearly two-thirds of equids on operations where the primary use of equids was show/competition (62.2 percent) were tested for EIA during the previous 12 months, while only 20.1 percent of equids on operations with a primary use of farm/ranch work were tested.

f. Percentage of resident equids tested for EIA during the previous 12 months, by primary use of equids:

Percent Equids													
Primary Use of Equids													
Pleasure		Lessons/ School		Show/ Compe- tition		Breeding		Racing		Farm/ Ranch Work		Other	
Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.
36.6	(1.3)	55.7	(6.4)	62.2	(2.4)	40.2	(1.9)	56.3	(6.9)	20.1	(1.4)	72.3	(13.4)

On operations that tested at least one equid for EIA, 59.1 percent of resident equids were tested for EIA.

g. For operations that tested for EIA, percentage of resident equids tested, by region:

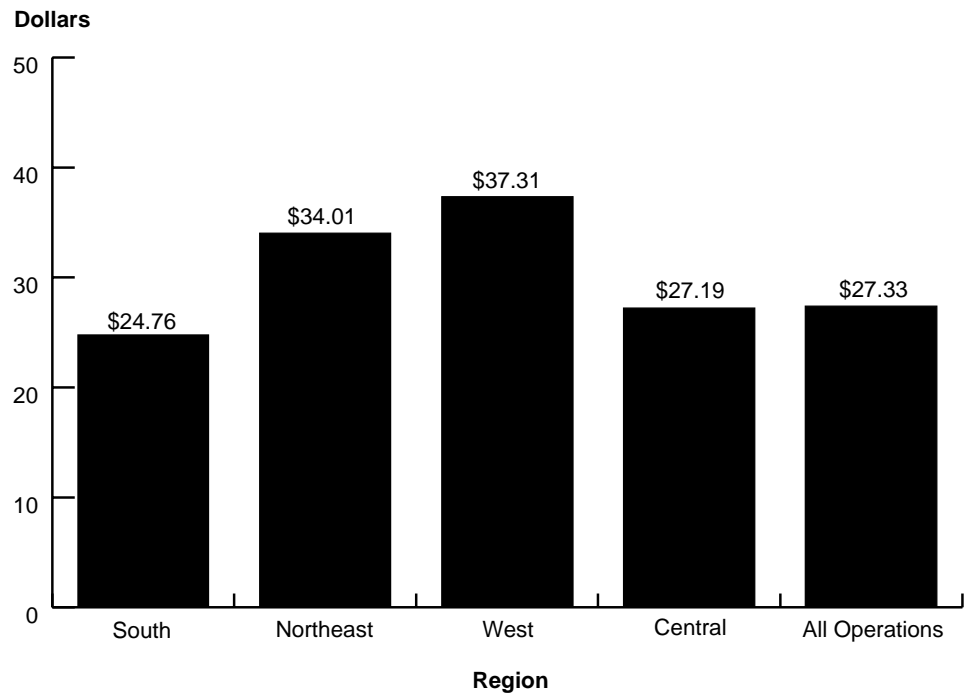
Percent Resident Equids									
Region									
South		Northeast		West		Central		All Operations	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
67.4	(1.3)	60.6	(2.5)	33.4	(2.7)	57.5	(1.8)	59.1	(1.0)

Overall, the average cost of an EIA test on operations that tested at least one equid for EIA during the previous 12 months was \$27.33 per test. The cost was higher in the Northeast and West regions than in the South and Central regions.

h. For operations that tested for EIA, average cost per test (including call fee or cost of transportation), by region:

Average Cost Per Test									
Region									
South		Northeast		West		Central		All Operations	
Avg.	Std. Error	Avg.	Std. Error	Avg.	Std. Error	Avg.	Std. Error	Avg.	Std. Error
\$24.76	(0.81)	\$34.01	(1.72)	\$37.31	(1.91)	\$27.19	(0.84)	\$27.33	(0.59)

For Operations that Tested for EIA, Average Cost per Test (Including Call Fee or Cost of Transportation), by Region



The average cost of an EIA test was similar across operation sizes.

i. For operations that tested for EIA, average cost per test (including call fee or cost of transportation), by size of operation:

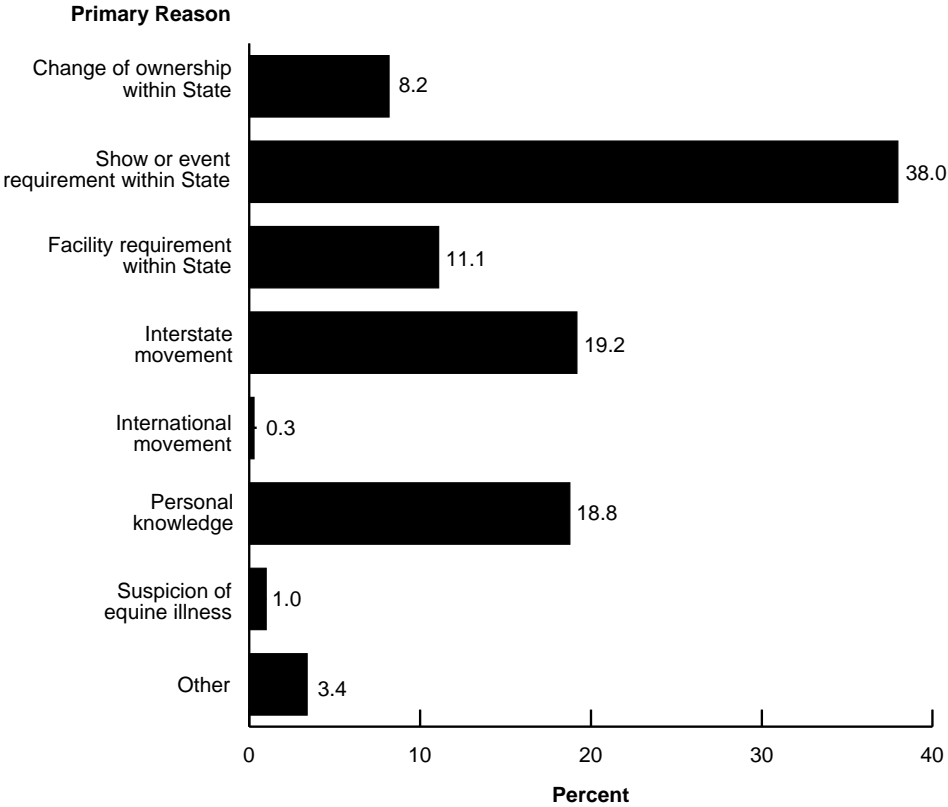
Average Cost Per Test					
Size of Operation (Number of Equids)					
Small (5-9)		Medium (10-19)		Large (20 or More)	
Avg.	Std. Error	Avg.	Std. Error	Avg.	Std. Error
\$29.13	(0.79)	\$26.95	(0.77)	\$25.72	(1.38)

Operations that tested one or more equids for EIA during the previous 12 months were asked to identify their reasons for EIA testing and then select the primary reason for testing. The highest percentage of operations indicated EIA testing for show or event requirement within the State, interstate movement, and personal knowledge, followed by change of ownership and facility requirement within the State. Reasons listed in the "other" category included State or Federal park requirement, registration requirement, to do trail ride (not part of an event), State law, transportation purposes with no specification of where, USDA requirement, and it is the law with no specification of which law. Other responses of preventive or part of an annual veterinary examination were reclassified into the personal knowledge category.

j. For operations that tested for EIA, percentage of operations by reason for testing and by primary reason for testing:

Percent Operations				
Reason	Reason		Primary Reason	
	Percent	Std. Error	Percent	Std. Error
Change of ownership within State	24.0	(1.1)	8.2	(0.7)
Show or event requirement within State	56.1	(1.4)	38.0	(1.3)
Facility (e.g., boarding, breeding) requirement within State	21.7	(1.1)	11.1	(0.8)
Interstate movement (between two or more States)	38.3	(1.3)	19.2	(1.1)
International movement	2.4	(0.4)	0.3	(0.1)
Personal knowledge	33.2	(1.3)	18.8	(1.1)
Suspicion of equine illness	2.5	(0.4)	1.0	(0.3)
Other	4.4	(0.6)	3.4	(0.5)
Total	N/A		100.0	

For Operations that Tested for EIA, Percentage of Operations by Primary Reason for Testing



Change of ownership was more likely to be a primary reason for EIA testing on operations in the Northeast and Central regions than on operations in the South region. Show or event requirement within State was less likely to be a primary reason for EIA testing on operations in the West region than on operations in the other regions. Interstate movement was more likely to be a primary reason for EIA testing on operations in the West region than on operations in the other regions. International movement was an uncommon primary reason for EIA testing on operations in all regions. Personal knowledge was more likely a primary reason for EIA testing on operations in the South region than on operations in the other regions. Suspicion of illness and international movement were uncommon primary reasons for testing.

k. For operations that tested for EIA, percentage of operations by primary reason for testing and by region:

Primary Reason for Testing	Percent Operations							
	Region							
	South		Northeast		West		Central	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Change of ownership within State	5.5	(0.8)	12.4	(2.4)	8.6	(1.9)	11.4	(1.7)
Show or event requirement within State	36.5	(1.9)	42.9	(4.0)	22.0	(3.2)	45.7	(2.7)
Facility (e.g., boarding, breeding) requirement within State	12.7	(1.2)	9.8	(2.3)	5.6	(1.9)	10.7	(1.6)
Interstate movement (between two or more States)	12.2	(1.3)	20.1	(3.3)	56.3	(3.8)	17.3	(2.0)
International movement	0.1	(0.1)	0.0	(--)	1.3	(0.9)	0.3	(0.2)
Personal knowledge	26.7	(1.8)	13.3	(2.8)	4.9	(1.7)	11.1	(1.8)
Suspicion of equine illness	1.4	(0.5)	0.9	(0.9)	0.4	(0.3)	0.6	(0.5)
Other	4.9	(0.9)	0.6	(0.3)	0.9	(0.7)	2.9	(1.0)
Total	100.0		100.0		100.0		100.0	

5. Vaccinations

Overall, 75.9 percent of operations had given at least some type of vaccine to resident equids during the previous 12 months. A higher percentage of operations in the West region (83.8 percent) had given at least some vaccines to resident equids compared to operations in the South and Northeast regions (72.3 percent and 72.0 percent, respectively).

a. Percentage of operations that administered any vaccine to resident equids during the previous 12 months, by region:

Percent Operations									
Region									
South		Northeast		West		Central		All Operations	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
72.3	(1.4)	72.0	(2.6)	83.8	(1.6)	77.4	(1.8)	75.9	(0.9)

A higher percentage of large operations (87.2 percent) administered at least some vaccines to resident equids during the previous 12 months compared to medium and small operations (78.0 percent and 73.6 percent, respectively).

b. Percentage of operations that administered any vaccine to resident equids during the previous 12 months, by size of operation:

Percent Operations					
Size of Operation (Number of Equids)					
Small (5-9)		Medium (10-19)		Large (20 or More)	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
73.6	(1.2)	78.0	(1.5)	87.2	(1.4)

Operations with a primary function of farm/ranch and residence with equids for personal use were less likely to have administered any vaccine to resident equids during the previous 12 months than operations with a primary function of boarding/training, breeding farm, and “other.”

c. Percentage of operations that administered any vaccine to resident equids during the previous 12 months, by primary function of operation:

Percent Operations									
Primary Function of Operation									
Boarding/ Training		Breeding Farm		Farm/ Ranch		Residence with Equids for Personal Use		Other	
Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.
96.8	(1.4)	89.7	(1.6)	67.8	(1.5)	74.9	(1.5)	91.2	(3.2)

Overall, a veterinarian was the primary source of vaccines for operations that administered any vaccine to resident equids during the previous 12 months. Operations in the Northeast region (82.7 percent) were more likely to obtain vaccines from a veterinarian than operations in the West or Central regions (71.4 percent and 74.2 percent, respectively) and less likely to obtain vaccines from a feed store or veterinary supply store (8.9 percent) than operations in the West region (20.1 percent). “Other” specified sources of vaccines included a friend, other equine owner, neighbor, and whatever is cheapest.

d. For operations that administered any vaccine to resident equids during the previous 12 months, percentage of operations by primary source of vaccines and by region:

Percent Operations										
Region										
Primary Source	South		Northeast		West		Central		All Operations	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Veterinarian	77.7	(1.5)	82.7	(2.5)	71.4	(2.2)	74.2	(2.1)	76.0	(1.0)
Feed store or veterinary supply store	15.1	(1.3)	8.9	(1.9)	20.1	(2.0)	15.4	(1.7)	15.6	(0.9)
Catalog/ Internet	6.4	(0.8)	7.8	(1.7)	5.9	(1.1)	10.1	(1.4)	7.4	(0.6)
Other	0.8	(0.3)	0.6	(0.6)	2.6	(0.9)	0.3	(0.3)	1.0	(0.2)
Total	100.0		100.0		100.0		100.0		100.0	



APHIS photo by Charles Kerlee

For operations that administered any vaccine to resident equids during the previous 12 months, a higher percentage of small operations (77.9 percent) used a veterinarian as the primary source of vaccines compared to large operations (70.5 percent). The percentage of operations that used catalog/Internet as the primary source of vaccines increased as operation size increased.

e. For operations that administered any vaccine to resident equids during the previous 12 months, percentage of operations by primary source of vaccines and by size of operation:

Primary Source	Percent Operations					
	Size of Operation (Number of Equids)					
	Small (5-9)		Medium (10-19)		Large (20 or More)	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Veterinarian	77.9	(1.3)	73.2	(1.8)	70.5	(2.0)
Feed store or veterinary supply store	15.2	(1.2)	16.9	(1.5)	14.0	(1.5)
Catalog/Internet	5.6	(0.7)	9.5	(1.2)	14.3	(1.5)
Other	1.3	(0.4)	0.4	(0.3)	1.2	(0.5)
Total	100.0		100.0		100.0	

The percentage of operations that used catalog/Internet as the primary source of vaccines ranged from 5.2 percent of farm/ranch operations to 13.4 percent of breeding farms.

f. For operations that administered any vaccine to resident equids during the previous 12 months, percentage of operations by primary source of vaccines and by primary function of operation:

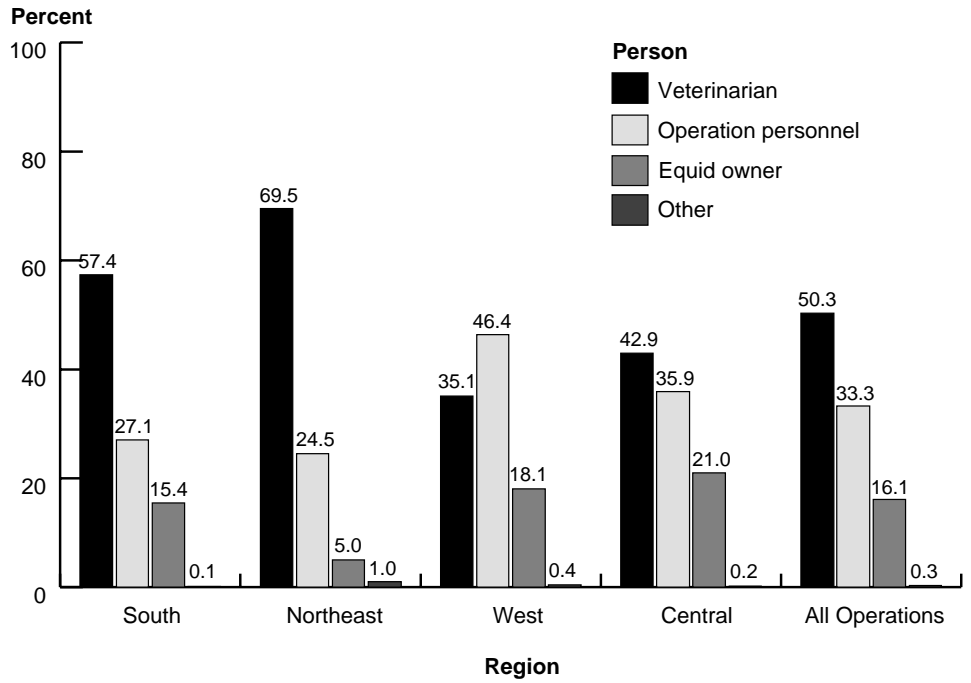
Percent Operations										
Primary Function of Operation										
Primary Source	Boarding/ Training		Breeding Farm		Farm/ Ranch		Residence with Equids for Personal Use		Other	
	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.
Veterinarian	80.5	(3.1)	68.0	(2.4)	78.1	(1.6)	77.2	(1.7)	71.4	(5.9)
Feed store or veterinary supply store	11.4	(2.6)	17.5	(2.0)	15.5	(1.4)	15.3	(1.5)	19.0	(5.3)
Catalog/ Internet	7.8	(1.9)	13.4	(1.6)	5.2	(0.9)	6.5	(1.0)	9.6	(3.5)
Other	0.3	(0.3)	1.1	(0.6)	1.2	(0.5)	1.0	(0.4)	0.0	(--)
Total	100.0		100.0		100.0		100.0		100.0	

The percentage of operations that used a veterinarian to administer the majority of vaccines to resident equids ranged from 69.5 percent in the Northeast region to 35.1 percent in the West region. In the West region, the operator or equine owner administered the majority of vaccines to resident equids on 64.5 percent of operations compared to only 29.5 percent of the operations in the Northeast region. "Other" specified persons administering vaccines were family member or veterinary technician.

g. For operations that administered any vaccine to resident equids during the previous 12 months, percentage of operations by person who administered the majority of vaccines and by region:

Person	Percent Operations									
	Region									
	South		Northeast		West		Central		All Operations	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Veterinarian	57.4	(1.8)	69.5	(3.0)	35.1	(2.3)	42.9	(2.4)	50.3	(1.2)
Operation personnel (including operator)	27.1	(1.6)	24.5	(2.8)	46.4	(2.4)	35.9	(2.3)	33.3	(1.1)
Equid owner (not operator)	15.4	(1.4)	5.0	(1.4)	18.1	(1.9)	21.0	(1.9)	16.1	(0.9)
Other	0.1	(0.1)	1.0	(0.7)	0.4	(0.3)	0.2	(0.2)	0.3	(0.1)
Total	100.0		100.0		100.0		100.0		100.0	

For Operations that Administered Any Vaccine to Resident Equids During the Previous 12 Months, Percentage of Operations by Person Who Administered the Majority of Vaccines and by Region



As operation size increased so did the percentage of operations that used operation personnel to administer the majority of vaccines. Slightly more than half of small operations (54.1 percent) used a veterinarian to administer the majority of vaccines.

h. For operations that administered any vaccine to resident equids during the previous 12 months, percentage of operations by person who administered the majority of vaccines and by size of operation:

Person	Percent Operations					
	Size of Operation (Number of Equids)					
	Small (5-9)		Medium (10-19)		Large (20 or More)	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	
Veterinarian	54.1	(1.6)	44.4	(2.0)	39.2	(2.1)
Operation personnel (including operator)	29.6	(1.5)	39.1	(2.0)	43.4	(2.2)
Equid owner (not operator)	15.8	(1.2)	16.4	(1.5)	17.4	(1.7)
Other	0.5	(0.2)	0.1	(0.1)	0.0	(--)
Total	100.0		100.0		100.0	

A higher percentage of boarding/training operations used a veterinarian to administer the majority of vaccines compared to operations with a primary function of breeding farm, farm/ranch, or residence with equids for personal use. A higher percentage of breeding farm and farm/ranch operations used operation personnel to administer the majority of vaccines compared to boarding/training and residence-with-equids-for-personal-use operations.

i. For operations that administered any vaccine to resident equids during the previous 12 months, percentage of operations by person who administered the majority of vaccines and by primary function of operation:

Percent Operations										
Primary Function of Operation										
Person	Boarding/ Training		Breeding Farm		Farm/ Ranch		Residence with Equids for Personal Use		Other	
	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.
Veterinarian	68.4	(3.6)	42.7	(2.6)	44.3	(2.0)	55.9	(2.0)	49.9	(6.4)
Operation personnel (including operator)	21.3	(3.2)	38.9	(2.5)	38.5	(1.9)	27.5	(1.8)	40.3	(6.3)
Equid owner (not operator)	9.6	(2.3)	18.4	(2.0)	16.7	(1.4)	16.3	(1.5)	9.8	(3.6)
Other	0.7	(0.7)	0.0	(--)	0.5	(0.3)	0.3	(0.2)	0.0	(--)
Total	100.0		100.0		100.0		100.0		100.0	

Operators on over 9 of 10 operations (94.4 percent) knew what type of vaccines were administered to equids during the previous 12 months.

j. For operations that administered any vaccine to resident equids during the previous 12 months, percentage of operations where the operator knew which diseases equids were vaccinated against, by size of operation:

Percent Operations							
Size of Operation (Number of Equids)							
Small (5-9)		Medium (10-19)		Large (20 or More)		All Operations	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
94.2	(0.8)	94.3	(0.9)	96.3	(0.8)	94.4	(0.5)

The highest percentage of operations vaccinated resident equids against West Nile virus (WNV), tetanus, eastern and western equine encephalitis (EEE/WEE), flu, and rhinopneumonitis (herpesvirus). The frequency of use for common vaccines such as tetanus may be underestimated and the use of vaccines given less commonly may be overestimated because operations that did not know which vaccines they gave but did vaccinate were not included in these estimates.

k. Percentage of operations that administered vaccines for the following diseases to one or more equids during the previous 12 months:

Disease	Percent Operations	
	Percent	Standard Error
Flu (influenza)	54.1	(1.0)
Strangles (<i>Strep equi</i>)	26.8	(0.9)
Rhinopneumonitis (herpesvirus)	47.5	(1.0)
Rabies	33.1	(1.0)
West Nile virus	63.8	(1.0)
Eastern and western equine encephalitis (sleeping sickness)	56.4	(1.0)
Tetanus	60.7	(1.0)
Equine viral arteritis (EVA)	11.7	(0.7)
Venezuelan equine encephalitis (VEE)	17.9	(0.8)
<i>Clostridium perfringens</i> (C&D)	2.5	(0.3)
Potomac horse fever (PHF)	10.6	(0.6)
Rotavirus	4.2	(0.4)
Anthrax	1.8	(0.3)
Equine protozoal myelitis (EPM)	3.6	(0.4)
Other	0.5	(0.1)

For operations that vaccinated any resident horses during the previous 12 months and knew which vaccines were given, the highest percentage (85.3 percent) had vaccinated all or some types of resident horses against WNV. Over 70 percent of operations had vaccinated some or all resident horses against flu, WNV, EEE/WEE, and tetanus. Approximately 45 percent of operations had vaccinated some or all resident horses against rabies, and approximately 36 percent had vaccinated some or all resident horses against strangles. For operations that vaccinated at least one horse and had horses younger than 1 year of age, a lower percentage had vaccinated some or all of these horses for most of the listed diseases compared to operations with horses 1 year or more of age. Some owners may have waited until foals were older before vaccinating them to avoid interfering with maternally acquired antibodies. Vaccines used uncommonly included *Clostridium perfringens* (not a licensed vaccine for use in horses; the only product on the market is for other livestock such as cattle and small ruminants), rotavirus, EPM, and anthrax.

I. For operations that vaccinated and knew which diseases their horses were vaccinated against during the previous 12 months, and that had resident horses of the specified age class/type, percentage of operations that vaccinated all or some resident horses against the following diseases, by age class/type:

Disease	Percent Operations							
	Age Class/Type							
	Resident Horses Less Than 1 Year		Broodmares		Other Resident Horses Over 1 Year		Any Resident Horse	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Flu (influenza)	58.2	(2.2)	77.3	(1.4)	72.3	(1.1)	72.5	(1.1)
Strangles (<i>Strep equi</i>)	26.7	(1.9)	35.6	(1.6)	35.7	(1.2)	36.1	(1.2)
Rhinopneumonitis (herpesvirus)	51.2	(2.2)	69.7	(1.6)	61.5	(1.2)	63.7	(1.2)
Rabies	33.0	(2.1)	41.6	(1.6)	44.6	(1.2)	44.5	(1.2)
West Nile virus	65.5	(2.1)	83.1	(1.2)	85.6	(0.9)	85.3	(0.8)
Eastern and western equine encephalitis (sleeping sickness)	59.0	(2.2)	79.2	(1.4)	76.0	(1.1)	75.6	(1.0)
Tetanus	73.7	(2.0)	83.0	(1.3)	79.6	(1.0)	81.3	(1.0)
Equine viral arteritis	12.0	(1.4)	16.6	(1.3)	15.7	(0.9)	16.0	(0.9)
Venezuelan equine encephalitis	21.5	(1.8)	26.2	(1.5)	24.8	(1.1)	24.5	(1.1)
<i>Clostridium perfringens</i> (C&D)	3.8	(0.9)	4.0	(0.7)	3.3	(0.5)	3.5	(0.5)
Potomac horse fever	10.6	(1.3)	12.9	(1.1)	14.3	(0.8)	14.5	(0.8)
Rotavirus	4.1	(0.8)	6.7	(0.9)	5.4	(0.6)	5.8	(0.6)
Anthrax	2.6	(0.7)	2.5	(0.6)	2.3	(0.4)	2.4	(0.4)
Equine protozoal myelitis	3.4	(0.8)	4.7	(0.7)	4.7	(0.6)	4.9	(0.5)
Other	0.8	(0.3)	0.9	(0.3)	0.5	(0.2)	0.7	(0.2)

For operations that did not give a selected vaccine to equids, the highest percentage indicated that little risk of disease exposure was the primary reason for not vaccinating for each of the listed diseases. Not recommended by a veterinarian and effort and cost outweighed benefit were the next most frequently listed reasons for not vaccinating. Nearly 10 percent of operations that did not vaccinate against WNV reported concern of adverse reaction or vaccine ineffective as the primary reasons for not vaccinating, and 11.0 percent thought it was important but did not get around to it. The percentage of operations that did not vaccinate because the vaccine was not recommended by veterinarian was highest for EVA vaccine and lowest for WNV vaccine.

m. For operations that did not give specific vaccines to resident equids during the previous 12 months, percentage of operations by primary reason for not giving vaccine:

Percent Operations*																
Vaccination																
Primary Reason For Not Vaccinating	Influenza		Strangles		Rhino. (herpes-virus)		Rabies		WNV		EEE/ WEE		Tetanus		EVA	
	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.
Concern of adverse reaction to vaccine	2.7	(0.5)	4.2	(0.5)	2.7	(0.5)	1.7	(0.3)	5.0	(0.7)	2.0	(0.4)	2.2	(0.5)	1.7	(0.3)
Vaccine considered ineffective	2.0	(0.5)	2.7	(0.4)	1.3	(0.3)	1.2	(0.3)	4.4	(0.7)	1.7	(0.4)	1.7	(0.5)	1.2	(0.3)
Little risk of disease exposure	61.3	(1.6)	56.2	(1.3)	59.5	(1.5)	60.8	(1.3)	53.1	(1.8)	60.4	(1.6)	59.3	(1.7)	52.1	(1.1)
Not recommended by veterinarian	9.8	(1.0)	16.9	(1.0)	13.1	(1.0)	14.9	(0.9)	4.8	(0.8)	10.0	(1.0)	9.8	(1.1)	23.4	(1.0)
Financial constraints on horse expenditures	4.8	(0.7)	3.5	(0.5)	4.8	(0.7)	4.1	(0.5)	6.7	(0.9)	4.6	(0.7)	4.6	(0.8)	3.4	(0.4)
Thought important but did not get around to it	6.6	(0.8)	4.7	(0.6)	5.7	(0.7)	5.7	(0.6)	11.0	(1.2)	8.0	(0.9)	9.0	(1.0)	4.1	(0.5)
Effort and cost of vaccination outweighed financial and other benefits of vaccination	11.8	(1.0)	9.5	(0.7)	11.3	(0.9)	9.7	(0.8)	13.3	(1.2)	11.9	(1.1)	12.0	(1.1)	8.5	(0.6)
Other	1.0	(0.3)	2.3	(0.4)	1.6	(0.4)	1.9	(0.4)	1.7	(0.5)	1.4	(0.4)	1.4	(0.4)	5.6	(0.5)
Total	100.0		100.0		100.0		100.0		100.0		100.0		100.0		100.0	

*Includes responses from operations that gave no vaccines to their resident equids during the previous 12 months as well as operations that gave some vaccine but not vaccines listed in the table.

For operations that gave any vaccines but did not vaccinate for WNV, 10.9 percent listed the primary reason for not vaccinating as concern about adverse reactions, and 7.3 percent felt the vaccine was considered ineffective; these percentages were higher than the percentages for any other vaccine listed. In addition, 9.0 percent of operations listed their primary reason for not giving WNV vaccine as not recommended by veterinarian; this percentage was lower than the percentage for any other vaccine listed. Three of 10 operations (31.8 percent) listed the reason they did not give EVA vaccine as not recommended by veterinarian; this percentage was higher than the percentage of any other vaccine listed. Approximately 50 percent of operations indicated that the primary reason for not giving all vaccines except WNV was little risk of disease exposure.

n. For operations that gave **any** vaccines to resident equids during the previous 12 months, percentage of operations by primary reason for not giving specific vaccines:

Percent Operations*																		
Primary Reason For Not Vaccinating	Vaccination																	
	Influenza		Strangles		Rhino. (herpes-virus)		Rabies		WNV		EEE/ WEE		Tetanus		EVA			
	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.		
Concern of adverse reaction to vaccine	3.0	(0.9)	5.3	(0.7)	2.9	(0.7)	1.5	(0.4)	10.9	(1.8)	1.8	(0.7)	2.2	(0.9)	1.5	(0.3)		
Vaccine considered ineffective	1.3	(0.5)	2.6	(0.5)	0.5	(0.2)	0.6	(0.2)	7.3	(1.7)	0.9	(0.4)	0.8	(0.6)	0.7	(0.2)		
Little risk of disease exposure	57.2	(2.3)	51.9	(1.5)	54.9	(2.1)	58.5	(1.6)	39.9	(3.1)	55.7	(2.5)	53.5	(2.9)	46.8	(1.3)		
Not recommended by veterinarian	18.2	(1.8)	24.0	(1.3)	22.6	(1.8)	22.2	(1.4)	9.0	(1.8)	19.8	(2.0)	22.0	(2.4)	31.8	(1.3)		
Financial constraints on horse expenditures	4.3	(0.9)	2.6	(0.5)	4.1	(0.8)	3.4	(0.6)	8.7	(1.6)	3.6	(0.9)	3.2	(1.0)	2.5	(0.4)		
Thought important but did not get around to it	4.3	(1.0)	2.8	(0.5)	3.0	(0.7)	3.8	(0.6)	8.3	(1.8)	6.0	(1.2)	6.5	(1.4)	2.7	(0.5)		
Effort and cost of vaccination outweighed financial and other benefits of vaccination	11.2	(1.5)	8.1	(0.8)	10.2	(1.2)	7.9	(0.9)	13.3	(2.1)	10.5	(1.6)	10.9	(1.8)	7.0	(0.7)		
Other	0.5	(0.3)	2.7	(0.5)	1.8	(0.6)	2.1	(0.5)	2.6	(1.0)	1.7	(0.6)	0.9	(0.5)	7.0	(0.7)		
Total	100.0		100.0		100.0		100.0		100.0		100.0		100.0		100.0			

*For operations that gave any vaccines but not the specified vaccine.

6. Foal health

Overall, 35.6 percent of operations had one or more foals less than 6 months of age as part of their resident equids during the previous 12 months. The percentages of operations with resident foal(s) were similar across regions.

a. Percentage of operations that had any resident foals less than 6 months of age during the previous 12 months, by region:

Percent Operations									
Region									
South		Northeast		West		Central		All Operations	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
36.5	(1.4)	34.4	(2.7)	35.4	(2.0)	34.9	(2.0)	35.6	(0.9)

The percentage of operations that had one or more resident foals during the previous 12 months increased as size of operation increased. Approximately three-fourths of large operations (74.1 percent) had one or more resident foals during the previous 12 months compared to less than one-fourth of small operations (22.2 percent).

b. Percentage of operations that had any resident foals less than 6 months of age during the previous 12 months, by size of operation:

Percent Operations					
Size of Operation (Number of Equids)					
Small (5-9)		Medium (10-19)		Large (20 or More)	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
22.2	(1.1)	57.9	(1.8)	74.1	(1.8)



APHIS photo by Charles Kerlee

Approximately 14 percent of operations with foals had one or more foals with injury/wounds/trauma, which was more than twice as high as any other condition. Respiratory problems and digestive problems other than colic were the next most frequent conditions reported. Injury/wounds/trauma affected the highest percentage of foals, followed by digestive problems other than colic. "Other" conditions included mare sick and foal sick, did not know, weak, albino, complication of castration, and hernia. For estimates in the following table, operators with one or more foals were asked to report the number of resident foals that developed various conditions during the previous 12 months. It is possible that operators were more likely to remember and report more serious or recent conditions and not recall conditions that were self-resolving, caused only minor illness, or occurred many months prior to the interview. In addition, some operators may have reported only conditions that resulted in treatment rather than conditions that did not require treatment, because the question regarding the number of foals with the listed conditions preceded a question regarding the number of foals treated with an antibiotic for that condition.

c. For operations that had any resident foals less than 6 months of age during the previous 12 months, percentage of operations where foals became affected with the following conditions and percentage of foals affected:

Condition	Percent Operations		Percent Foals Affected	
	Pct.	Std. Error	Pct.	Std. Error
Colic	2.8	(0.5)	4.2	(2.5)
Other digestive problems (e.g., diarrhea)	5.7	(0.7)	6.3	(0.9)
Respiratory problems (e.g., pneumonia, strangles, <i>Rhodococcus equi</i> , etc.)	5.2	(0.7)	4.3	(0.6)
Eye problems	1.4	(0.3)	1.0	(0.2)
Skin problems	1.2	(0.3)	0.8	(0.3)
Reproductive tract problems (e.g., hermaphrodite, cryptorchid)	0.5	(0.2)	0.3	(0.1)
Behavioral problems (e.g., unusual behavior that affects use or safety)	0.3	(0.2)	0.2	(0.1)
Injury/wounds/trauma	13.9	(1.1)	9.2	(0.8)
Lameness, leg, or hoof problems (could not be used for intended purpose without treatment)	3.6	(0.6)	2.6	(0.4)
Neurologic problems	0.4	(0.2)	5.7	(5.1)
Infectious disease unrelated to specific body system (septicemia, blood infection)	1.6	(0.4)	1.0	(0.3)
Chronic weight loss	0.2	(0.1)	0.1	(0.1)
Overweight/obese	0.2	(0.1)	0.2	(0.1)
Failure to get milk or colostrum from mare/dam	3.6	(0.6)	2.0	(0.3)
Complications from birthing/dystocia	1.2	(0.2)	1.0	(0.2)
Fever of undetermined origin	1.2	(0.3)	0.8	(0.2)
Other	1.3	(0.4)	0.8	(0.2)

Overall, 1.7 percent of operations with resident foals less than 6 months of age had one or more foals diagnosed with *Rhodococcus equi*, ranging from 0.5 percent of operations in the Northeast region to 2.4 percent in the South region; however, the difference was not statistically significant at the 95-percent confidence level. The overall percentage of foals diagnosed with *Rhodococcus equi* infection was 1.2 percent. A higher percentage of foals in the South region (1.9 percent) were diagnosed with *Rhodococcus equi* infection compared to foals in the Northeast region (0.3 percent). However, it is possible that some operators had foals with this disease but did not report cases because they did not know the technical term for the causative agent or because a specific cause of disease was not pursued.

d. For operations that had any resident foals less than 6 months of age during the previous 12 months, percentage of operations where any resident foal was diagnosed with *Rhodococcus equi* infection and percentage of foals affected, by region:

Measure	Percent									
	Region									
	South		Northeast		West		Central		All Operations	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Percent operations	2.4	(0.6)	0.5	(0.3)	1.1	(0.5)	1.5	(0.8)	1.7	(0.4)
Percent foals	1.9	(0.6)	0.3	(0.2)	0.5	(0.2)	0.8	(0.4)	1.2	(0.3)

The percentage of operations with resident foals that had a foal diagnosed with *Rhodococcus equi* infection during the previous 12 months ranged from 1.0 percent of small operations to 3.4 percent of large operations; however, when taking into account the 95-percent confidence interval these estimates are not significantly different. The percentages of foals diagnosed with *Rhodococcus equi* infection were similar across operation sizes.

e. For operations that had any resident foals less than 6 months of age during the previous 12 months, percentage of operations where any resident foal was diagnosed with *Rhodococcus equi* infection and percentage of foals affected, by size of operation:

Measure	Percent					
	Size of Operation (Number of Equids)					
	Small (5-9)		Medium (10-19)		Large (20 or More)	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Percent operations	1.0	(0.5)	1.8	(0.6)	3.4	(0.8)
Percent foals	1.1	(0.6)	1.0	(0.3)	1.4	(0.5)

The estimated case fatality rate for foals diagnosed with *Rhodococcus equi* was 9.0 percent.

f. For foals diagnosed with *Rhodococcus equi* infection, percentage of foals that died (including euthanasia):

Percent Foals	Standard Error
9.0	(4.4)

Overall, 27.5 percent of operations with resident foals had treated one or more foals with an antibiotic during the previous 12 months, and 25.7 percent of foals were treated at least once with an antibiotic during the previous 12 months. Although it appears that a higher percentage of foals were treated with an antibiotic in the South and Northeast regions, the estimates were not significantly different statistically at the 95-percent confidence level from those in the West and Central regions. It is possible that operators may have reported a treatment other than an antibiotic, thinking it was an antibiotic when indeed it was a different type of drug, as the name of the drug(s) given was not requested.

f. For operations that had any resident foals less than 6 months of age, percentage of operations that treated any foals with an antibiotic at least once during the previous 12 months and percentage foals treated, by region:

		Percent									
		Region									
		South		Northeast		West		Central		All Operations	
Measure		Std.		Std.		Std.		Std.		Std.	
	Pct.	Error	Pct.	Error	Pct.	Error	Pct.	Error	Pct.	Error	
Percent operations		27.1	(2.0)	26.6	(4.2)	28.4	(3.1)	28.1	(3.0)	27.5	(1.4)
Percent foals		31.1	(4.2)	31.5	(5.6)	19.6	(2.3)	18.4	(2.3)	25.7	(2.2)

A higher percentage of large operations with resident foals (38.3 percent) had treated at least one foal with an antibiotic during the previous 12 months compared to small operations with resident foals (21.7 percent). The differences could be a reflection of large operations having more foals than small operations, which makes it more likely that large operations would have at least one foal in need of treatment. The percentages of foals treated on the operation did not vary by size of operation.

g. For operations that had any resident foals less than 6 months of age, percentage of operations that treated any foals with an antibiotic at least once during the previous 12 months and percentage of foals treated, by size of operation:

Measure	Percent					
	Size of Operation (Number of Equids)					
	Small (5-9)		Medium (10-19)		Large (20 or More)	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Percent operations	21.7	(2.4)	29.2	(2.2)	38.3	(2.3)
Percent foals	29.7	(3.9)	22.9	(2.0)	26.2	(4.1)

Only 4.6 percent of operations with resident foals had treated at least one foal with an antibiotic to prevent disease, and 7.0 percent of foals were given an antibiotic to prevent disease during the previous 12 months.

h. For operations that had any resident foals less than 6 months of age, percentage of operations that treated any foals with an antibiotic to prevent disease (no condition present) and percentage foals treated:

Percent Operations	Standard Error	Percent Foals	Standard Error
4.6	(0.6)	7.0	(1.9)

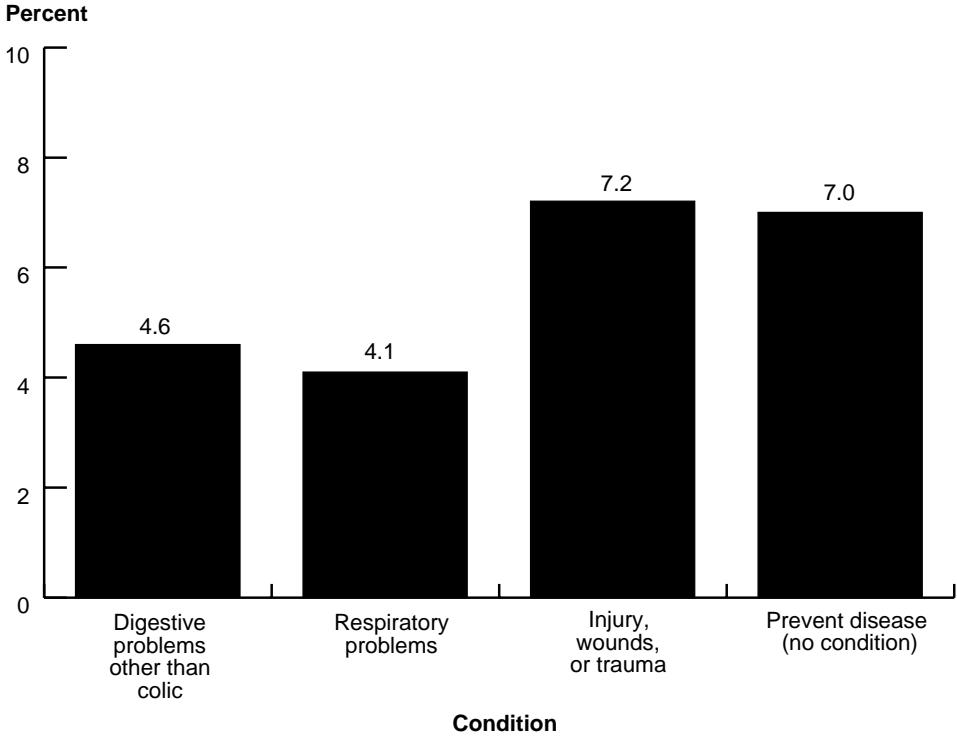
Overall, 7.2 percent of all foals received an antibiotic for injury/wound/trauma. The next most common conditions for which foals received antibiotics were digestive problems other than colic and respiratory problems (4.6 percent and 4.1 percent of foals, respectively). Foals included in these estimates could have been the same foals treated for different conditions, but not multiple times for the same condition. "Other" conditions included hernia due to castration, mare sick, and foal sick.

i. Percentage of all foals that received an antibiotic for the following conditions during the previous 12 months:

Condition	Percent Foals*	Standard Error
Colic	1.2	(0.2)
Other digestive problems (e.g., diarrhea)	4.6	(0.8)
Respiratory problems (e.g., pneumonia, strangles, <i>Rhodococcus equi</i> , etc.)	4.1	(0.6)
Eye problems	0.7	(0.2)
Skin problems	0.4	(0.2)
Reproductive tract problems (e.g., hermaphrodite, cryptorchid)	0.2	(0.1)
Behavioral problems (e.g., unusual, affects use or safety)	0.0	(0.0)
Injury/wounds/trauma	7.2	(0.6)
Lameness, leg, or hoof problems (could not be used for intended purpose without treatment)	1.6	(0.3)
Neurologic problems	0.1	(0.0)
Infectious disease unrelated to specific body system (septicemia, blood infection)	0.9	(0.3)
Chronic weight loss	0.0	(0.0)
Overweight/obese	0.0	(--)
Failure to get milk or colostrum from mare/dam	1.5	(0.3)
Complications from birthing/dystocia	0.6	(0.2)
Fever of undetermined origin	0.7	(0.2)
Other	0.5	(0.2)

*(Foals receiving an antibiotic for condition) x 100/foal inventory

Percentage of All Foals that Received an Antibiotic for the Following Conditions During the Previous 12 Months*



*From tables 6.h and 6.i

7. Equid health

The highest percentage of operations had at least one resident equid with a wound/injury/trauma, followed by lameness, colic, and respiratory problems. Over 5 percent of operations had at least one equid with an eye, dental, or skin condition. Wounds/injury/trauma occurred in 4.7 percent of resident equids 6 months of age or older, followed by lameness (2.8 percent of resident equids). Colic and respiratory problems each affected 1.9 percent of resident equids 6 months of age or older. It is possible that operators were more likely to remember and report more serious or recent conditions and less likely to recall conditions that were self-resolving, caused only minor illness, or occurred many months prior to the interview. In addition, some operators may have reported only conditions that resulted in treatment rather than conditions that did not require treatment, because the question regarding the number of equids with the listed conditions preceded a question regarding the number of equids treated with an antibiotic for that condition.

a. For operations that had any resident equids 6 months of age or older during the previous 12 months, percentage of operations where equids became affected with the following conditions and percentage of equids affected:

Condition	Percent Operations		Percent Equids Affected	
	Pct.	Std. Error	Pct.	Std. Error
Colic	10.4	(0.6)	1.9	(0.1)
Other digestive problems (e.g., diarrhea)	2.4	(0.3)	0.5	(0.1)
Dental problems	5.3	(0.5)	1.6	(0.2)
Respiratory problems	9.1	(0.6)	1.9	(0.1)
Eye problems	6.5	(0.5)	1.0	(0.1)
Skin problems	5.4	(0.5)	1.1	(0.1)
Reproductive problems (e.g., infertility, dystocia)	3.3	(0.4)	0.6	(0.1)
Behavioral problems (e.g., unusual, affects use or safety)	1.0	(0.2)	0.2	(0.0)
Injury/wounds/trauma	25.7	(0.9)	4.7	(0.2)
Lameness, leg, or hoof problems (could not be used for intended purpose without treatment)	15.5	(0.8)	2.8	(0.2)
Neurologic problems (e.g., spinal problem, wobblers, seizure, WNV, EPM)	0.9	(0.2)	0.2	(0.0)
Infectious disease unrelated to specific body system (septicemia, blood infections)	1.6	(0.3)	0.3	(0.1)
Chronic weight loss	1.4	(0.2)	0.2	(0.0)
Overweight/obese	3.4	(0.4)	0.9	(0.1)
Liver or kidney disease	0.5	(0.1)	0.1	(0.0)
Cancer	1.1	(0.2)	0.1	(0.0)
Other	1.8	(0.3)	0.3	(0.1)

Overall, 39.9 percent of operations had treated at least one resident equid 6 months of age or older with an antibiotic during the previous 12 months, and 10.1 percent of equids were treated with an antibiotic during the previous 12 months. The percentages of operations that had treated at least one resident equid were similar across regions, as were the percentages of equids treated. Equids included in these estimates could have been the same animals treated for different conditions, but not for recurrence of the same condition. It is possible that operators may have reported a treatment other than an antibiotic, thinking it was an antibiotic when indeed it was a different type of drug, as the name of the drug(s) given was not requested.

b. For operations that had any resident equids 6 months of age or older, percentage of operations that treated any resident equid with an antibiotic at least once during the previous 12 months and percentage of equids treated, by region:

Measure	Percent									
	Region									
	South		Northeast		West		Central		All Operations	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Percent operations	38.6	(1.6)	46.0	(2.9)	40.7	(2.1)	38.3	(2.1)	39.9	(1.0)
Percent equids	10.7	(0.6)	10.6	(0.8)	9.5	(0.7)	9.4	(0.7)	10.1	(0.4)

The percentage of operations that treated at least one resident equid with an antibiotic during the previous 12 months increased as operation size increased. As size of operation increased so did the number of equids at risk for illness or injury, making the need for treatment on large operations more likely. The percentages of resident equids treated were similar across operation sizes.

c. For operations that had any resident equids 6 months of age or older, percentage of operations that treated any resident equid with an antibiotic at least once during the previous 12 months and percentage of equids treated, by size of operation:

Measure	Percent					
	Size of Operation (Number of Equids)					
	Small (5-9)		Medium (10-19)		Large (20 or More)	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Percent operations	33.0	(1.3)	50.7	(1.8)	61.8	(2.0)
Percent equids	11.0	(0.6)	9.4	(0.5)	9.7	(0.8)

Overall, 2.1 percent of operations treated one or more resident equids 6 months of age or older with an antibiotic during the previous 12 months to prevent disease, and 1.1 percent of equids were treated with an antibiotic in the previous 12 months to prevent disease. Some operations that reported preventive use of antibiotics indicated treatment was given perioperatively, such as for castration.

d. For operations that had any resident equids 6 months of age or older, percentage of operations that treated any resident equid with an antibiotic to prevent disease (no condition present) during the previous 12 months and percentage equids treated:

Percent Operations	Standard Error	Percent Equids	Standard Error
2.1	(0.3)	1.1	(0.2)

Overall, 3.9 percent of resident equids 6 months of age or older received an antibiotic for injury/wounds/trauma during the previous 12 months. The next most common conditions for which an antibiotic was given to resident equids 6 months of age or older were respiratory problems and lameness. The same equid could have been included in this estimate more than once if the antibiotic was given for a single event that resulted in the condition, such as a wound that also resulted in lameness. However, treatment of the same equid for recurrence of the same condition was to have been reported only once. The route of administration of the antibiotic was not requested, so in some instances the antibiotic could have been applied topically, such as for eye or wound problems.

e. For operations that had any resident equids 6 months of age or older, percentage of equids that received an antibiotic for the following conditions:

Condition	Percent Equids	Standard Error
Colic	0.8	(0.1)
Other digestive problems (e.g., diarrhea)	0.2	(0.0)
Dental problems	0.3	(0.1)
Respiratory problems	1.6	(0.1)
Eye problems	0.7	(0.1)
Skin problems	0.4	(0.1)
Reproductive tract problems (e.g., infertility, dystocia)	0.5	(0.1)
Behavioral problems (e.g., unusual, affects use or safety)	0.1	(0.0)
Injury/wounds/trauma	3.9	(0.2)
Lameness, leg, or hoof problems (could not be used for intended purpose without treatment)	1.4	(0.1)
Neurologic problems (e.g., spinal problem, wobblers, seizure, WNV, EPM)	0.1	(0.0)
Infectious disease unrelated to specific body system (septicemia, blood infections)	0.3	(0.1)
Chronic weight loss	0.1	(0.0)
Overweight/obese	0.1	(0.0)
Liver or kidney disease	0.0	(0.0)
Cancer	0.1	(0.0)
Other	0.2	(0.1)

*(Resident equids over 6 months of age receiving an antibiotic for condition) x 100/inventory for resident equid over 6 months of age

8. Births

Overall, 33.6 percent of operations had an equine birth on the operation during the previous 12 months. The percentages of operations with at least one equine birth were similar across regions.

a. Percentage of operations that had any equine births on the operation during the previous 12 months, by region:

Percent Operations									
Region									
South		Northeast		West		Central		All Operations	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
34.5	(1.4)	30.1	(2.6)	33.9	(2.0)	33.7	(1.9)	33.6	(0.9)

The percentage of operations that had at least one equine birth increased as operation size increased; 72.7 percent of large operations had at least one equine birth during the previous 12 months compared to 20.4 percent of small operations.

b. Percentage of operations that had any equine births on the operation during the previous 12 months, by size of operation:

Percent Operations					
Size of Operation (Number of Equids)					
Small (5-9)		Medium (10-19)		Large (20 or More)	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
20.4	(1.1)	55.8	(1.8)	72.7	(1.8)

Overall, 93.5 percent of foals were born alive and 6.5 percent were born dead or were aborted during the previous 12 months.

c. Percentage of foals by birth outcome during the previous 12 months:

Birth Outcome	Percent Foals	Standard Error
Born alive	93.5	(0.5)
Born dead or aborted	6.5	(0.5)
Total	100.0	

9. Foal deaths

Overall, 4.9 percent of foals born alive died in the first 30 days. The percentage of foals that died in the first 2 days and the percentage that died in the subsequent 28 days (age 3 to 30 days) were similar (2.6 percent and 2.3 percent, respectively); thus the likelihood of a foal dying based on days at risk was higher in the early neonatal period, i.e., birth to 2 days of age. The mortality rates in foals less than or equal to 30 days of age were similar across regions.

a. For foals born alive, percentage of foals that died in the first 30 days of life (including born on or moved onto the operation) during the previous 12 months, by age at death (in days) and by region:

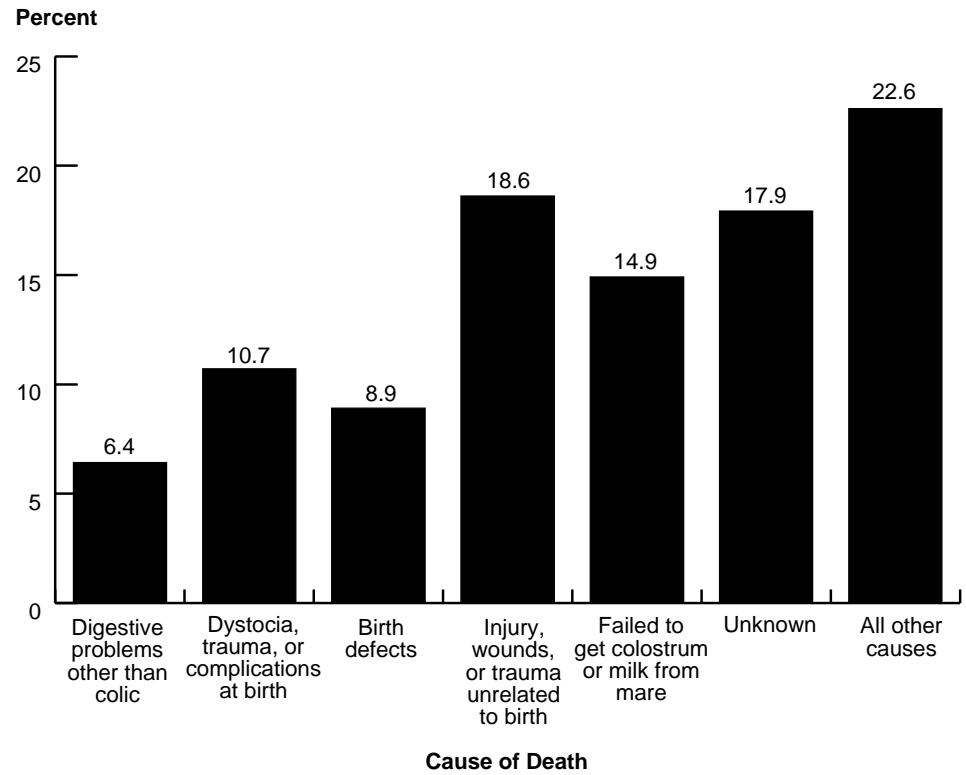
Age at Death (Days)	Percent Foals									
	Region									
	South		Northeast		West		Central		All Operations	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
2 or less	2.5	(0.4)	2.5	(0.8)	1.7	(0.4)	3.8	(0.8)	2.6	(0.3)
3 to 30	2.3	(0.4)	3.3	(1.1)	2.4	(0.6)	1.6	(0.5)	2.3	(0.3)
Total	4.8	(0.6)	5.8	(1.3)	4.1	(0.8)	5.4	(1.0)	4.9	(0.4)

For foals that were born alive but died in the first 30 days, 18.6 percent died due to injury/wounds/trauma (not related to birth), 17.9 percent died from unknown causes, and 14.9 percent died because they failed to get colostrum or milk from the mare. Dystocia, trauma, or complications at birth; birth defects; and other digestive problems were also frequently reported causes of death. “Other” causes of death included predator attacks and adverse environmental conditions.

b. For foals born alive, percentage of foals that died during the first 30 days, by cause of death:

Cause of Death	Percent Foal Deaths	Standard Error
Colic	1.5	(1.2)
Other digestive problems (e.g., diarrhea)	6.4	(1.9)
Respiratory problems (e.g., pneumonia, strangles, <i>Rhodococcus equi</i> , etc.)	3.6	(1.3)
Neurologic problems (e.g., spinal problem, wobblers, seizure, EPM, WNV, sleeping sickness, maladjustment syndrome)	0.5	(0.4)
Dystocia, trauma, or complications at birth	10.7	(2.6)
Birth defects	8.9	(2.1)
Injury/wounds/trauma unrelated to birth	18.6	(3.3)
Infectious disease unrelated to specific body system, blood infection (septicemia)	3.3	(1.7)
Failed to get colostrum or milk from mare	14.9	(3.5)
Other	13.7	(3.0)
Unknown	17.9	(3.1)
Total	100.0	

For Foals Born Alive, Percentage of Foals that Died During the First 30 Days, by Cause of Death



10. Equid deaths

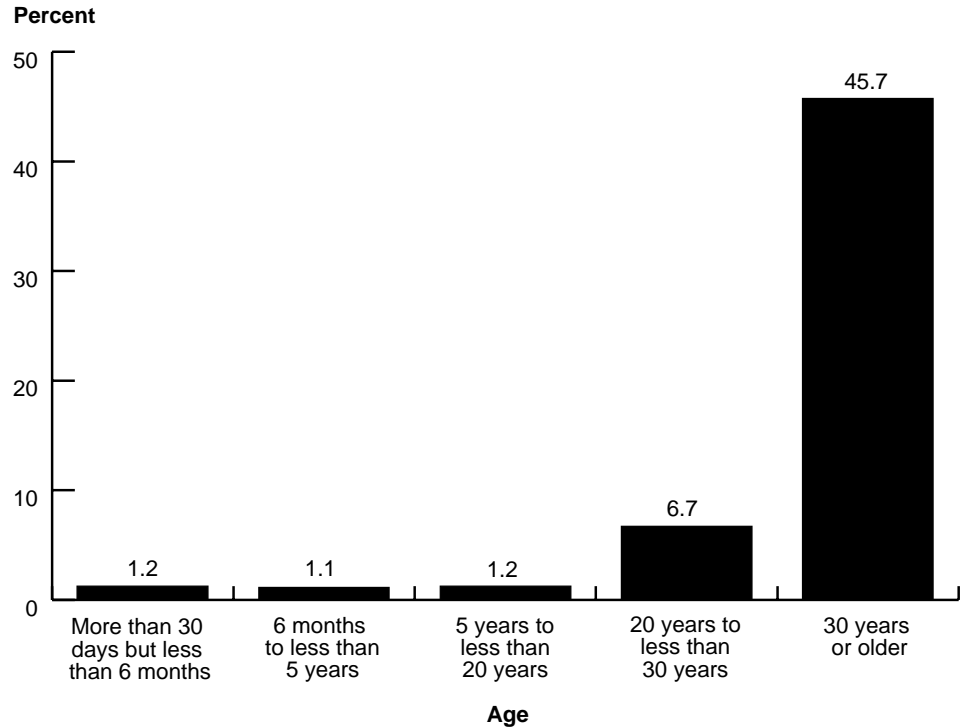
Total deaths ranged from 2.8 percent in the Northeast region to 1.6 percent in the South region during the previous 12 months. The overall mortality rate for resident equids more than 30 days of age was 1.8 percent. The mortality rates for equids more than 30 days of age to less than 20 years of age were similar. As expected, the highest mortality rates among resident equids more than 30 days of age occurred in equids 30 years or older followed by equids 20 to less than 30 years of age.

a. Percentage of resident equids more than 30 days of age that died or were euthanized during the previous 12 months, by age and by region:

Percent Resident Equids*										
Region										
Age	South		Northeast		West		Central		All Operations	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
More than 30 days but less than 6 months	1.1	(0.3)	1.0	(0.6)	1.9	(0.6)	0.8	(0.3)	1.2	(0.2)
6 months to less than 5 years	0.8	(0.1)	2.3	(0.6)	1.0	(0.2)	1.2	(0.3)	1.1	(0.1)
5 years to less than 20 years	1.1	(0.2)	1.7	(0.3)	0.9	(0.2)	1.2	(0.2)	1.2	(0.1)
20 years to less than 30 years	6.8	(1.2)	6.9	(1.7)	5.6	(1.0)	7.7	(1.5)	6.7	(0.7)
30 years or older	38.0	(9.5)	73.8	(23.2)	58.0	(15.4)	25.3	(9.9)	45.7	(6.7)
Total deaths of equids more than 30 days of age	1.6	(0.1)	2.8	(0.3)	1.8	(0.2)	1.8	(0.2)	1.8	(0.1)

*(Number of resident equids that died or were euthanized) x 100/age class of resident equine inventory

Percentage of Resident Equids More Than 30 Days of Age That Died or Were Euthanized During the Previous 12 Months, by Age

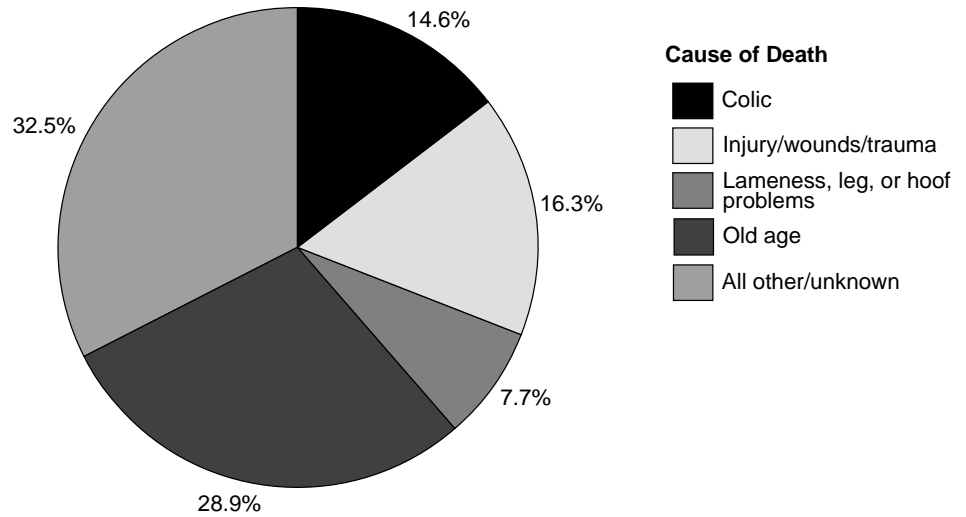


For equids more than 30 days to less than 6 months of age, the leading causes of death were injury/wounds/trauma and unknown causes. “Other” causes of death for equids more than 30 days to less than 6 months of age included insect bite and predation. As expected, old age was the leading cause of death in equids 6 months of age or older. The next two leading causes of death were injury/wounds/trauma and colic. Other causes of death for equids 6 months of age or older included heart attack, snake bite, stroke, ruptured vessel, endocrine disease, heat stroke, and pigeon fever. These are owner-reported causes of death and may or may not have been confirmed by a veterinarian.

b. Percentage of equid deaths (including euthanasia) by cause of death and by age:

Cause of Death	Percent Equid Deaths					
	Age					
	More than 30 Days to Less Than 6 Months		6 Months or Older		All	
Percent	Std. Error	Percent	Std. Error	Percent	Std. Error	
Colic	3.4	(2.0)	15.2	(1.8)	14.6	(1.7)
Other digestive problems (e.g., diarrhea)	8.3	(4.3)	3.0	(0.9)	3.3	(0.9)
Strangles	1.9	(1.9)	0.7	(0.4)	0.8	(0.5)
Other respiratory problems	5.4	(3.1)	2.0	(0.6)	2.2	(0.5)
Neurologic problems (e.g., spinal problem, wobblers, seizure, WNV, EPM)	0.0	(--)	3.3	(0.8)	3.2	(0.7)
Dystocia or birthing complications	0.0	(--)	2.3	(0.6)	2.2	(0.6)
Reproductive problems other than dystocia	1.6	(1.6)	0.9	(0.4)	0.9	(0.4)
Injury/wounds/trauma	23.9	(7.9)	16.0	(1.7)	16.3	(1.6)
Lameness, leg, or hoof problems (animal could not be used for intended purpose without treatment)	8.5	(3.5)	7.7	(1.3)	7.7	(1.2)
Old age	N/A	N/A	30.4	(2.4)	28.9	(2.3)
Cancer	0.0	(--)	2.7	(0.7)	2.6	(0.7)
Liver or kidney disease	1.1	(1.1)	1.9	(0.6)	1.8	(0.6)
Fire, lightning strike, flood, or other storm	7.9	(6.2)	2.1	(0.9)	2.4	(1.0)
Poisoning/toxicity (suspected or confirmed)	0.0	(--)	0.3	(0.2)	0.3	(0.2)
Other	14.6	(6.5)	5.8	(1.1)	6.2	(1.1)
Unknown	23.4	(8.1)	5.7	(1.0)	6.6	(1.1)
Total	100.0		100.0		100.0	

Percentage of Equid Deaths (Including Euthanasia) for Equids Aged More than 30 Days, by Cause of Death



11. Nonambulatory equids

Overall, 5.2 percent of operations had one or more resident equids become nonambulatory during the previous 12 months. The percentages of operations where any resident equid became nonambulatory were similar across regions.

a. Percentage of operations where any resident equid became nonambulatory* during the previous 12 months, by region:

Percent Operations

Region

South		Northeast		West		Central		All Operations	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
4.9	(0.6)	8.3	(1.6)	4.2	(0.7)	5.2	(0.9)	5.2	(0.4)

*Unable to stand or rise on its own, i.e., without assistance, for any length of time, or can stand but not walk.

The percentage of operations where one or more resident equids became nonambulatory during the previous 12 months increased as operation size increased. Higher numbers of resident equids on large operations provide more opportunities for the occurrence of health events that result in nonambulatory equids.

b. Percentage of operations where any resident equids became nonambulatory* during the previous 12 months, by size of operation:

Percent Operations					
Size of Operation (Number of Equids)					
Small (5-9)		Medium (10-19)		Large (20 or More)	
Percent	Std. Error	Percent	Std. Error	Percent	Std. Error
3.8	(0.5)	7.2	(0.9)	10.5	(1.2)

*Unable to stand or rise on its own, i.e., without assistance, for any length of time, or can stand but not walk.

Overall, 0.6 percent of all resident equids became nonambulatory during the previous 12 months, while 0.2 percent of donkeys or burros and miniature horses became nonambulatory.

c. Percentage of resident equids that became nonambulatory* during the previous 12 months, by type of equid:

Percent Resident Equids		
All Operations		
Type of Equid	Percent	Standard Error
Donkeys or burros	0.2	(0.1)
Mules	0.6	(0.3)
Ponies	0.5	(0.2)
Miniature horses	0.2	(0.2)
Horses (excluding miniature horses)	0.6	(0.1)
All equids	0.6	(0.1)

*Unable to stand or rise on its own, i.e., without assistance, for any length of time, or can stand but not walk.

Similar percentages of equids from birth to less than 20 years of age became nonambulatory during the previous 12 months. The highest percentage of equids that became nonambulatory during the previous 12 months (10.4 percent) were 30 years of age or older.

d. Percentage of resident equids that became nonambulatory* during the previous 12 months, by age:

Age	Percent Resident Equids	Standard Error
Birth to 30 days	0.2	(0.1)
More than 30 days but less than 6 months	0.3	(0.1)
6 months to less than 5 years	0.4	(0.1)
5 years to less than 20 years	0.5	(0.1)
20 years to less than 30 years	1.8	(0.3)
30 years or older	10.4	(2.9)

*Unable to stand or rise on its own, i.e., without assistance, for any length of time, or can stand but not walk.

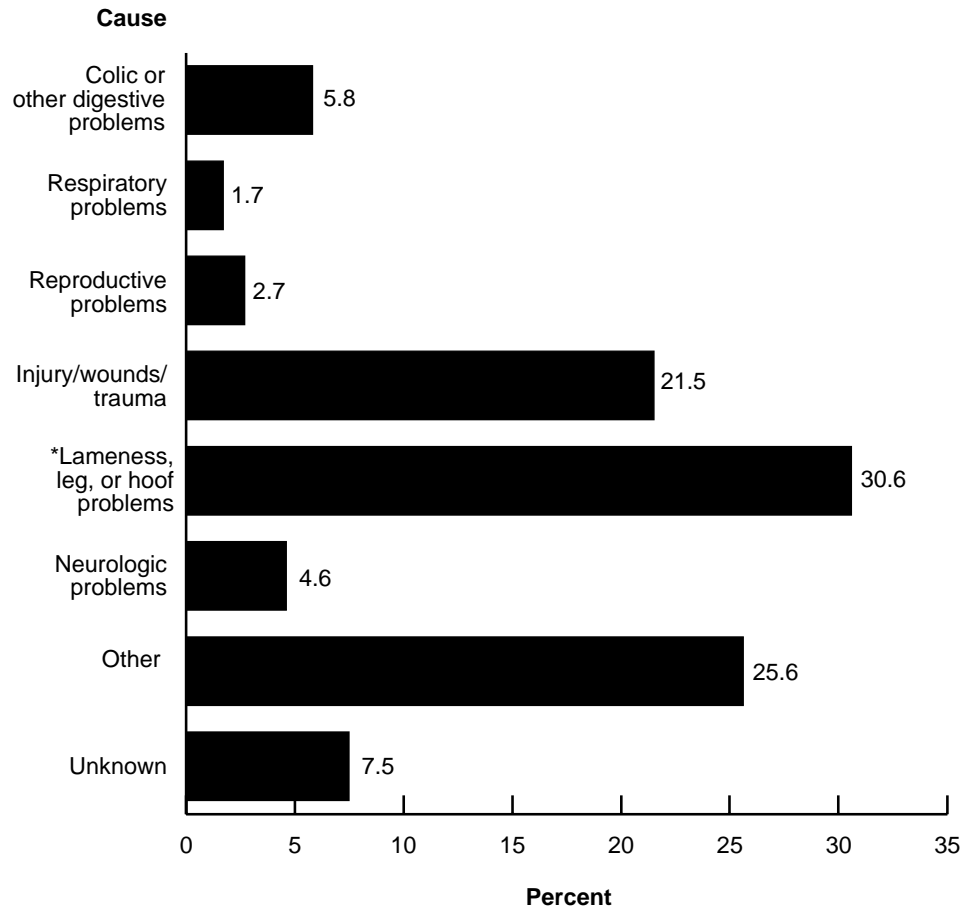
For resident equids 6 months of age or more, the highest percentages became nonambulatory due to lameness or injury/wounds/trauma, which combined accounted for 52.1 percent of nonambulatory equids in this age category. Old age was the most common other cause of nonambulatory resident equids 6 months of age or older. Heart problem, toxicity/poisoning, and heat stroke were also included in the “other” category. **Note: standard errors in the following table are large due to the infrequent occurrence of nonambulatory equids and the relatively large number of categories.**

e. For resident equids that became nonambulatory* during the previous 12 months, percentage of equids by primary cause of nonambulatory condition and by age:

Cause	Percent Resident Equids					
	Age					
	Birth to 30 Days		More Than 30 Days to Less Than 6 Months		6 Months or More	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Colic or other digestive problems (e.g., diarrhea)	0.0	(--)	21.6	(12.7)	5.8	(1.8)
Respiratory problems	0.0	(--)	17.5	(11.7)	1.7	(0.9)
Reproductive problems (e.g., dystocia or birthing problems)	27.7	(15.8)	5.1	(5.1)	2.7	(1.2)
Injury/wounds/trauma	42.8	(17.9)	32.0	(16.8)	21.5	(3.3)
Lameness, leg, or hoof problems (animal could not be used for intended purpose without treatment)	6.8	(6.3)	3.7	(3.6)	30.6	(3.9)
Neurologic problems (e.g., spinal problem, wobblers, seizure, EPM, WNV, sleeping sickness)	12.1	(8.3)	20.1	(17.0)	4.6	(1.5)
Other	5.8	(5.9)	0.0	(--)	25.6	(3.7)
Unknown	4.8	(4.9)	0.0	(--)	7.5	(2.2)
Total	100.0		100.0		100.0	

*Unable to stand or rise on its own, i.e., without assistance, for any length of time, or can stand but not walk.

For Resident Equids 6 Months of Age or More that Became Nonambulatory During the Previous 12 Months, Percentage of Equids by Primary Cause of Nonambulatory Condition



*Animal could not be used for intended purpose without treatment.

On nearly half of operations where any resident equids became nonambulatory (47.3 percent), the cause of the nonambulatory condition was diagnosed by a veterinary examination after the animal became nonambulatory. Nearly one in five operations (19.0 percent) did not perform any diagnostics on at least one nonambulatory equid. The majority of the “other” category was owner-diagnosed.

f. For operations where any resident equids became nonambulatory* during the previous 12 months, percentage of operations by methods used to diagnose the nonambulatory condition:

Method	Percent Operations	Standard Error
Veterinary exam before animal became nonambulatory	23.6	(3.5)
Veterinary exam after animal became nonambulatory	47.3	(4.2)
Postmortem veterinary exam (necropsy or autopsy)	2.0	(0.8)
Other	17.3	(3.2)
No diagnostics	19.0	(3.3)

*Unable to stand or rise on its own, i.e., without assistance, for any length of time, or can stand but not walk.

Nearly one in five nonambulatory equids (17.6 percent) recovered to full function and remained on the operation, while 7.4 percent recovered partially and remained on the operation. Nearly three of four nonambulatory equids (71.6 percent) died or were euthanized, 24.7 percent died (not euthanized), and 46.9 percent were euthanized.

g. For resident equids that became nonambulatory* during the previous 12 months, percentage of nonambulatory equids by outcome:

Outcome	Percent Equids	Standard Error
Died (not euthanized)	24.7	(3.6)
Euthanized	46.9	(4.2)
Recovered to full function and remained on operation	17.6	(3.4)
Recovered to full function and sold or moved off operation	1.4	(0.9)
Recovered to partial function and remained on operation	7.4	(2.5)
Recovered to partial function and sold or moved off operation	0.1	(0.1)
Moved off operation while nonambulatory	0.0	(--)
Other	1.9	(0.8)
Total	100.0	

*Unable to stand or rise on its own, i.e., without assistance, for any length of time, or can stand but not walk.

C. Biosecurity**1. Nonresident equids**

Overall, 19.0 percent of operations had nonresident equids that stayed on the operation for fewer than 30 consecutive days. A total of 16.5 percent of operations in the South region and 24.3 percent in the Northeast region had nonresident equids. A higher percentage of operations in the Northeast region (8.2 percent) had 10 or more nonresident equids than operations in the South or West regions (3.2 percent and 3.9 percent, respectively).

a. Percentage of operations by number of nonresident equids that stayed on the operation for fewer than 30 consecutive days during the previous 12 months, and by region:

Number Nonresident Equids	Percent Operations									
	Region									
	South		Northeast		West		Central		All Operations	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
0	83.5	(1.1)	75.7	(2.4)	78.4	(1.7)	81.5	(1.5)	81.0	(0.8)
1 to 9	13.3	(1.1)	16.1	(2.1)	17.7	(1.7)	14.0	(1.4)	14.7	(0.7)
10 or more	3.2	(0.5)	8.2	(1.6)	3.9	(0.7)	4.5	(0.8)	4.3	(0.4)
Total	100.0		100.0		100.0		100.0		100.0	

A higher percentage of large operations had nonresident equids compared to small operations. As size of operation increased the percentage of operations with 10 or more nonresident equids increased.

b. Percentage of operations by number of nonresident equids that stayed for fewer than 30 consecutive days during the previous 12 months, and by size of operation:

Percent Operations						
Size of Operation (Number of Equids)						
Number Nonresident Equids	Small (5-9)		Medium (10-19)		Large (20 or More)	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
0	86.3	(0.9)	73.2	(1.6)	61.6	(2.0)
1 to 9	11.5	(0.9)	20.1	(1.4)	24.0	(1.7)
10 or more	2.2	(0.4)	6.7	(0.9)	14.4	(1.4)
Total	100.0		100.0		100.0	

A lower percentage of operations with a primary function of farm/ranch and residence with equids for personal use had nonresident equids that stayed for less than 30 days than operations with a primary function of boarding/training, breeding farm, and “other.” Operations with a primary function of boarding/training had the highest percentage of operations with 10 or more nonresident equids during the previous 12 months. Some operations that reported no nonresident equids during the previous 12 months may have had nonresident equids that stayed 30 days or more and therefore are not included in these estimates.

c. Percentage of operations by number of nonresident equids that stayed for fewer than 30 consecutive days during the previous 12 months, and by primary function of the operation:

Percent Operations										
Primary Function of Operation										
Number Nonresi- dent Equids	Boarding/ Training		Breeding Farm		Farm/ Ranch		Residence with Equids for Personal Use		Other	
	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.
0	60.2	(3.7)	72.0	(2.2)	83.1	(1.2)	86.3	(1.2)	68.0	(5.6)
1 to 9	28.4	(3.4)	23.3	(2.1)	12.1	(1.0)	11.6	(1.1)	22.5	(5.2)
10 or more	11.4	(2.1)	4.7	(0.9)	4.8	(0.7)	2.1	(0.5)	9.5	(2.8)
Total	100.0		100.0		100.0		100.0		100.0	

The most common health requirements for nonresident equids were EIA test, vaccination, and deworming within the past year. Overall, 24.8 percent of operations with nonresident equids during the previous 12 months required a Certificate of Veterinary Inspection (CVI) (also known as an official health certificate), and 18.4 percent required a veterinary examination other than an official health certificate (CVI). Quarantine prior to contact with resident equids and screening test for strangles or history of no occurrence in the previous 6 months were not often required. "Other" health requirements included personal inspection of nonresident equids by the operator, breeding history and/or uterine culture, knowledge of the horse by the operator, signed release, and requirement to pay bills. Operations could have had more than one type of health requirement for nonresident equids and the choices were not mutually exclusive.

d. For operations with nonresident equids that stayed for fewer than 30 consecutive days during the previous 12 months, percentage of operations by frequency that the following health requirements were implemented for the majority of nonresident equids:

Health Requirement	Percent Operations						Total
	Always		Sometimes		Never		
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	
Official health certificate (CVI)	18.0	(1.6)	6.8	(1.1)	75.2	(1.9)	100.0
Veterinary examination other than CVI	12.8	(1.5)	5.6	(1.0)	81.6	(1.7)	100.0
Coggins test (EIA test, swamp fever test)	42.1	(2.1)	3.2	(0.7)	54.7	(2.2)	100.0
Vaccination within past year	32.2	(2.0)	4.1	(0.8)	63.7	(2.1)	100.0
Deworming within past year	29.9	(2.0)	3.7	(0.7)	66.4	(2.1)	100.0
Screening test for strangles or history of no occurrence in past 6 months	7.1	(1.1)	2.6	(0.6)	90.3	(1.2)	100.0
Other past medical history from owner	15.6	(1.5)	6.2	(1.0)	78.2	(1.7)	100.0
Quarantine prior to contact with resident equids	12.6	(1.4)	4.6	(0.8)	82.8	(1.5)	100.0
Other	2.6	(0.7)	1.2	(0.5)	96.2	(0.8)	100.0

2. Additions

Overall, 21.5 percent of operations added new resident equids during the previous 12 months. A higher percentage of operations in the Northeast region (30.1 percent) added new resident equids than operations in the South and West regions (18.0 percent and 21.7 percent, respectively). Overall, 6.3 percent of resident equids (as a percentage of total resident inventory on July 1, 2005) were newly added during the previous 12 months. The percentage of new resident equids added to the operation during the previous 12 months was higher in the Northeast region than in the West region.

a. Percentage of operations that added new resident equids during the previous 12 months and percentage of equids added, including foals not born to a resident mare (excluding births), by region:

Measure	Percent									
	Region									
	South		Northeast		West		Central		All Operations	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Percent operations	18.0	(1.2)	30.1	(2.6)	21.7	(1.7)	23.0	(1.7)	21.5	(0.8)
Percent resident equids*	6.4	(1.1)	8.1	(0.8)	4.7	(0.4)	6.5	(0.6)	6.3	(0.5)

*Total number of equids added to resident equine population x 100/total resident equine inventory.

The percentage of operations that added resident equids increased as the size of operation increased. Only 16.0 percent of small operations added any resident equids during the previous 12 months compared to 38.2 percent of large operations. The percentage of the resident equine population represented by newly added equids was higher for large operations than for small operations.

b. Percentage of operations that added new resident equids during the previous 12 months and percentage of equids added, including foals not born to a resident mare (excluding births), by size of operation:

Measure	Percent					
	Size of Operation (Number of Equids)					
	Small (5-9)		Medium (10-19)		Large (20 or More)	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	
Percent operations	16.0	(1.0)	30.7	(1.6)	38.2	(2.0)
Percent resident equids*	4.6	(0.4)	6.9	(1.0)	7.6	(1.1)

* Total number of equids added to resident equine population x 100/total resident equine inventory.

A higher percentage of operations (and a higher percentage of equids added) where the primary function was boarding/training and “other” added one or more resident equids compared to operations with a primary function of breeding farm, farm/ranch, and residence with equids for personal use. The “other” category included riding stable, guest ranch, motion picture, party service, sanctuary, and carriage service operations.

c. Percentage of operations that added any new resident equids during the previous 12 months and percentage of equids added, including foals not born to a resident mare (excluding births), by primary function of operation:

Measure	Percent									
	Primary Function of Operation									
	Boarding/ Training		Breeding Farm		Farm/ Ranch		Residence with Equids for Personal Use		Other	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	
Percent operations	42.0	(3.6)	25.8	(2.2)	20.2	(1.3)	16.0	(1.3)	52.5	(6.1)
Percent resident equids*	15.5	(3.5)	5.0	(0.5)	4.7	(0.4)	4.1	(0.4)	21.0	(7.3)

*Total number of equids added to resident equine population x 100/total resident equine inventory.

Overall, the highest percentage of newly added resident equids (70.7 percent) were obtained from within State. Only 0.3 percent of operations obtained newly added resident equids outside North America, and only 0.4 percent of newly added resident equids originated outside of North America.

d. For operations that added new resident equids during the previous 12 months, percentage of operations and percentage of new additions, by source location of added equids:

Source	Operations		Equids	
	Percent	Std. Error	Percent*	Std. Error
Within State	81.6	(1.6)	70.7	(3.2)
Outside State, within United States	29.9	(1.9)	25.7	(3.0)
Canada	1.1	(0.3)	2.2	(1.4)
Mexico	0.2	(0.1)	0.5	(0.3)
Outside North America	0.3	(0.1)	0.4	(0.3)
Unknown location	1.0	(0.5)	0.5	(0.3)
Total	N/A		100.0	

*Number of equids added to resident equine population from various sources x 100/total new additions from all sources.

Estimates in the following table represent health requirements for newly added resident equids on operations that added new equids to the resident equine population during the previous 12 months. Operations could have had more than one type of health requirement for newly added resident equids, and the choices were not mutually exclusive. Overall, 34.6 percent of operations that added new equids during the previous 12 months sometimes or always required an official health certificate (CVI), and 29.2 percent required a veterinary examination other than a CVI. The most frequent requirement for new resident equids was a test for EIA, with 61.8 percent of operations requiring this test for newly added resident equids. Other common requirements were vaccination and deworming in the previous 12 months. Approximately 3 of 10 operations (32.0 percent) sometimes or always required quarantine of new resident equids prior to contact with resident equids, and 36.3 percent sometimes or always required past medical history. Only 14.2 percent of operations required a screening test for or history of no occurrence of strangles in the previous 6 months for new resident equids. "Other" requirements included know previous owner or know of horse personally, registration papers, castration, liability release, copy of veterinary records, or brand inspection. Nearly 7 of 10 operations (65.4 percent) never required a CVI for new additions, and approximately half of operations never required deworming or vaccination (51.1 percent and 50.8 percent, respectively). Seven of 10 operations (68.0 percent) never required quarantine of new additions, and 63.7 percent of operations never required past medical history.

e. For operations that added new resident equids during the previous 12 months, percentage of operations by frequency that the following health requirements were implemented for new additions:

Health Requirement	Percent Operations						Total
	Frequency						
	Always		Sometimes		Never		
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	
Official health certificate (CVI)	27.4	(1.9)	7.2	(1.1)	65.4	(2.0)	100.0
Veterinary examination other than CVI	21.4	(1.8)	7.8	(1.1)	70.8	(1.9)	100.0
Coggins test (EIA test, swamp fever test)	58.6	(2.0)	3.2	(0.7)	38.2	(2.0)	100.0
Vaccination within past year	45.1	(2.1)	4.1	(0.8)	50.8	(2.1)	100.0
Deworming within past year	46.5	(2.1)	2.4	(0.6)	51.1	(2.1)	100.0
Screening test for strangles or history of no occurrence in past 6 months	9.4	(1.2)	4.8	(0.9)	85.8	(1.4)	100.0
Other past medical history from owner	28.7	(1.9)	7.6	(1.1)	63.7	(2.0)	100.0
Quarantine prior to contact with resident equids	26.7	(1.9)	5.3	(0.9)	68.0	(2.0)	100.0
Other	3.8	(0.8)	1.2	(0.5)	95.0	(0.9)	100.0

A higher percentage of operations in the South and Central regions (76.4 percent and 72.9 percent, respectively) required an EIA test for newly added resident equids than operations in the Northeast and West regions (51.7 percent and 30.5 percent, respectively). Other than EIA testing, health requirements were similar across regions. "Other" requirements included knowing previous owner or the horse personally, registration papers, castration, liability release, copy of veterinary records, or brand inspection.

f. For operations that added new resident equids during the previous 12 months, percentage of operations that always or sometimes implemented the following health requirements for new additions, by region:

Health Requirement	Percent Operations									
	Region									
	South		Northeast		West		Central		All Operations	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Official health certificate (CVI)	39.3	(3.5)	24.7	(3.9)	31.7	(4.1)	37.1	(4.0)	34.6	(2.0)
Veterinary examination other than CVI	34.0	(3.4)	26.9	(4.3)	25.4	(4.0)	27.0	(3.8)	29.2	(1.9)
Coggins test (EIA test, swamp fever test)	76.4	(3.1)	51.7	(4.9)	30.5	(4.0)	72.9	(3.7)	61.8	(2.0)
Vaccination within past year	50.5	(3.6)	42.3	(4.8)	44.0	(4.5)	56.4	(4.1)	49.2	(2.1)
Deworming within past year	50.6	(3.6)	43.5	(4.8)	43.1	(4.5)	54.7	(4.2)	48.9	(2.1)
Screening test for strangles or no occurrence in past 6 months	12.7	(2.2)	17.9	(3.7)	10.9	(2.6)	16.3	(3.2)	14.2	(1.4)
Other past medical history from owner	40.6	(3.6)	31.4	(4.4)	33.6	(4.3)	36.2	(4.0)	36.3	(2.0)
Quarantine prior to contact with resident equids	32.0	(3.4)	25.6	(4.2)	31.6	(4.3)	36.7	(4.1)	32.0	(2.0)
Other	5.4	(1.6)	4.2	(1.8)	8.1	(2.7)	2.7	(1.5)	5.0	(0.9)

A higher percentage of large operations always or sometimes required an official health certificate (CVI) and an EIA test for newly added equids than did medium and small operations. The percentages of operations that implemented the other listed health requirements were similar across operations sizes.

g. For operations that added new resident equids during the previous 12 months, percentage of operations that always or sometimes implemented the following health requirements, by size of operation:

Health Requirement	Percent Operations					
	Size of Operation (Number of Equids)					
	Small (5-9)		Medium (10-19)		Large (20 or More)	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Official health certificate (CVI)	32.3	(3.2)	30.9	(3.0)	52.4	(3.3)
Veterinary examination other than for official health certificate	31.1	(3.2)	24.8	(2.8)	34.2	(3.1)
Coggins test (EIA test, swamp fever test)	57.4	(3.3)	62.6	(3.2)	75.5	(2.8)
Vaccination within past year	49.2	(3.4)	47.1	(3.3)	54.9	(3.3)
Deworming within past year	51.9	(3.4)	43.2	(3.3)	53.1	(3.3)
Screening test for strangles or no occurrence in past 6 months	15.3	(2.4)	11.0	(2.0)	19.4	(2.6)
Other past medical history from owner	35.4	(3.3)	34.2	(3.1)	45.8	(3.3)
Quarantine prior to contact with resident equids	32.3	(3.2)	28.8	(3.0)	39.5	(3.1)
Other	5.0	(1.5)	5.5	(1.5)	3.8	(1.2)

Compared to operations with a primary function of farm/ranch and residence with equids for personal use, a higher percentage of boarding/training facilities required vaccination and/or deworming within the last year. Boarding/training facilities were also more likely than the farm/ranch operations to require an official health certificate (CVI), EIA test, and screening test for strangles or no occurrence in past 6 months. Operations with a primary function of farm/ranch were least likely to require a quarantine of new resident equids.

h. For operations that added new resident equids during the previous 12 months, percentage of operations that always or sometimes implemented the following health requirements for new additions, by primary function of operation:

Health Requirement	Percent Operations									
	Primary Function of Operation						Residence with Equids for Personal Use			
	Boarding/ Training		Breeding Farm		Farm/ Ranch		Other		Other	
	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.
Official health certificate (CVI)	49.1	(5.3)	42.4	(4.7)	27.2	(3.1)	33.0	(4.1)	37.7	(7.9)
Veterinary examination other than CVI	32.9	(4.9)	38.6	(4.7)	25.0	(3.1)	25.9	(3.9)	36.2	(8.3)
Coggins test (EIA test, swamp fever test)	78.2	(4.9)	62.1	(4.7)	54.9	(3.5)	62.9	(4.2)	68.3	(8.1)
Vaccination within past year	77.2	(4.5)	56.1	(4.8)	35.3	(3.4)	48.6	(4.4)	67.1	(7.5)
Deworming within past year	69.9	(5.0)	54.1	(4.8)	35.9	(3.4)	50.5	(4.4)	68.5	(7.4)
Screening test for strangles or no occurrence in past 6 months	21.1	(4.2)	19.4	(3.7)	8.3	(2.0)	13.8	(2.9)	25.7	(7.6)
Other past medical history from owner	56.1	(5.3)	46.7	(4.8)	24.2	(3.0)	35.3	(4.2)	51.1	(8.4)
Quarantine prior to contact with resident equids	40.8	(5.3)	36.5	(4.5)	22.3	(3.0)	36.1	(4.3)	45.6	(8.4)
Other	3.1	(1.6)	4.6	(2.2)	5.1	(1.6)	5.2	(2.0)	8.6	(4.2)

A higher percentage of operations with a primary use of equids of show/competition or racing required an official health certificate (CVI) for new additions than did operations where the primary use of equids was pleasure and farm/ranch work. Compared to operations with equids for farm/ranch work, a higher percentage of operations where the primary use of equids was pleasure, show/competition, breeding, or racing required an EIA test.

i. For operations that added new resident equids during the previous 12 months, percentage of operations that always or sometimes implemented the following health requirements for new additions, by primary use of equids:

Health Requirement	Percent Operations													
	Primary Use of Equids													
	Pleasure		Lessons/ School		Show/ Compe- tition		Breeding		Racing		Farm/ Ranch Work		Other	
	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.
Official health certificate (CVI)	32.0	(3.4)	37.1	(10.7)	53.0	(5.5)	42.2	(4.4)	61.9	(14.2)	20.5	(3.6)	21.0	(12.1)
Veterinary examination other than for official health certificate	29.8	(3.4)	25.5	(9.6)	35.8	(5.3)	38.2	(4.4)	56.5	(14.5)	17.2	(3.4)	16.9	(12.0)
Coggins test (EIA test, swamp fever test)	66.1	(3.5)	75.7	(10.1)	75.7	(4.9)	64.2	(4.4)	91.8	(6.0)	42.8	(4.3)	53.8	(14.5)
Vaccination within past year	54.0	(3.7)	71.3	(11.0)	66.5	(5.3)	47.8	(4.5)	88.3	(7.0)	28.5	(4.1)	48.1	(14.9)
Deworming within past year	53.9	(3.7)	60.5	(11.5)	67.1	(5.2)	46.6	(4.5)	88.3	(7.0)	28.5	(4.1)	54.1	(14.4)
Screening test for strangles or no occurrence in past 6 months	13.9	(2.5)	43.5	(11.4)	17.4	(4.0)	16.1	(3.2)	34.5	(14.3)	6.7	(2.4)	15.1	(12.0)
Other past medical history from owner	38.9	(3.6)	58.7	(11.5)	50.3	(5.5)	38.1	(4.4)	68.1	(13.1)	18.5	(3.5)	37.9	(14.8)
Quarantine prior to contact with resident equids	36.4	(3.6)	65.3	(11.2)	35.0	(5.3)	34.0	(4.2)	34.5	(14.3)	19.9	(3.6)	16.2	(11.9)
Other	6.2	(1.8)	7.2	(5.0)	0.9	(0.6)	4.9	(2.2)	15.6	(12.0)	5.5	(2.0)	0.0	(--)

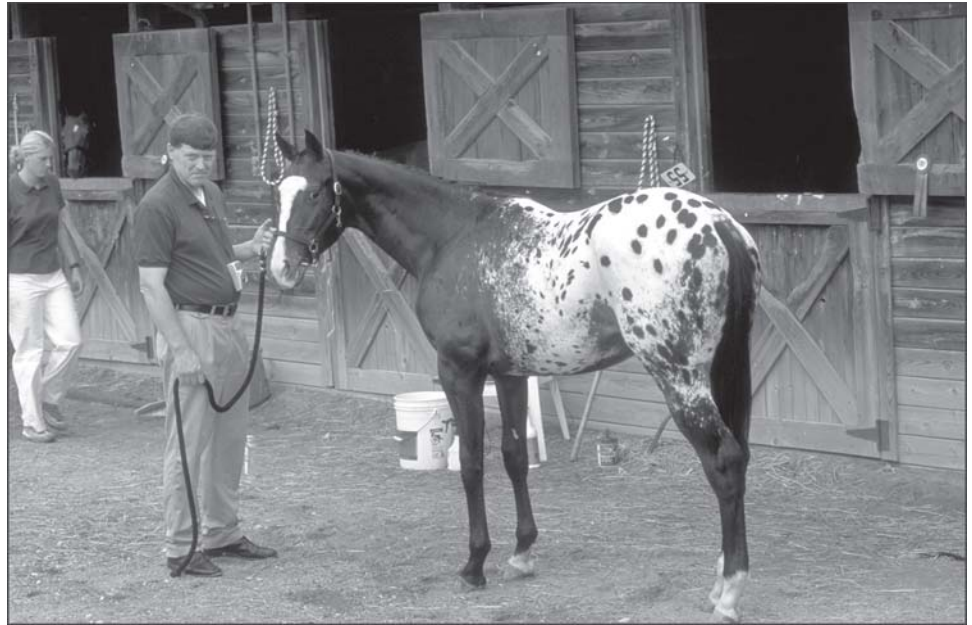


Photo: USDA photo library

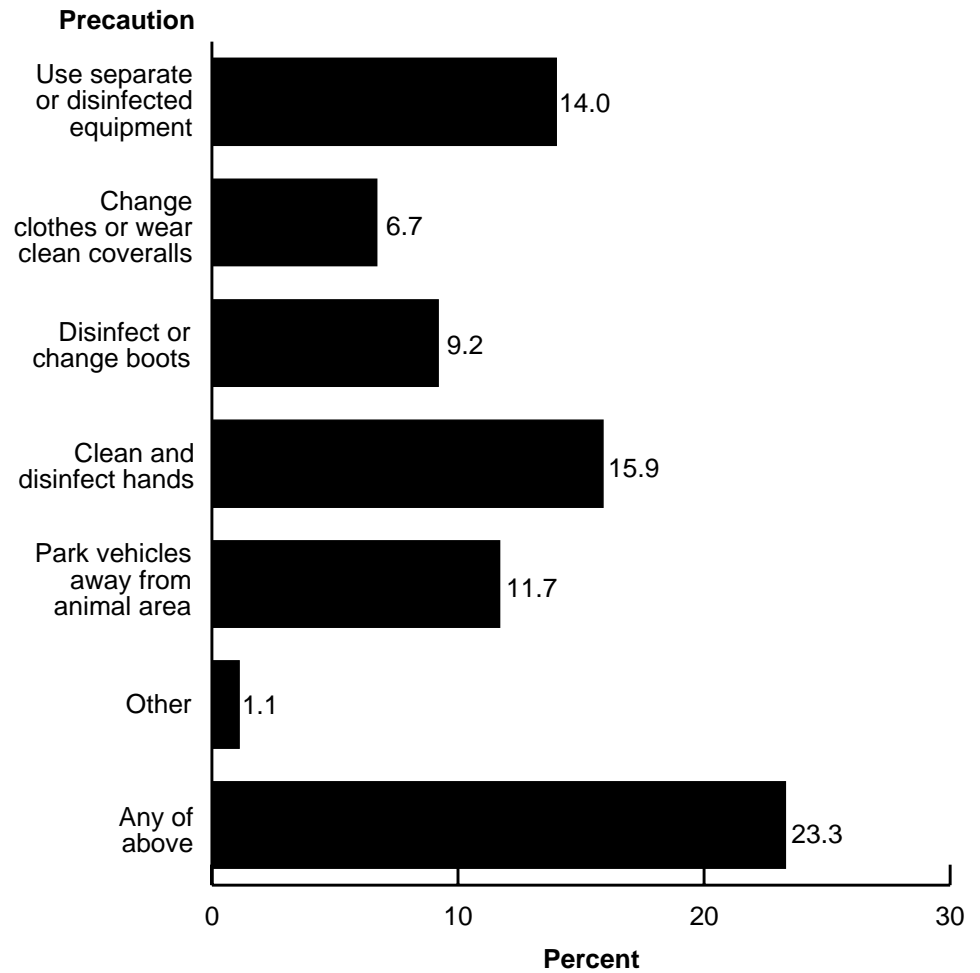
3. Visitors

Overall, about one-quarter of equine operations (23.3 percent) required people (visitor, veterinarian, farrier, etc.) coming onto the equine facility to take at least some infection-control precautions. The percentage of operations that, in general, required the various precautions listed in the following table ranged from 30.7 percent of operations in the Northeast region to 18.8 percent of operations in the South region.

a. Percentage of operations that ever required people (visitor, veterinarian, farrier, etc.) coming onto the equine facility to take the following infection-control precautions, by region:

Precaution	Percent Operations									
	Region									
	South		Northeast		West		Central		All Operations	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Use separate or disinfected equipment	9.5	(0.9)	19.0	(2.3)	16.6	(1.6)	16.8	(1.6)	14.0	(0.7)
Change clothes or wear clean coveralls	3.4	(0.5)	10.9	(1.8)	8.5	(1.2)	8.6	(1.2)	6.7	(0.5)
Disinfect or change boots	4.6	(0.6)	18.7	(2.3)	8.3	(1.2)	13.2	(1.4)	9.2	(0.6)
Clean and disinfect hands	11.7	(1.0)	23.9	(2.5)	16.1	(1.6)	18.8	(1.7)	15.9	(0.7)
Park vehicles away from animal area	9.7	(0.9)	14.5	(2.0)	11.9	(1.4)	13.5	(1.5)	11.7	(0.7)
Other	0.2	(0.1)	1.3	(0.7)	1.2	(0.5)	2.6	(0.7)	1.1	(0.2)
Any of the above	18.8	(1.2)	30.7	(2.6)	23.2	(1.8)	27.5	(1.9)	23.3	(0.9)

Percentage of Operations that Ever Required People (Visitor, Veterinarian, Farrier, etc.) Coming onto the Equine Facility to Take the Following Infection-Control Precautions



A higher percentage of large and medium operations (29.6 percent and 26.6 percent, respectively) required people coming onto the equine facility to take precautions to prevent spread of infectious diseases compared to small operations (21.2 percent). In general, a higher percentage of large operations required each of the infection-control precautions than small operations. The precaution used most commonly by any size operation was clean and disinfect hands, followed by use separate or disinfected equipment.

b. Percentage of operations that ever required people (visitor, veterinarian, farrier, etc.) coming onto the equine facility to take the following infection-control precautions, by size of operation:

Precaution	Percent Operations					
	Size of Operation (Number of Equids)					
	Small (5-9)		Medium (10-19)		Large (20 or More)	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Use separate or disinfected equipment	12.9	(0.9)	15.5	(1.3)	17.1	(1.5)
Change clothes or wear clean coveralls	5.9	(0.6)	7.6	(0.9)	8.8	(1.1)
Disinfect or change boots	8.4	(0.8)	10.8	(1.1)	10.5	(1.2)
Clean and disinfect hands	15.0	(1.0)	16.4	(1.3)	21.6	(1.7)
Park vehicles away from animal area	10.9	(0.9)	12.4	(1.2)	16.2	(1.5)
Other	0.8	(0.3)	1.9	(0.5)	0.9	(0.4)
Any of the above	21.2	(1.1)	26.6	(1.6)	29.6	(1.9)

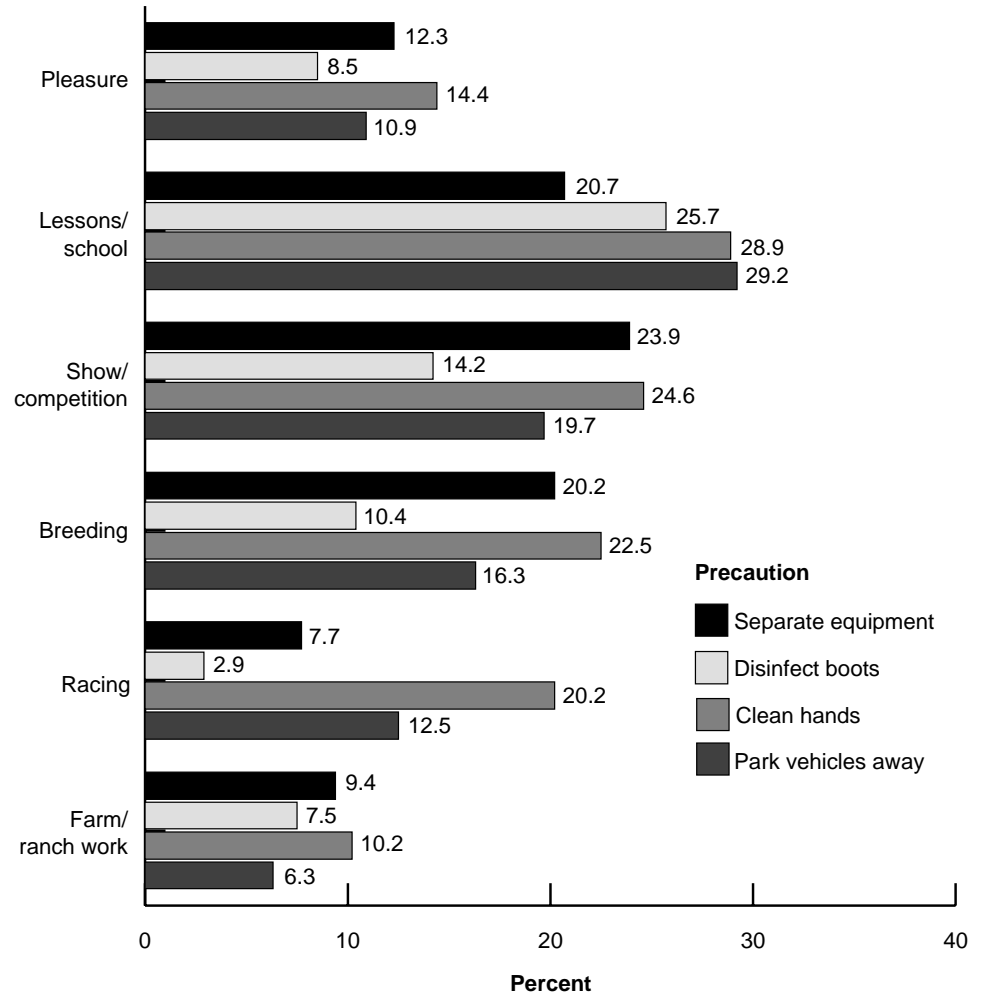
A higher percentage of operations where the primary use of equids was lessons/school, show/competition, and breeding (42.3, 34.4, and 33.2 percent, respectively) required infection-control precautions for people coming onto the equine facility compared to operations where the primary use of equids was farm/ranch work and pleasure (16.0 and 21.1 percent, respectively).

c. Percentage of operations that ever required people (visitor, veterinarian, farrier, etc.) coming onto the equine facility to take the following infection-control precautions, by primary use of equids:

Percent Operations														
Primary Use of Equids														
Control	Pleasure		Lessons/ School		Show/ Competition		Breeding		Racing		Farm/ Ranch Work		Other	
	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.
Use separate or disinfected equipment	12.3	(1.0)	20.7	(6.0)	23.9	(2.8)	20.2	(1.9)	7.7	(3.5)	9.4	(1.2)	7.1	(3.3)
Change clothes or wear clean coveralls	5.4	(0.7)	15.4	(5.5)	10.6	(2.0)	10.0	(1.4)	0.6	(0.6)	5.3	(0.9)	1.0	(1.0)
Disinfect or change boots	8.5	(0.9)	25.7	(6.9)	14.2	(2.3)	10.4	(1.4)	2.9	(2.3)	7.5	(1.1)	3.1	(2.3)
Clean and disinfect hands	14.4	(1.1)	28.9	(6.7)	24.6	(2.8)	22.5	(2.0)	20.2	(6.5)	10.2	(1.3)	12.5	(5.0)
Park vehicles away from animal area	10.9	(1.0)	29.2	(6.6)	19.7	(2.7)	16.3	(1.8)	12.5	(5.7)	6.3	(1.0)	9.4	(5.7)
Other	1.2	(0.3)	1.3	(1.2)	1.4	(0.8)	2.0	(0.7)	0.0	(--)	0.4	(0.2)	0.0	(--)
Any of the above	21.1	(1.3)	42.3	(7.5)	34.4	(3.1)	33.2	(2.3)	21.9	(6.6)	16.0	(1.5)	18.3	(6.6)

Percentage of Operations that Ever Required People Coming Onto the Equine Facility to Take the Following Infection-Control Precautions, by Primary Use of Equids

Primary Use



4. Isolation for infection control

A higher percentage of large operations (75.8 percent) separated animals for isolation or infection control compared to medium and small operations (68.0 percent and 62.6 percent, respectively).

a. Percentage of operations that separated animals for isolation or infection control, by size of operation:

Percent Operations							
Size of Operations (Number of Equids)							
Small (5-9)		Medium (10-19)		Large (20 or More)		All Operations	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
62.6	(1.3)	68.0	(1.7)	75.8	(1.7)	65.1	(1.0)

More than three of four operations where the primary use of equids was breeding and lessons/school separated animals for isolation or infection control.

b. Percentage of operations that separated animals for isolation or infection control, by primary use of equids:

Percent Operations													
Primary Use of Equids													
Pleasure		Lessons/ School		Show/ Competi- tion		Breeding		Racing		Farm/ Ranch Work		Other	
Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.
59.4	(1.6)	78.1	(6.1)	71.8	(3.0)	75.6	(2.1)	68.2	(7.9)	66.0	(2.0)	42.9	(8.9)

Of operations that separated animals for isolation or infection control, 27.8 percent restricted movement of personnel working with the separated animals. A higher percentage of large operations (37.5 percent) restricted movement of personnel working with separated animals compared to small operations (24.9 percent).

c. For operations that separated animals for isolation or infection control, percentage of operations that restricted movement of personnel working with separated animals, by size of operation:

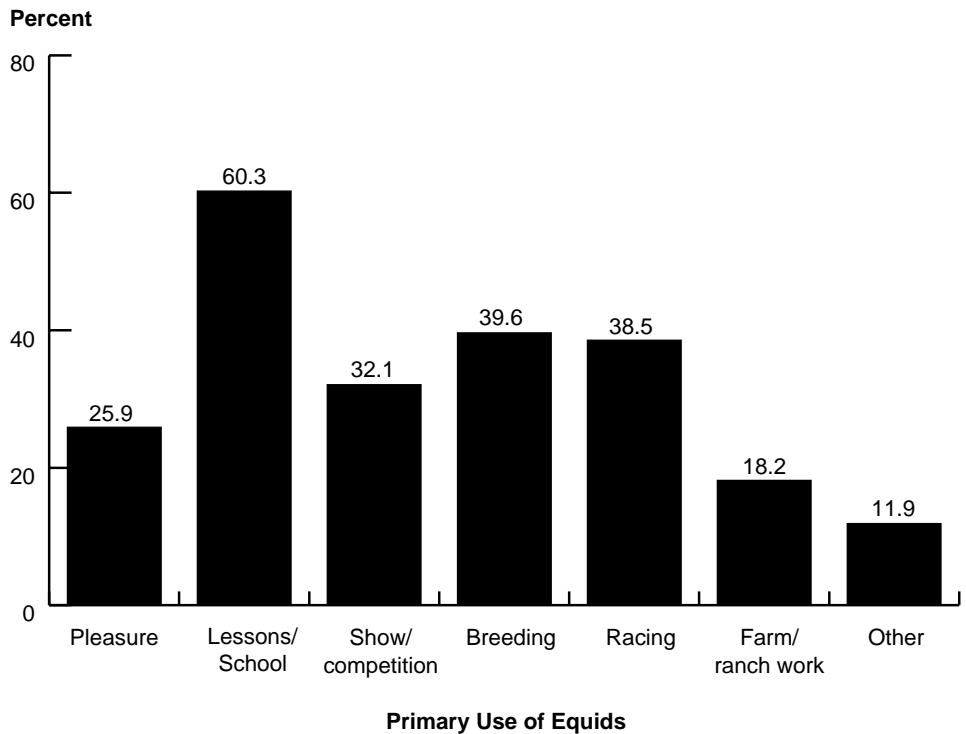
Percent Operations							
Size of Operation (Number of Equids)							
Small (5-9)		Medium (10-19)		Large (20 or More)		All Operations	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
24.9	(1.5)	31.6	(2.0)	37.5	(2.3)	27.8	(1.1)

For operations that separated animals for isolation or infection control, 60.3 percent where the primary use of equids was lessons/school restricted movement of personnel working with separated animals, whereas only 18.2 percent of operations where the primary use of equids was farm/ranch work did so.

d. For operations that separated animals for isolation and infection control, percentage of operations that restricted movement of personnel working with separated animals, by primary use of equids:

Percent Operations													
Primary Use of Equids													
Pleasure		Lessons/ School		Show/ Competi- tion		Breeding		Racing		Farm/ Ranch Work		Other	
Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.
25.9	(1.8)	60.3	(8.8)	32.1	(3.6)	39.6	(2.7)	38.5	(9.7)	18.2	(2.1)	11.9	(6.2)

For Operations that Separated Animals for Isolation or Infection Control, Percentage of Operations that Restricted Movement of Personnel Working with Separated Animals, by Primary Use of Equids



5. Contact with other animals

On approximately three of four operations (76.9 percent), dogs had physical contact with resident equids or their feed. The percentage of operations where cattle had physical contact with equids or their feed ranged from 54.0 percent of operations in the West region to 32.6 percent of operations in the Northeast region. Overall, cattle had physical contact with equids or their feed on 43.2 percent of operations. Poultry had physical contact with equids or their feed on 18.6 percent of all operations. The Northeast region reported a higher percentage of operations (24.7 percent) where poultry had physical contact with equids than the South and West regions (16.1 percent and 16.2 percent, respectively). Among wildlife species, raccoons had physical contact with equids or their feed on almost half of operations. Skunks and bats had physical contact with equids or their feed on 41.7 percent and 28.6 percent, respectively, of all operations. Opossums had contact with equids or their feed on over 30 percent of operations in all regions except the West, where they had contact on only 13.1 percent of operations. About one-fifth of all operations reported that other animals had contact with equids or their feed; the animals reported most commonly included typical wildlife, such as deer, coyotes, foxes, and wild turkeys.

a. Percentage of operations where the following animals had physical contact with resident equids or their feed, by region:

Animal	Percent Operations									
	Region									
	South		Northeast		West		Central		All Operations	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Poultry	16.1	(1.2)	24.7	(2.5)	16.2	(1.6)	21.8	(1.7)	18.6	(0.8)
Pigs	3.5	(0.6)	4.9	(1.3)	6.1	(1.1)	5.6	(1.0)	4.7	(0.4)
Cattle	42.3	(1.6)	32.6	(2.7)	54.0	(2.2)	41.3	(2.1)	43.2	(1.0)
Sheep/goats	14.3	(1.1)	10.9	(1.7)	17.8	(1.7)	11.7	(1.3)	13.9	(0.7)
Llamas/alpacas	2.2	(0.4)	1.4	(0.6)	3.9	(0.8)	2.1	(0.5)	2.4	(0.3)
Emus/ostriches	1.3	(0.3)	1.2	(0.6)	1.2	(0.5)	1.2	(0.4)	1.2	(0.2)
Dogs	72.3	(1.4)	76.6	(2.4)	84.5	(1.6)	78.8	(1.8)	76.9	(0.9)
Cats	57.1	(1.6)	76.2	(2.5)	69.5	(2.1)	74.8	(1.9)	66.4	(1.0)
Skunks	44.0	(1.5)	29.2	(2.7)	46.6	(2.2)	40.1	(2.0)	41.7	(1.0)
Opossums	47.4	(1.5)	30.6	(2.7)	13.1	(1.5)	43.4	(2.0)	37.4	(0.9)
Bats	25.5	(1.3)	28.8	(2.6)	32.1	(2.1)	31.1	(2.0)	28.6	(0.9)
Raccoons	47.7	(1.5)	34.3	(2.8)	45.4	(2.2)	51.5	(2.1)	46.4	(1.0)
Other	16.2	(1.1)	23.7	(2.5)	29.0	(2.0)	18.3	(1.6)	20.2	(0.8)

A higher percentage of large operations reported that poultry and sheep/goats had contact with equids or their feed than did small operations. Cats had contact with equids or their feed on a higher percentage of large operations (72.4 percent) compared to small operations (64.0 percent). Raccoons had contact with resident equids or their feed on almost half of all operations, regardless of operation size. The percentages of operations where skunks, opossums, and bats had contact with resident equids or their feed were similar across operation sizes.

b. Percentage of operations where the following animals had physical contact with resident equids or their feed, by size of operation:

Animal	Percent Operations					
	Size of Operation (Number of Equids)					
	Small (5-9)		Medium (10-19)		Large (20 or More)	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Poultry	16.4	(1.0)	22.9	(1.5)	22.5	(1.7)
Pigs	3.8	(0.5)	7.0	(0.9)	5.5	(1.0)
Cattle	41.8	(1.3)	45.7	(1.8)	46.1	(2.0)
Sheep/goats	12.3	(0.9)	16.6	(1.3)	18.6	(1.6)
Llamas/alpacas	1.7	(0.3)	3.5	(0.7)	5.2	(0.9)
Emus/ostriches	1.0	(0.3)	1.4	(0.4)	2.2	(0.6)
Dogs	75.7	(1.2)	79.4	(1.4)	78.6	(1.7)
Cats	64.0	(1.3)	70.4	(1.6)	72.4	(1.9)
Skunks	42.3	(1.3)	39.7	(1.7)	43.6	(2.0)
Opossums	38.0	(1.3)	36.1	(1.7)	37.4	(1.9)
Bats	27.8	(1.2)	30.4	(1.6)	29.5	(1.8)
Raccoons	46.6	(1.4)	45.6	(1.8)	47.9	(2.0)
Other	19.8	(1.1)	20.7	(1.4)	22.6	(1.7)

Exposure of animals to equids or their feed did not vary greatly by the primary function of the operation, with the exception of cattle. On about two-thirds of farm/ranch operations, cattle had physical contact with equids or their feed.

c. Percentage of operations where the following animals had physical contact with resident equids or their feed, by primary function of operation:

Animal	Percent Operations									
	Primary Function of Operation									
	Boarding/ Training		Breeding Farm		Farm/ Ranch		Residence with Equids for Personal Use		Other	
	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.
Poultry	13.2	(2.6)	18.1	(1.9)	21.9	(1.3)	15.2	(1.3)	31.5	(6.0)
Pigs	3.0	(1.3)	3.1	(0.9)	6.2	(0.8)	4.0	(0.7)	5.7	(2.9)
Cattle	22.0	(3.3)	24.5	(2.1)	64.0	(1.6)	32.3	(1.7)	26.8	(5.3)
Sheep/goats	12.9	(2.6)	12.2	(1.6)	17.3	(1.2)	10.5	(1.1)	21.2	(5.0)
Llamas/ alpacas	2.2	(1.0)	2.4	(0.7)	2.5	(0.5)	2.3	(0.5)	4.0	(2.0)
Emus/ ostriches	0.8	(0.6)	0.3	(0.2)	0.9	(0.3)	1.9	(0.5)	2.0	(2.0)
Dogs	77.7	(3.1)	75.2	(2.2)	80.0	(1.3)	74.1	(1.6)	77.7	(5.0)
Cats	74.0	(3.3)	70.8	(2.3)	66.5	(1.5)	63.4	(1.7)	64.9	(5.9)
Skunks	35.1	(3.6)	39.6	(2.5)	45.3	(1.6)	39.7	(1.7)	40.2	(6.1)
Opossums	34.9	(3.5)	36.0	(2.4)	37.7	(1.6)	38.0	(1.7)	38.0	(6.2)
Bats	30.5	(3.4)	28.2	(2.3)	28.1	(1.5)	28.4	(1.6)	37.8	(6.0)
Raccoons	42.9	(3.7)	45.3	(2.5)	49.6	(1.7)	43.6	(1.8)	52.2	(6.1)
Other	20.4	(3.0)	22.4	(2.1)	18.5	(1.2)	21.3	(1.5)	19.9	(4.7)

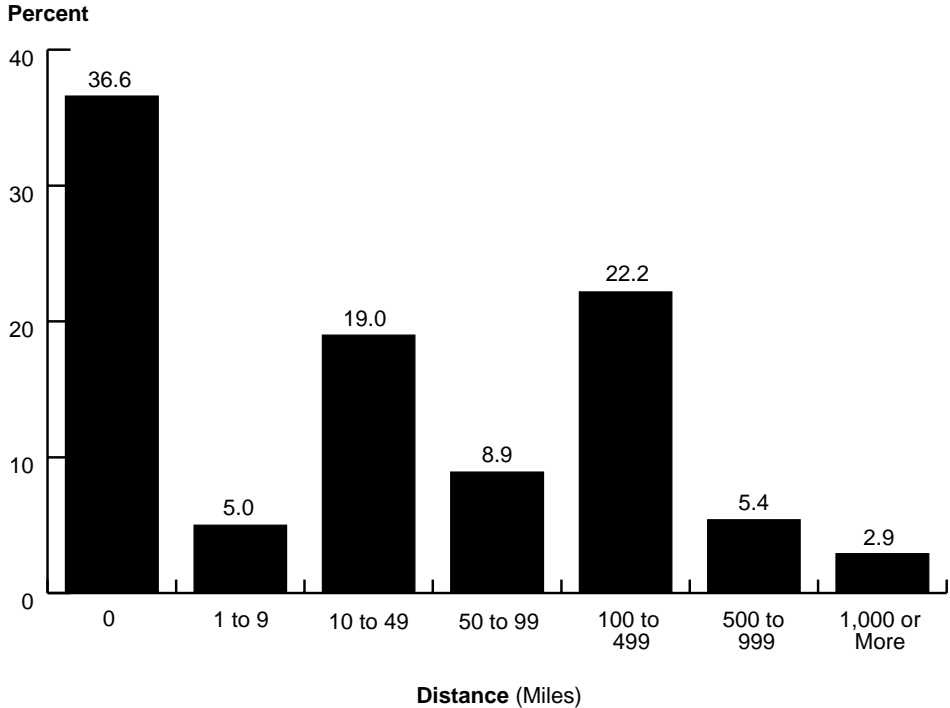
D. Equid Movement**1. Distance traveled**

Overall, 36.6 percent of operations had no movement of resident equids off the operation and back during the previous 12 months. A higher percentage of operations in the South region (41.1 percent) had no movement of resident equids off the operation and back compared to operations in the Northeast and West regions (28.4 percent and 33.0 percent, respectively). Overall, approximately one of three operations reported a maximum one-way distance of between 1 and 99 miles for resident equids that traveled off the operation and back. Only 8.3 percent of operations reported a maximum one-way distance of 500 miles or more for resident equids that traveled off the operation and back. The percentage of operations that had resident equids that traveled a maximum one-way distance of 1,000 miles or more ranged from 4.6 percent of operations in the West region to 1.6 percent of operations in the Central region.

a. Percentage of operations by maximum one-way distance resident equids traveled and returned during the previous 12 months (whether or not by vehicle, farthest away animal got from home operation), and by region:

Percent Operations										
Region										
Distance (Miles)	South		Northeast		West		Central		All Operations	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
0	41.1	(1.6)	28.4	(2.7)	33.0	(2.1)	35.9	(2.1)	36.6	(1.0)
1 to 9	4.1	(0.7)	7.7	(1.6)	4.7	(1.0)	5.5	(1.0)	5.0	(0.5)
10 to 49	16.1	(1.2)	32.4	(2.8)	14.6	(1.6)	20.5	(1.8)	19.0	(0.8)
50 to 99	7.4	(0.8)	10.4	(1.8)	10.5	(1.4)	9.2	(1.2)	8.9	(0.6)
100 to 499	21.9	(1.3)	15.2	(2.1)	26.7	(1.9)	22.7	(1.7)	22.2	(0.9)
500 to 999	6.5	(0.8)	2.7	(0.9)	5.9	(1.0)	4.6	(0.9)	5.4	(0.4)
1,000 or more	2.9	(0.5)	3.2	(1.0)	4.6	(0.8)	1.6	(0.4)	2.9	(0.3)
Total	100.0		100.0		100.0		100.0		100.0	

Percentage of Operations by Maximum One-Way Distance Resident Equids Traveled and Returned During the Previous 12 Months



Approximately 4 of 10 small operations (41.8 percent) reported no resident equids moved off the operation. Over half of large operations reported a maximum one-way distance of 100 miles or more for resident equids that traveled off the operation and returned.

b. Percentage of operations by maximum one-way distance resident equids traveled and returned during the previous 12 months (whether or not by vehicle, farthest away animal got from home operation), and by size of operation:

Percent Operations						
Size of Operation (Number of Equids)						
Distance (Miles)	Small (5-9)		Medium (10-19)		Large (20 or More)	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
0	41.8	(1.4)	27.5	(1.6)	20.6	(1.7)
1 to 9	5.1	(0.6)	5.6	(0.9)	2.5	(0.7)
10 to 49	19.5	(1.1)	20.5	(1.5)	10.0	(1.2)
50 to 99	8.4	(0.8)	9.8	(1.0)	10.0	(1.3)
100 to 499	19.4	(1.1)	26.2	(1.6)	33.3	(2.0)
500 to 999	4.1	(0.6)	6.5	(0.9)	12.7	(1.4)
1,000 or more	1.7	(0.4)	3.9	(0.7)	10.9	(1.3)
Total	100.0		100.0		100.0	

The percentage of operations that reported no movement of resident equids during the previous 12 months ranged from 47.6 percent of operations where the primary use of equids was pleasure to 7.1 percent of operations where the primary use of equids was racing. Approximately one of four operations where the primary use of equids was show/competition and racing reported a maximum one-way distance of 500 miles or more (27.6 percent and 21.4 percent, respectively).

c. Percentage of operations by maximum one-way distance resident equids traveled and returned during the previous 12 months (whether or not by vehicle, farthest away animal got from home operation), and by primary use of equids:

Distance (Miles)	Percent Operations													
	Primary Use of Equids													
	Pleasure		Lessons/ School		Show/ Compe- tition		Breeding		Racing		Farm/ Ranch Work		Other	
	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.
0	47.6	(1.6)	12.7	(5.2)	8.6	(1.9)	31.7	(2.3)	7.1	(4.6)	34.5	(2.0)	9.5	(4.7)
1 to 9	5.5	(0.7)	0.0	(--)	1.5	(0.7)	3.7	(0.9)	0.0	(--)	6.9	(1.1)	8.0	(4.7)
10 to 49	15.4	(1.2)	14.9	(5.5)	11.8	(2.3)	14.0	(1.7)	4.7	(3.3)	31.7	(2.0)	40.5	(9.0)
50 to 99	8.3	(0.9)	8.5	(3.4)	11.7	(2.2)	11.2	(1.5)	20.6	(7.2)	7.0	(1.0)	0.8	(0.8)
100 to 499	18.2	(1.2)	59.4	(7.4)	38.8	(3.3)	28.8	(2.2)	46.2	(8.3)	14.8	(1.4)	34.5	(8.7)
500 to 999	3.7	(0.6)	3.2	(2.1)	17.2	(2.4)	5.9	(1.1)	13.4	(5.0)	3.4	(0.7)	3.4	(2.0)
1,000 or more	1.3	(0.3)	1.3	(0.9)	10.4	(1.8)	4.7	(1.0)	8.0	(4.3)	1.7	(0.5)	3.3	(2.2)
Total	100.0		100.0		100.0		100.0		100.0		100.0		100.0	

2. Vehicle transportation

Overall, 58.4 percent of operations had transported any resident equids by vehicle off the home operation and returned the equids during the previous 12 months. The percentage of operations that had transported resident equids off the operation and returned the equids ranged from 56.3 percent of operations in the Northeast region to 64.9 percent of operations in the West region.

a. Percentage of operations that transported any resident equids by vehicle off the home operation for any purpose and returned the equids to the operation during the previous 12 months, by region:

Percent Operations									
Region									
South		Northeast		West		Central		All Operations	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
57.0	(1.6)	56.3	(2.9)	64.9	(2.1)	56.4	(2.1)	58.4	(1.0)

As size of operation increased so did the percentage of operations that had transported any resident equids by vehicle off the home operation for any purpose and returned the equids during the previous 12 months.

b. Percentage of operations that transported any resident equids off the home operation by vehicle for any purpose and returned the equids during the previous 12 months, by size of operation:

Percent Operations					
Size of Operation (Number of Equids)					
Small (5-9)		Medium (10-19)		Large (20 or More)	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
53.1	(1.4)	66.3	(1.7)	77.0	(1.7)

Approximately 9 of 10 operations where the primary use of equids was lessons/school, show/competition, or racing had transported any resident equids by vehicle off the home operation and returned the equids, compared to about half the operations where the primary use of the equids was pleasure or farm/ranch work.

c. Percentage of operations that transported any resident equids by vehicle off the home operation for any purpose and returned the equids during the previous 12 months, by primary use of equids:

Percent Operations													
Primary Use of Equids													
Pleasure		Lessons/ School		Show/ Compe- tition		Breeding		Racing		Farm/ Ranch Work		Other	
Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Pct.	Err.	Pct.	Err.	Pct.	Err.	Pct.	Err.	Pct.	Err.	Pct.	Err.	Pct.	Err.
49.4	(1.6)	87.4	(5.1)	91.2	(1.9)	67.7	(2.3)	92.9	(4.6)	52.5	(2.1)	58.8	(9.0)

3. Destination

Operations that had any resident equids leave the operation by vehicle and return during the previous 12 months reported the destination of the equids. Some equids may have had multiple destinations. More than 9 of 10 operations (94.8 percent) that had any resident equids leave the home operation by vehicle transported equids within their respective State. Approximately 3 of 10 operations (34.3 percent) transported equids to an adjacent State, and 1 of 10 operations (11.9 percent) transported equids farther than the adjacent State but within the United States. Overall, 0.7 percent of operations had transported equids to Canada and returned them during the previous 12 months, ranging from 2.0 percent of operations in the West region to 0.1 percent in the South region.

a. For operations that transported resident equids by vehicle off the home operation and returned during the previous 12 months, percentage of operations by destination and by region:

Destination	Percent Operations									
	Region									
	South		Northeast		West		Central		All Operations	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Within State	93.1	(1.1)	96.6	(1.2)	96.6	(0.9)	94.9	(1.2)	94.8	(0.6)
To adjacent State	37.6	(2.0)	32.4	(3.5)	26.5	(2.3)	36.9	(2.6)	34.3	(1.2)
Beyond adjacent States*	12.7	(1.3)	12.0	(2.4)	10.3	(1.5)	11.9	(1.7)	11.9	(0.8)
Canada	0.1	(0.1)	0.5	(0.4)	2.0	(0.7)	0.7	(0.4)	0.7	(0.2)
Mexico	0.2	(0.2)	0.2	(0.2)	0.1	(0.1)	0.5	(0.5)	0.3	(0.2)
Outside North America	0.2	(0.2)	1.0	(0.8)	0.0	(--)	0.0	(--)	0.2	(0.1)

*Including Alaska and Hawaii

A higher percentage of operations where the primary use of equids was show/competition transported resident equids to an adjacent State compared to operations where the primary use of equids was pleasure, lessons/school, breeding, racing, and farm/ranch work. A higher percentage of operations where the primary use of equids was show/competition transported resident equids outside the State beyond the adjacent States compared to operations where the primary use of equids was pleasure, breeding, farm/ranch work, and "other."

b. For operations that transported resident equids by vehicle off the home operation and returned during the previous 12 months, percentage of operations by destination and by primary use of equids:

Percent Operations														
Primary Use of Equids														
Destination	Pleasure		Lessons/ School		Show/ Compe- tition		Breeding		Racing		Farm/ Ranch Work		Other	
	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.
Within State	95.9	(0.9)	92.4	(4.9)	96.1	(1.4)	92.0	(1.6)	84.1	(6.6)	95.3	(1.1)	97.4	(2.6)
To adjacent State	28.8	(2.0)	32.2	(7.4)	59.2	(3.5)	38.1	(2.7)	34.7	(7.7)	23.7	(2.4)	44.2	(11.8)
Beyond adjacent States*	9.8	(1.3)	9.8	(4.8)	24.5	(2.9)	12.1	(1.7)	13.0	(5.1)	7.4	(1.4)	5.2	(3.2)
Canada	0.3	(0.2)	3.9	(3.8)	0.7	(0.3)	1.3	(0.6)	0.9	(0.9)	0.7	(0.4)	0.0	(--)
Mexico	0.0	(--)	0.0	(--)	1.5	(1.0)	0.1	(0.1)	0.0	(--)	0.0	(--)	1.1	(1.1)
Outside North America	0.5	(0.3)	0.0	(--)	0.0	(--)	0.1	(0.1)	0.7	(0.7)	0.0	(--)	0.0	(--)

*Including Alaska and Hawaii

Operations may have transported resident equids to multiple destinations, e.g., within State, adjacent States, and farther than adjacent States. For operations that transported any resident equids from the home operation during the previous 12 months, 53.1 percent made 1 to 9 trips within State and 37.7 percent made 10 to 99 trips within State. In addition, 65.7 percent had not made trips to adjacent States, while 26.8 percent had made 1 to 9 trips to adjacent States.

c. For operations that transported resident equids by vehicle off the home operation and returned during the previous 12 months, percentage of operations by number of trips and by destination:

Percent Operations						
Destination						
	Within State	Adjacent State	Other State	Canada	Mexico	Outside North America
Number Trips	Std. Pct. Error	Std. Pct. Error	Std. Pct. Error	Std. Pct. Error	Std. Pct. Error	Std. Pct. Error
0	5.2 (0.6)	65.7 (1.2)	88.1 (0.8)	99.3 (0.2)	99.8* (0.2)	99.8 (0.1)
1 to 9	53.1 (1.3)	26.8 (1.2)	10.9 (0.8)	0.7 (0.2)	0.1 (0.1)	0.2 (0.1)
10 to 99	37.7 (1.3)	7.2 (0.6)	0.9 (0.2)	0.0 (0.0)	0.1 (0.1)	0.0 (--)
100 or more	4.0 (0.5)	0.3 (0.1)	0.1 (0.0)	0.0 (--)	0.0 (--)	0.0 (--)
Total	100.0	100.0	100.0	100.0	100.0	100.0

*This table shows that 99.8 percent of operations did not travel to Mexico with a resident equid, while table a. shows that 0.3 percent of operations did; these numbers do not add to 100.0 due to rounding.

4. Direct contact with outside equids during trips

Overall, approximately one-quarter of operations reported that resident equids never left the home operation (as a general practice). A lower percentage of operations in the South region (70.7 percent) had resident equids that left the home operation and returned after direct contact with outside equids compared to operations in the Northeast or Central regions (81.0 percent and 78.4 percent, respectively).

a. Percentage of operations that had resident equids that left the home operation and returned after direct contact with outside equids, by region:

Percent Operations									
Region									
South		Northeast		West		Central		All Operations	
Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.
70.7	(1.5)	81.0	(2.4)	76.5	(1.9)	78.4	(1.8)	75.1	(0.9)

A lower percentage of small operations (70.2 percent) had resident equids that left the operation and returned after direct contact with outside equids than medium and large operations (84.0 percent and 86.5 percent, respectively).

b. Percentage of operations that had resident equids that left the home operation and returned after direct contact with outside equids, by size of operation:

Percent Operations					
Size of Operation (Number of Equids)					
Small (5-9)		Medium (10-19)		Large (20 or More)	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
70.2	(1.3)	84.0	(1.3)	86.5	(1.4)

Operations with a primary function of boarding/training and breeding farm were more likely to have resident equids that left the operation and returned after direct contact with outside equids than operations with a primary function of farm/ranch and residence with equids for personal use.

c. Percentage of operations that had resident equids that left the operation and returned after direct contact with outside equids, by primary function of operation:

Percent Operations									
Primary Function of Operation									
Boarding/ Training		Breeding Farm		Farm/ Ranch		Residence with Equids for Personal Use		Other	
Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.
89.3	(2.3)	84.1	(1.9)	72.5	(1.5)	71.2	(1.6)	87.4	(3.9)

On operations where the primary use of equids was show/competition, 95.8 percent had resident equids that left the home operation and returned after direct contact with outside equids. This percentage is higher than the percentages of operations where the primary use of equids was pleasure, breeding, and farm/ranch work (65.9 percent, 81.7 percent, and 76.8 percent, respectively). Operations where equids were used primarily for pleasure were less likely than all operation types to have resident equids that left the home operation and returned after direct contact with outside equids.

d. Percentage of operations that had resident equids that left the home operation and returned after direct contact with outside equids, by primary use of equids:

Percent Operations													
Primary Use of Equids													
Pleasure		Lessons/ School		Show/ Compe- tition		Breeding		Racing		Farm/ Ranch Work		Other	
Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.
65.9	(1.5)	91.8	(4.5)	95.8	(1.3)	81.7	(1.9)	91.7	(5.5)	76.8	(1.8)	93.7	(3.9)

For operations that had resident equids that left the home operation and returned after direct contact with outside equids (approximately 75 percent of operations), 6 of 10 operations (60.6 percent) never isolated returning equids, which means these operations did not prevent nose-to-nose contact with other equids on the home operation or prevent sharing of feed, drinking water, or equipment (e.g., brushes, combs, hoof picks, or buckets). Overall, 10.6 percent of operations routinely isolated returning equids, and 26.0 percent isolated equids for a cause such as disease or exposure to disease. A small percentage of operations overall (2.8 percent) quarantined equids before they arrived at the home operation. There were no major regional differences with regard to infection-control practices used for resident equids returning to the operation after having direct contact with outside equids.

e. For operations that had resident equids that left the home operation and returned after direct contact with outside equids, percentage of operations by infection-control practice used for returning equids, and by region:

Practice	Percent Operations									
	Region									
	South		Northeast		West		Central		All Operations	
	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.
Routinely isolate returning equids	10.0	(1.1)	9.7	(1.8)	11.1	(1.6)	11.6	(1.4)	10.6	(0.7)
Only isolate returning equids for a cause such as disease or exposure to disease	23.6	(1.6)	23.3	(2.6)	28.5	(2.3)	29.2	(2.2)	26.0	(1.0)
Quarantine before arrival at home operation	2.3	(0.6)	3.3	(1.1)	3.6	(0.9)	2.5	(0.7)	2.8	(0.4)
Never isolate returning equids	64.1	(1.8)	63.7	(3.0)	56.8	(2.4)	56.7	(2.3)	60.6	(1.1)
Total	100.0		100.0		100.0		100.0		100.0	

For operations that had resident equids that left the home operation and returned after direct contact with outside equids, the percentage of operations that used infection-control practices for returning equids increased as operation size increased. Compared to small operations, large operations had more resident equids leave and return to the home operation after direct contact with outside equine (table b.) and more often isolated or quarantined returning equids. More than half of large operations isolated or quarantined returning resident equids—either routinely or due to disease or exposure to disease—compared to less than one-third of small operations.

f. For operations that had resident equids that left the home operation and returned after direct contact with outside equids, percentage of operations by infection-control practice used for returning equids, and by size of operation:

Practice	Percent Operations					
	Size of Operation (Number of Equids)					
	Small (5-9)		Medium (10-19)		Large (20 or More)	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	
Routinely isolate returning equids	9.6	(1.0)	11.5	(1.2)	14.5	(1.6)
Only isolate returning equids for a cause such as disease or exposure to disease	22.4	(1.4)	30.5	(1.8)	35.9	(2.2)
Quarantine before arrival at home operation	2.3	(0.5)	2.9	(0.7)	5.2	(1.0)
Never isolate returning equids	65.7	(1.6)	55.1	(1.9)	44.4	(2.2)
Total	100.0		100.0		100.0	

For Operations that had Resident Equids that Left the Home Operation and Returned After Direct Contact with Outside Equids, Percentage of Operations by Infection-Control Practice Used for Returning Equids, and by Size of Operation

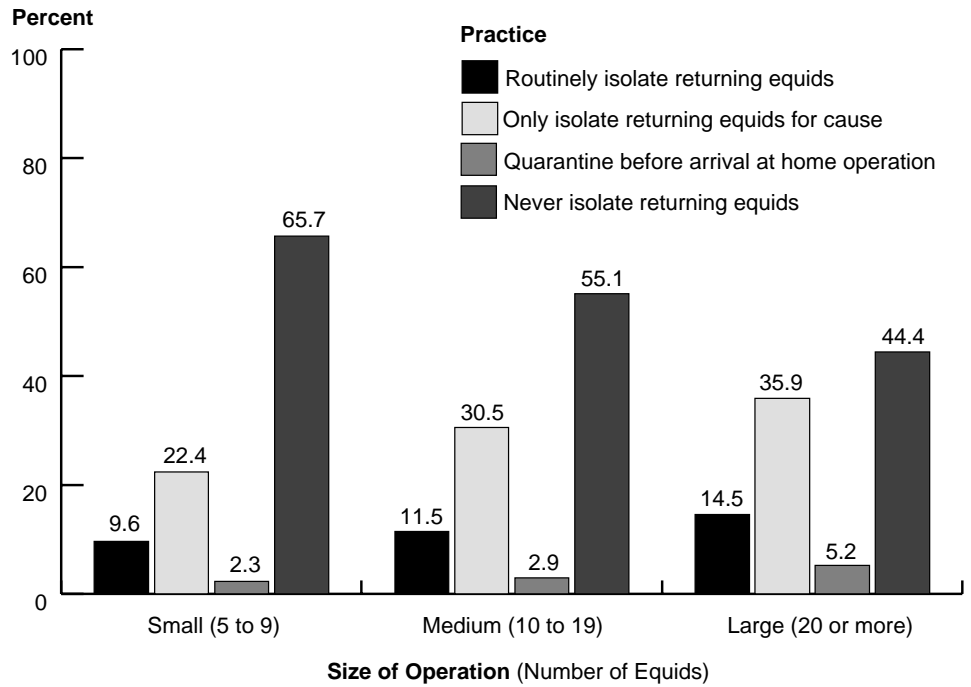


Photo: USDA photo library

In general, operations with a primary function of breeding farm that had resident equids that left the home operation and returned after direct contact with outside equids were more likely to use isolation as an infection-control practice for returning resident equids than operations with a primary function of farm/ranch and residence with equids for personal use. Farm/ranch and residences-with-equids-for-personal-use operations were more likely to never isolate returning equids than operations with a primary function of boarding/training and breeding farm.

g. For operations that had resident equids that left the home operation and returned after direct contact with outside equids, percentage of operations by infection-control practice used for returning equids, and by primary function of operation:

Percent Operations										
Primary Function of Operation										
Residence with Equids for Personal Use										
	Boarding/ Training		Breeding Farm		Farm/ Ranch		Residence with Equids for Personal Use		Other	
Practice	Std. Pct.	Err.	Std. Pct.	Err.	Std. Pct.	Err.	Std. Pct.	Err.	Std. Pct.	Err.
Routinely isolate returning equids	12.4	(2.7)	19.3	(2.0)	8.4	(1.1)	8.7	(1.2)	9.7	(3.8)
Only isolate returning equids for a cause such as disease or exposure to disease	35.7	(3.7)	35.3	(2.6)	21.2	(1.6)	24.1	(1.8)	37.0	(6.4)
Quarantine before arrival at home operation	6.0	(2.1)	3.7	(1.0)	2.5	(0.6)	2.2	(0.6)	0.8	(0.8)
Never isolate returning equids	45.9	(3.9)	41.7	(2.7)	67.9	(1.8)	65.0	(2.0)	52.5	(6.6)
Total	100.0		100.0		100.0		100.0		100.0	

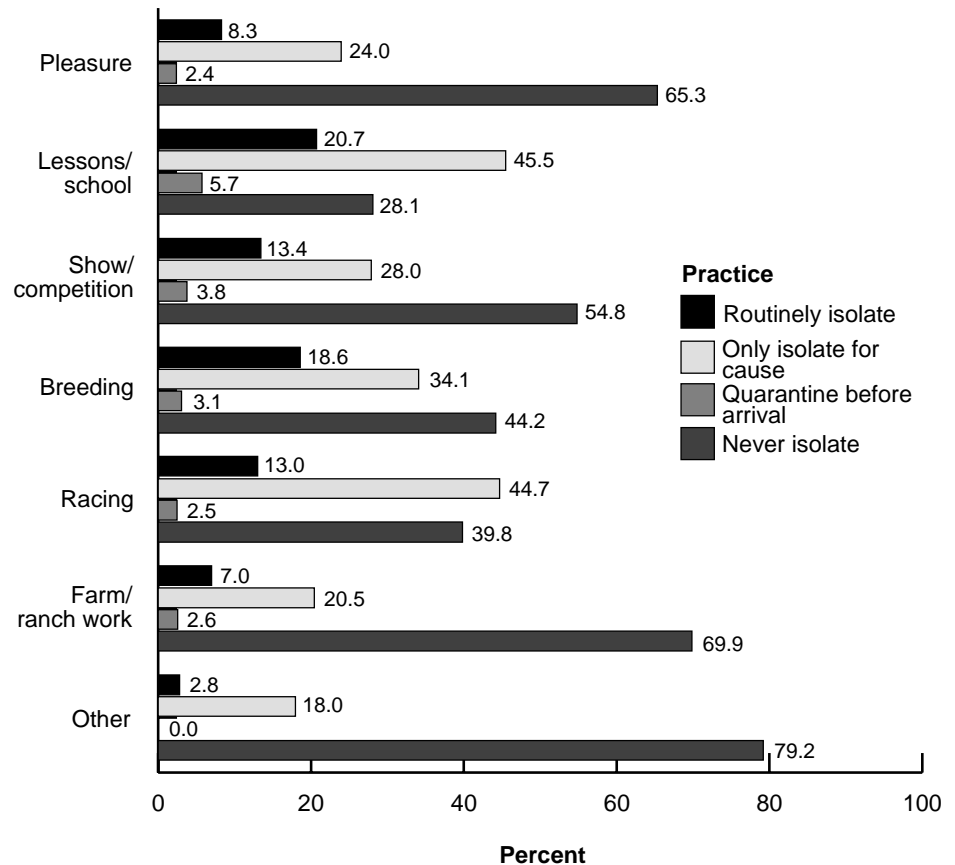
In general, a small percentage of operations, regardless of primary use of equids, quarantined equids before their return. Operations where the primary use of equids was farm/ranch work or pleasure were more likely to never isolate returning equids compared to operations where the primary use of equids was lessons/school, show/competition, breeding, and racing.

h. For operations that had resident equids that left the home operation and returned after direct contact with outside equids, percentage of operations by infection-control practice used for returning equids, and by primary use of equids:

Percent Operations														
Primary Use of Equids														
Practice	Pleasure		Lessons/ School		Show/ Compe- tition		Breeding		Racing		Farm/ Ranch Work		Other	
	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.
Routinely isolate returning equids	8.3	(1.1)	20.7	(7.1)	13.4	(2.2)	18.6	(2.0)	13.0	(5.3)	7.0	(1.2)	2.8	(2.1)
Only isolate returning equids for a cause such as disease or exposure to disease	24.0	(1.6)	45.5	(8.0)	28.0	(3.0)	34.1	(2.5)	44.7	(8.4)	20.5	(1.9)	18.0	(7.5)
Quarantine before arrival at home operation	2.4	(0.6)	5.7	(4.4)	3.8	(1.2)	3.1	(0.8)	2.5	(1.9)	2.6	(0.7)	0.0	(--)
Never isolate returning equids	65.3	(1.8)	28.1	(6.6)	54.8	(3.3)	44.2	(2.6)	39.8	(8.4)	69.9	(2.2)	79.2	(7.7)
Total	100.0		100.0		100.0		100.0		100.0		100.0		100.0	

For Operations that had Resident Equids that Left the Home Operation and Returned After Direct Contact with Outside Equids, Percentage of Operations by Infection-Control Practice Used for Returning Equids, and by Primary Use of Equids

Primary Use



5. Presentation of equine health papers

Overall, 63.0 percent of operations where equids ever left the home operation had been asked to present equine health papers (health certificate, Coggins test) sometime during the previous 5 years. The reasons for being asked to present equine health papers were not mutually exclusive. For example, an operator could have been asked for equine health papers at a sale and at a private farm during the past 5 years. A higher percentage of operations in the South and Central regions had been asked to present equine health papers compared to operations in the Northeast and West regions. The highest percentage of operations (44.0 percent) were asked to show equine health papers at a show/ event, followed by at a sale (27.2 percent).

Only a small percentage of operations (2.2 percent) had been asked to present equine health papers for international transport, which likely reflects the relative infrequency of international transport rather than owners not being asked for health papers when transporting equids internationally. The same reasoning likely pertains to why so few operators were asked for equine health papers at a racetrack; i.e., a relatively small number of operators went to race tracks with equids. “Other” reasons for being asked for equine health papers included riding in State or Federal park or National Forest land, while transporting on highway in State, weigh station within the State, at a campground, when cattle were having regulatory testing performed, annual municipal check, and at the veterinary clinic.

a. For operations where resident equids ever left the home operation, percentage of operations that had been asked to present equine health papers (health certificate, Coggins test) during the previous 5 years, by reason and by region:

Reason	Percent Operations									
	Region									
	South		Northeast		West		Central		All Operations	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
At a State border/entry point	20.4	(1.4)	8.6	(1.6)	21.7	(2.0)	10.6	(1.4)	16.5	(0.8)
For international transport	1.6	(0.4)	2.7	(0.9)	4.1	(0.9)	1.3	(0.4)	2.2	(0.3)
At a show/event	52.4	(1.9)	39.6	(3.1)	26.5	(2.2)	47.4	(2.3)	44.0	(1.2)
At a sale	28.4	(1.6)	22.7	(2.5)	19.0	(1.8)	34.2	(2.2)	27.2	(1.0)
At a private farm/facility	20.5	(1.5)	12.1	(1.9)	7.4	(1.3)	18.3	(1.8)	16.1	(0.8)
At a race track	5.2	(0.8)	4.9	(1.2)	3.7	(0.9)	3.4	(0.8)	4.4	(0.4)
Other	4.7	(0.8)	4.0	(1.4)	1.7	(0.6)	3.0	(0.8)	3.5	(0.4)
Any of above	70.7	(1.8)	54.9	(3.2)	47.5	(2.5)	67.8	(2.3)	63.0	(1.1)

One-quarter of operations (26.6 percent) where the primary use of equids was racing had not been asked for their equine health papers at a racetrack during the previous 5 years. Either these operations had not taken horses to a race track, despite that being the primary use of their equids, or they were not asked for their papers when going to a racetrack.

b. For operations where resident equids ever left the home operation, percentage of operations that had been asked to present equine health papers (health certificate, Coggins test) during the previous 5 years, by reason and by primary use of equids:

Percent Operations														
Primary Use of Equids														
Reason	Pleasure		Lessons/ School		Show/ Competition		Breeding		Racing		Farm/ Ranch Work		Other	
	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.
	At a State border/entry point	12.3	(1.2)	22.4	(6.8)	33.0	(3.1)	21.3	(2.0)	46.4	(8.4)	9.6	(1.3)	15.1
For international transport	0.5	(0.2)	8.3	(5.0)	6.2	(1.4)	4.0	(1.0)	3.3	(2.1)	0.9	(0.4)	6.4	(3.1)
At a show/event	40.9	(1.9)	73.1	(6.9)	83.3	(2.6)	54.1	(2.6)	35.8	(8.0)	22.9	(2.0)	23.9	(7.8)
At a sale	18.5	(1.5)	23.1	(6.6)	34.5	(3.1)	50.0	(2.6)	28.6	(7.1)	20.5	(1.9)	49.0	(9.3)
At a private farm/facility	13.6	(1.3)	32.1	(7.5)	20.4	(2.7)	28.0	(2.3)	28.1	(7.1)	8.6	(1.3)	4.6	(2.4)
At a race track	2.0	(0.5)	0.0	(--)	2.9	(0.9)	9.9	(1.5)	73.4	(7.7)	1.0	(0.4)	1.5	(1.2)
Other	4.7	(0.8)	0.0	(--)	4.9	(1.5)	3.5	(1.0)	0.0	(--)	1.3	(0.5)	8.1	(5.3)
Any of above	57.7	(1.9)	87.6	(4.8)	89.9	(2.2)	79.9	(2.2)	89.0	(5.2)	43.2	(2.3)	66.4	(8.8)

E. General Management**1. Feed source**

Overall, 90.1 percent of operations fed grain concentrate/energy source beyond hay or pasture. A higher percentage of operations in the South and Northeast regions (91.2 percent and 96.3 percent, respectively) fed a grain concentrate or other energy source beyond hay or pasture forage than operations in the West region (84.4 percent).

a. Percentage of operations that fed grain concentrate/energy source (beyond hay or pasture forage) during the previous 12 months, by region:

Percent Operations									
Region									
South		Northeast		West		Central		All Operations	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
91.2	(0.9)	96.3	(1.1)	84.4	(1.7)	89.7	(1.3)	90.1	(0.6)



Photo: USDA photo library

For operations that fed grain concentrate/energy source during the previous 12 months, the reported percentage of grain/concentrate by source was averaged over all operations. The average percentage purchased in bags was 79.1 percent, followed by bulk delivery from retail source (9.6 percent) and home-grown (7.9 percent). A higher average percentage of grain/concentrate was bulk-delivered from a retail source or home-grown in the Northeast and Central regions compared to the South and West regions.

b. For operations that fed grain concentrate/energy source (beyond hay or pasture forage) during the previous 12 months, operation average percentage of grain/concentrate fed, by source and by region:

Source	Operation Average Percent of Grain/Concentrate									
	Region									
	South		Northeast		West		Central		All Operations	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Purchased in bags (retail source)	87.4	(1.0)	66.8	(2.6)	85.0	(1.6)	66.9	(2.0)	79.1	(0.8)
Bulk delivery from retail source	5.7	(0.7)	18.4	(2.2)	5.5	(1.0)	14.7	(1.4)	9.6	(0.6)
Bulk delivery from nonretail source	1.9	(0.4)	3.9	(1.0)	3.7	(0.9)	3.9	(0.8)	3.0	(0.3)
Home-grown	4.4	(0.6)	10.8	(1.7)	5.7	(1.0)	14.0	(1.4)	7.9	(0.5)
Other	0.6	(0.3)	0.1	(0.1)	0.1	(0.0)	0.5	(0.3)	0.4	(0.1)
Total	100.0		100.0		100.0		100.0		100.0	

For operations that fed grain concentrate/energy source during the previous 12 months, more than 8 of 10 operations prevented contamination of the grain by other animals or their feces. In general the percentages of operations that prevented contamination of stored grain were similar across regions.

c. For operations that fed grain concentrate/energy source (beyond hay or pasture forage) during the previous 12 months, percentage of operations that stored grain/concentrate in a manner that prevents contamination by the following animals or their feces, by region:

Animal	Percent Operations									
	Region									
	South		Northeast		West		Central		All Operations	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Mice or rats	87.7	(1.1)	80.6	(2.3)	85.4	(1.6)	82.2	(1.7)	85.0	(0.8)
Domestic or wild birds including poultry	87.6	(1.1)	86.7	(1.9)	86.2	(1.7)	85.0	(1.6)	86.6	(0.7)
Domestic livestock, including equine	89.2	(1.1)	87.5	(1.9)	87.9	(1.6)	87.4	(1.5)	88.3	(0.7)
Dogs or cats	88.7	(1.1)	83.7	(2.2)	86.0	(1.7)	85.6	(1.6)	86.7	(0.7)
Other wildlife	87.2	(1.1)	84.7	(2.0)	83.2	(1.8)	85.5	(1.6)	85.7	(0.8)

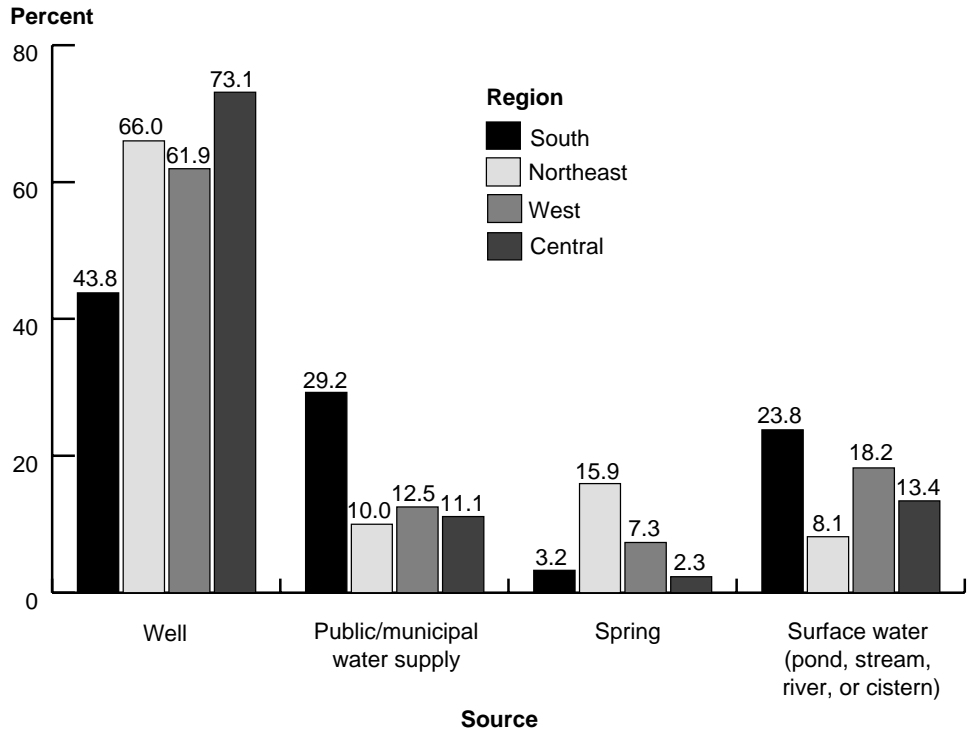
2. Drinking water

On 57.5 percent of all operations, well water was the predominant source of drinking water for resident equids during the previous 12 months. A higher percentage of operations in the South region used public/municipal water supply as the predominant water source for resident equids compared to operations in the other regions. A lower percentage of operations in the South region used well water as the predominant water source compared to operations in the other regions. A higher percentage of operations in the Northeast region used a spring as the predominant water source than operations in the other regions.

a. Percentage of operations by predominant source of drinking water for resident equids during the previous 12 months and by region:

Source	Percent Operations									
	Region									
	South		Northeast		West		Central		All Operations	
Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	
Well	43.8	(1.4)	66.0	(2.8)	61.9	(2.1)	73.1	(1.7)	57.5	(0.9)
Public/ municipal water supply	29.2	(1.4)	10.0	(1.7)	12.5	(1.5)	11.1	(1.2)	18.9	(0.8)
Spring	3.2	(0.6)	15.9	(2.2)	7.3	(1.2)	2.3	(0.6)	5.4	(0.5)
Surface water (pond, stream, river, or cistern)	23.8	(1.4)	8.1	(1.7)	18.2	(1.7)	13.4	(1.4)	18.1	(0.8)
Other	0.0	(--)	0.0	(--)	0.1	(0.2)	0.1	(0.1)	0.1	(0.0)
Total	100.0		100.0		100.0		100.0		100.0	

Percentage of Operations by Predominant Source of Drinking Water for Resident Equids During the Previous 12 Months and by Region



The predominant source of drinking water for resident equids during the previous 12 months did not vary by size of operation.

b. Percentage of operations by predominant source of drinking water for resident equids during the previous 12 months, and by size of operation:

Source	Percent Operations					
	Size of Operation (Number of Equids)					
	Small (5-9)		Medium (10-19)		Large (20 or More)	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Well	56.5	(1.3)	58.1	(1.7)	63.4	(1.9)
Public/municipal water supply	18.8	(1.0)	19.8	(1.4)	16.9	(1.5)
Spring	5.4	(0.6)	6.1	(0.9)	4.1	(0.8)
Surface water (pond, stream, river, or cistern)	19.3	(1.1)	15.9	(1.3)	15.4	(1.5)
Other	0.0	(--)	0.1	(0.1)	0.2	(0.2)
Total	100.0		100.0		100.0	

A lower percentage of operations with a primary function of farm/ranch used municipal water as the predominant source of water for resident equids compared to operations with any other primary function. However, a higher percentage of operations with a primary function of farm/ranch used surface water (pond, stream, cistern, or river) as the predominant source of drinking water for resident equids than operations with any other primary function.

c. Percentage of operations by predominant source of drinking water for resident equids during the previous 12 months, and by primary function of operation:

Percent Operations										
Primary Function of Operation										
Source	Boarding/ Training		Breeding Farm		Farm/ Ranch		Residence with Equids for Personal Use		Other	
	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.	Pct.	Std. Err.
	Well	66.8	(3.5)	64.1	(2.4)	54.1	(1.6)	56.8	(1.7)	60.8
Public/ municipal water supply	28.0	(3.4)	22.6	(2.1)	12.5	(1.1)	22.9	(1.5)	23.4	(5.0)
Spring	1.8	(1.0)	3.4	(0.9)	7.6	(0.9)	4.4	(0.7)	5.6	(2.9)
Surface water (pond, stream, river, or cistern)	3.4	(1.4)	9.8	(1.5)	25.8	(1.4)	15.8	(1.3)	10.2	(3.1)
Other	0.0	(--)	0.1	(0.1)	0.0	(--)	0.1	(0.1)	0.0	(--)
Total	100.0		100.0		100.0		100.0		100.0	

3. Insect control

Overall, 88.9 percent of operations used some form of insect control. The percentage of operations that used any method of insect control ranged from 95.5 percent of operations in the Northeast region to 86.7 percent of operations in the South region. The insect-control methods used on the highest percentages of all operations were repellents applied to equids, replacement of water in water containers at least weekly, frequent removal of weeds and manure from premises, and application of insecticides in or near equine housing areas. A higher percentage of operations in the South region applied insecticide in or near equine housing areas or to pasture areas than operations in other regions. Other methods of insect control included fly traps, fish in water containers, garlic in feed, and birds and bats.

a. Percentage of operations where the following insect-control methods were used during summer 2005, by region:

Method	Percent Operations									
	Region									
	South		Northeast		West		Central		All Operations	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Repellents applied to equids	69.1	(1.5)	78.1	(2.4)	77.6	(1.9)	73.7	(1.9)	73.1	(0.9)
Insecticides applied in or near equine housing area	41.8	(1.6)	31.9	(2.7)	32.1	(2.0)	31.4	(2.0)	36.0	(1.0)
Insecticides applied to pasture areas	7.8	(0.8)	1.9	(0.7)	5.5	(1.0)	3.2	(0.8)	5.5	(0.5)
Regional control program, such as aerial spraying	4.1	(0.6)	1.9	(0.8)	6.9	(1.1)	2.9	(0.7)	4.1	(0.4)
Sticky tape	19.6	(1.3)	26.9	(2.4)	21.8	(1.8)	19.4	(1.7)	20.9	(0.8)
Bug zapper	8.2	(0.9)	5.2	(1.2)	13.0	(1.5)	6.9	(1.0)	8.4	(0.6)
Parasitic wasps specifically brought onto operation	2.5	(0.4)	2.8	(0.7)	6.4	(1.1)	1.7	(0.6)	3.1	(0.3)
Face mask on equid	19.7	(1.2)	39.6	(2.8)	33.6	(2.0)	28.2	(1.9)	27.2	(0.9)
Fly tags attached to equine halters	4.8	(0.7)	2.4	(0.9)	3.7	(0.8)	3.9	(0.8)	4.1	(0.4)
Fly sheets on equid	5.6	(0.7)	10.0	(1.6)	9.4	(1.2)	7.1	(1.0)	7.3	(0.5)
Insect control product in feed, such as using Equitrol®	5.5	(0.7)	3.6	(1.1)	4.2	(0.9)	7.9	(1.2)	5.6	(0.5)
Mosquito treatment in drinking water (mosquito dunks)	6.4	(0.8)	2.4	(0.8)	11.1	(1.4)	4.0	(0.8)	6.3	(0.5)
Water container emptied and refilled with fresh water at least weekly	55.9	(1.6)	67.6	(2.7)	56.6	(2.2)	59.8	(2.1)	58.5	(1.0)
Frequent removal of weeds and manure from premises	45.9	(1.6)	62.4	(2.7)	53.2	(2.2)	53.1	(2.1)	51.3	(1.0)
Screened-in stalls	1.9	(0.4)	4.2	(1.0)	2.2	(0.6)	2.6	(0.7)	2.4	(0.3)
Other	4.0	(0.6)	7.6	(1.6)	8.6	(1.3)	5.9	(1.0)	5.9	(0.5)
Any method	86.7	(1.1)	95.5	(1.2)	91.2	(1.3)	87.5	(1.5)	88.9	(0.7)

4. Manure management

Among all regions, the highest percentages of operations disposed of manure or waste bedding by applying it to fields on the operation where no livestock graze, applying it to fields on the operation where livestock graze, and allowing it to accumulate or leaving it to nature. In the Northeast and Central regions, the highest percentage of operations disposed of manure and waste bedding by applying it to fields on the operation where no livestock graze (this category included all land where livestock did not graze, such as gardens and flower beds). In the South region, the disposal methods used on the highest percentages of operations were allowing the waste to accumulate or leaving it to nature and applying it to fields on the operation where any livestock graze. In all regions, a very low percentage of operations disposed of manure by routine garbage pickup or deposition in a landfill.

a. Percentage of operations by method of manure (including composted manure) and/or waste bedding disposal used during the previous 12 months, and by region:

Method	Percent Operations									
	Region									
	South		Northeast		West		Central		All Operations	
	Std. Pct.	Std. Error	Std. Pct.	Std. Error	Std. Pct.	Std. Error	Std. Pct.	Std. Error	Std. Pct.	Std. Error
Routine garbage pickup	2.4	(0.5)	3.1	(0.9)	4.8	(1.0)	0.7	(0.3)	2.6	(0.3)
Hauled to landfill (not routine garbage pickup)	1.7	(0.4)	1.3	(0.6)	2.7	(0.8)	0.3	(0.2)	1.5	(0.2)
Hauled away, other than to landfill	8.9	(0.9)	8.3	(1.5)	18.5	(1.7)	9.5	(1.2)	10.9	(0.6)
Applied on fields on the operation where any livestock (including equids) graze	37.6	(1.6)	34.7	(2.7)	38.9	(2.1)	36.3	(2.0)	37.2	(1.0)
Applied on fields on the operation where no livestock graze	25.5	(1.4)	72.9	(2.6)	34.2	(2.1)	60.8	(2.0)	42.0	(0.9)
Manure/waste bedding allowed to accumulate or left to nature	38.7	(1.6)	21.0	(2.3)	32.2	(2.1)	27.8	(1.9)	32.4	(1.0)
Sold or gave away	12.6	(1.0)	21.3	(2.3)	17.8	(1.7)	21.4	(1.7)	16.9	(0.7)
Other	1.5	(0.4)	1.7	(0.8)	4.1	(0.9)	2.6	(0.7)	2.3	(0.3)

A higher percentage of large and medium operations sold or gave away manure and/or waste bedding than small operations. Compared to large operations, a higher percentage of small operations allowed manure and/or waste bedding to accumulate or be left to nature, and a lower percentage of small operations had waste material hauled to a site other than a landfill.

b. Percentage of operations by method of manure (including composted manure) and/or waste bedding disposal used during the previous 12 months, and by size of operation:

Method	Percent Operations					
	Size of Operation (Number of Equids)					
	Small (5-9)		Medium (10-19)		Large (20 or More)	
	Pct.	Std. Error	Pct.	Std. Error	Pct.	Std. Error
Routine garbage pickup	2.4	(0.4)	2.4	(0.6)	4.3	(0.8)
Hauled to landfill (not routine garbage pickup)	1.4	(0.3)	1.6	(0.4)	2.7	(0.7)
Hauled away, other than to landfill	9.7	(0.8)	12.2	(1.1)	16.9	(1.5)
Applied on fields on the operation where any livestock (including equids) graze	35.5	(1.3)	39.6	(1.8)	42.3	(2.0)
Applied on fields on the operation where no livestock graze	40.0	(1.3)	46.2	(1.7)	45.0	(2.0)
Manure/waste bedding allowed to accumulate or left to nature	33.7	(1.3)	31.2	(1.7)	26.3	(1.8)
Sold or gave away	14.6	(1.0)	21.0	(1.5)	23.1	(1.7)
Other	2.2	(0.4)	3.1	(0.6)	1.3	(0.4)

On operations where the primary use of equids was for farm/ranch work, the highest percentage of operations disposed of manure and/or waste bedding by applying it to fields on the operation where livestock graze.

c. Percentage of operations by method of manure (including composted manure) and/or waste bedding disposal used during the previous 12 months, and by primary use of equids:

Percent Operations														
Primary Use of Equids														
Method	Pleasure		Lessons/ School		Show/ Competi- tion		Breeding		Racing		Farm/ Ranch Work		Other	
	Std. Pct.	Err.	Std. Pct.	Err.	Std. Pct.	Err.	Std. Pct.	Err.	Std. Pct.	Err.	Std. Pct.	Err.	Std. Pct.	Err.
Routine garbage pickup	2.4	(0.5)	1.0	(1.0)	4.4	(1.2)	3.4	(0.9)	8.3	(4.6)	1.3	(0.5)	5.5	(4.7)
Hauled to landfill (not routine garbage pickup)	1.3	(0.4)	1.8	(1.8)	2.7	(1.0)	1.9	(0.7)	2.8	(2.3)	1.2	(0.5)	0.0	(--)
Hauled away, other than to a landfill	9.9	(0.9)	16.9	(5.4)	17.0	(2.4)	13.7	(1.6)	21.8	(6.2)	8.0	(1.1)	6.6	(3.7)
Applied on fields on the operation where any livestock (including equids) graze	32.7	(1.5)	31.3	(7.4)	36.9	(3.2)	35.3	(2.3)	31.5	(7.9)	47.8	(2.1)	27.2	(7.3)
Applied on fields on the operation where no livestock graze	41.7	(1.5)	60.8	(7.6)	44.6	(3.3)	45.0	(2.4)	44.9	(8.2)	37.5	(2.0)	58.8	(8.8)
Manure/ waste bedding allowed to accumulate or left to nature	33.7	(1.5)	21.5	(6.7)	21.8	(2.8)	31.9	(2.2)	23.1	(6.8)	36.3	(2.0)	22.6	(7.8)
Sold or gave away	16.8	(1.2)	52.5	(7.8)	23.0	(2.6)	24.7	(2.0)	21.7	(6.4)	7.9	(1.1)	6.6	(3.1)
Other	2.8	(0.5)	7.2	(4.2)	1.6	(0.8)	3.2	(0.8)	3.7	(2.9)	0.6	(0.3)	5.1	(3.7)

Section II: Methodology

A. Identifying Industry Needs

Preparation for Equine 2005 began with a review of existing sources of information for monitoring equine health, including “A Catalog of Opportunities for Equine Health Monitoring,” which was compiled for Equine '98. Second, informal discussions were undertaken to identify industry needs, followed by the development of five basic objectives for Equine 2005 (see Appendix IV).

B. Sampling and Estimation

1. State selection

The benefits of being able to compare summary data from the same States included in the Equine '98 study led to the inclusion of those previously used 28 States. A goal for all NAHMS national studies is to include States that account for at least 70 percent of the animal and producer/owner populations in the United States. Budget constraints beyond this level of coverage were an important consideration. The most recent equine data available on which to base the selection of States to be included in the Equine 2005 study were found in the 2002 Census of Agriculture. Use of these data is limited because only equids on farms are represented. For the purpose of the Census, a farm was defined as any place with \$1,000 or more sales of agriculture products during the year or having at least five horses.

A review of the rationale for including States in the previous study (Equine '98) is described here. Each State's contribution to the U.S. total for number of horses and ponies and number of farms reporting horses or ponies was calculated. The animal contribution was given a weight of 0.6 and the number of farms a weight of 0.4. This weighted contribution (single number for percentage of total) was a key determinant in selecting the States. Every State that accounted for 2 percent or more of the U.S. total horses and ponies was included in the study except Iowa and Idaho, which were excluded due to expected resource conflicts with a then-proposed NAHMS cattle-on-feed study. Thus, 21 States were initially selected based on this criterion. In addition, seven States were included that individually contributed less than 2 percent of the U.S. total horses and ponies. Georgia, Maryland, and New Jersey were included due to a high level of State equine industry interest, and Alabama, Louisiana, New Mexico, and Wyoming were included to improve geographic representation. A total of 28 States were eventually included in the Equine '98 study. A review of the State-level 2002 Census of Agriculture, as well as the NASS 1999 estimates, was performed. Some changes were noted. For the 2002 Census of Agriculture, the 28 States accounted for 78.2 percent of all equids and 78.9 percent of farms with equids.

2. Sample selection

The NASS list frame is primarily comprised of equine information from the 2002 Census of Agriculture. A total of 4,002 operations were selected based upon a stratified random selection within each State's list sampling frame. Stratification was based upon number of equids.

3. Population inferences

The inverse of the probability of selection was used as the initial weight and then adjusted for nonresponse within State and size strata. The reference population is the NASS list frame of places/operations with 5 or more equids that met the NASS definition of a farm for the 28 States. If a place has five or more equids it is classified as a farm via the Census of Agriculture definition (any place with \$1,000 or more sales of agriculture products during the year or having at least five equids).

Published inventory numbers for equids and the number of places with equids are lacking for the United States compared to the Nation's other livestock commodities. Therefore, to quantify the reference population the best information available is the 2002 Census of Agriculture report. Shown below are the totals for the 28 States compared to the U.S. total. The Equine 2005 reference population is farms with 5 or more equids in the 28 participating States. This population represented 78.0 percent of equids and 78.6 percent of operations with five or more equids in the United States. Operations with 5 or more equids accounted for 82.3 percent of all equids in the 28 States. Similar information is provided in Appendices II and III by State and by size of farm.

a. Equine inventory on-farm, number of farms with equids on all operations, and operations with five or more equids:

2002 Census of Agriculture					
Equine Inventory					
	All		5 or More Equids		
	Number Head	Pct. of Total	Number Head	Pct. of Total	Pct. of All Equids
28 States	2,930,566	78.2	*2,411,033	*78.0	*82.3
Non-28 States	819,070	21.8	681,948	22.0	83.3
United States	3,749,636	100.0	3,092,981	100.0	82.5
Farms					
	All		5 or More Equids		
	Number	Pct. of Total	Number	Pct. of Total	Pct. of All Farms
28 States	436,170	78.9	*219,059	*78.6	*50.2
Non-28 States	116,747	21.1	59,569	21.4	51.0
United States	552,917	100.0	278,628	100.0	50.4

*Reference population

b. NASS equine inventory estimates on-farm and nonfarm:

	NASS—Equine	
	Jan. 1, 1998 (million head)	Jan. 1, 1999 (million head)
Farm	3.20	--
Nonfarm	2.05	--
Total	5.25	5.32

C. Data Collection

Approximately 200 NASS-trained enumerators collected data for the baseline health descriptive reports via personal interviews from July 18 through August 12, 2005.

D. Data Analysis

1. Validation and estimation

Initial data entry and screening for outliers and data errors were performed in each individual NASS State office. NAHMS personnel performed additional data validation on the entire data set after data from all States were combined.

2. Response rates

a. Response categories are shown below. These data were collected by NASS enumerators from July 18 through August 12, 2005:

Category	Number	Percent
1—out of business	238	5.9
2—refusal	328	8.2
3—complete	2,874	71.8
4—partial refusal (refused part of questionnaire)	19	0.5
5—inaccessible (unable to contact)	311	7.8
6—out of scope, nontypical (e.g., prison farm, university farm)	14	0.4
7—no resident equids	218	5.4
Total	4,002	100.0

The numerator for the response-rate calculation includes the 2,874 complete questionnaires, 19 partial responses, 238 responses out-of-business, and 218 responses with no resident equids for a total of 3,349 good responses. The denominator includes all but the out-of-scope samples, for a total of 3,988. The response rate was therefore 84.0 percent. There were 2,893 questionnaires with equine health and management data, 72.3 percent of the total sample.

b. Response rate by region:

Percent				
South	Northeast	West	Central	All Operations
87.0	82.4	82.2	81.6	84.0

See also Appendix I: Sample Profile for responding operations by type of operation, region, and number of equids on hand.

Appendix I: Sample Profile

A. Responding Operations

1. Type of operation

Primary Function of Operation	Number Responding Operations
Equine boarding stable/training	257
Riding stable	49
Race track	30
Equine breeding farm	533
Guest ranch	22
Farm or ranch	1,095
Residence with equids for personal use	884
Other	23
Total	2,893

2. Region

Region	Number Responding Operations
South	1,201
Northeast	367
West	646
Central	679
Total	2,893

3. Equids on hand July 1, 2005

Number	Number Responding Operations
Fewer than 5*	405
5 to 9	980
10 to 19	844
20 or more	661
Total	2,890

*Operations that had five or more equids per the NASS list frame (primarily comprised of equine information from the 2002 Census of Agriculture) but fewer than five equids on July 1, 2005, were included in this category.

4. Resident equids (whether or not present) as of July 1, 2005

Number	Number Responding Operations
Fewer than 5*	426
5 to 9	987
10 to 19	840
20 or more	636
Total	2,889

*Operations that had five or more equids per the NASS list frame (primarily comprised of equine information from the 2002 Census of Agriculture) but fewer than five equids on July 1, 2005, were included in this category.

Appendix II: U.S. Equine Populations

Region	State	Jan. 1, 1998, All Equids (1,000 Head**)	2002 Census: Number of Equids* on Farms				
			All	5-9	10-19	20 or More	5 or More***
Central	Illinois	99.0	61,346	16,371	17,264	16,359	49,994
	Indiana	140.0	100,513	35,076	34,520	15,678	85,274
	Kansas	104.0	68,913	19,632	16,077	16,339	52,048
	Michigan	130.0	106,625	33,162	33,470	23,669	90,301
	Minnesota	155.0	94,046	29,168	29,046	18,500	76,714
	Missouri	140.0	146,029	44,941	43,114	27,720	115,775
	Wisconsin	115.0	104,123	32,642	35,338	16,685	84,665
	Total	883.0	681,595	210,992	208,829	134,950	554,771
Northeast	New Jersey	45.0	27,403	6,519	7,161	10,614	24,294
	New York	157.0	76,666	22,437	23,778	18,106	64,321
	Ohio	155.0	138,052	45,015	47,209	24,185	116,409
	Pennsylvania	165.0	117,115	37,522	38,517	22,489	98,528
	Total	522.0	359,236	111,493	116,665	75,394	303,552
South	Alabama	130.0	69,119	21,826	19,086	15,479	56,391
	Florida	170.0	101,521	28,330	29,313	30,486	88,129
	Georgia	69.0	76,751	25,991	24,941	12,958	63,890
	Kentucky	150.0	153,603	40,304	38,283	50,654	129,241
	Louisiana	65.0	48,913	14,808	12,950	12,542	40,300
	Maryland	45.0	26,383	7,491	7,026	8,667	23,184
	Oklahoma	165.0	154,429	44,731	40,172	35,133	120,036
	Tennessee	185.0	155,025	53,112	43,107	29,405	125,624
	Texas	595.0	395,085	111,697	97,657	97,741	307,095
	Virginia	145.0	83,871	25,418	25,579	18,139	69,136
Total	1,719.0	1,264,700	373,708	338,114	311,204	1,023,026	
West	California	235.0	134,447	38,130	36,379	43,156	117,665
	Colorado	140.0	109,040	28,973	28,742	34,785	92,500
	Montana	130.0	97,581	24,548	22,829	34,880	82,257
	New Mexico	64.0	47,530	13,336	11,034	13,367	37,737
	Oregon	120.0	95,237	30,177	24,601	22,078	76,856
	Washington	155.0	77,462	25,781	21,887	17,323	64,991
	Wyoming	61.0	63,738	13,168	15,509	29,001	57,678
	Total	905.0	625,035	174,113	160,981	194,590	529,684
Total 28 States		4,029.0	2,930,566	870,306	824,589	716,138	2,411,033
28 States as a % of 50 States		76.7	78.2	78.6	79.4	75.6	78.0
Total U.S.		5,250.4	3,749,636	1,107,128	1,038,767	947,086	3,092,981

*Equids and farms reporting equids. Source: Census of Agriculture 2002.

**NASS: Number of equids all locations January 1, 1998.

***Reference population.

Appendix III: 2002 Census—Number of Farms Reporting Equids

		2002 Census: Number Farms Reporting Equids*				
Region	State	All	5-9	10-19	20 or More	5 or More**
Central	Illinois	9,162	2,555	1,341	474	4,370
	Indiana	14,694	5,444	2,700	545	8,689
	Kansas	12,335	3,100	1,250	487	4,837
	Michigan	15,120	5,162	2,592	746	7,500
	Minnesota	14,417	4,515	2,258	599	7,372
	Missouri	24,093	6,965	3,353	866	11,184
	Wisconsin	16,482	5,003	2,781	551	8,335
	Total	106,303	32,744	16,275	4,268	53,287
Northeast	New Jersey	3,092	1,023	560	260	1,843
	New York	11,009	3,481	1,822	521	5,824
	Ohio	20,304	6,895	3,678	755	11,328
	Pennsylvania	17,091	5,572	3,027	666	9,265
	Total	51,496	16,971	9,087	2,202	28,260
South	Alabama	10,763	3,444	1,500	490	5,434
	Florida	12,937	4,464	2,267	672	7,403
	Georgia	11,834	4,083	1,924	427	6,434
	Kentucky	20,507	6,229	2,986	1,070	10,285
	Louisiana	7,265	2,317	1,015	351	3,683
	Maryland	3,221	1,152	546	223	1,921
	Oklahoma	26,165	7,000	3,139	977	11,116
	Tennessee	24,873	8,340	3,368	897	12,605
	Texas	65,656	17,527	7,625	2,571	27,723
	Virginia	12,575	3,962	1,976	523	6,461
Total	195,796	58,518	26,346	8,201	93,065	
West	California	16,595	5,908	2,836	1,013	9,757
	Colorado	14,040	4,481	2,218	874	7,573
	Montana	12,557	3,873	1,783	872	6,528
	New Mexico	7,270	2,115	888	287	3,290
	Oregon	14,661	4,717	1,895	578	7,190
	Washington	11,320	4,025	1,737	474	6,236
	Wyoming	6,132	2,023	1,185	665	3,873
	Total	82,575	27,142	12,542	4,763	44,447
Total 28 States		436,170	135,375	64,250	19,434	219,059
28 States as a % of 50 States		78.9	78.5	79.3	77.1	78.6
Total U.S.		552,917	172,405	81,029	25,194	278,628

*Equids and farms reporting equids. Source: Census of Agriculture 2002.

**Reference population.

Appendix IV: Study Objectives and Related Outputs

1. Focus on health practices that could impact the occurrence of equine infectious diseases.

- **Part I: Baseline Reference of Equine Health and Management, 2005, November 2006**

- Info sheets, expected fall 2006

2. Determine health-management factors related to the control of equine infectious diseases, as implemented on-farm in the 28 participating States.

- Equine Biosecurity and Biocontainment Practices on U.S. Equine Operations info sheet, expected fall 2006

3. Compare relevant data collected in 2005 to data collected during the NAHMS Equine '98 study.

- Part II: Changes in the U.S. Equine Industry, 1998-2005, expected fall 2006
- Info sheets, expected fall 2006

4. Help identify trends in equine health management related to the control of equine infectious diseases.

- Part II: Changes in the U.S. Equine Industry, 1998-2005, expected fall 2006
- Info sheets, expected fall 2006

5. Gather data specific to equine vaccination.

- Part I: Baseline Reference of Equine Health and Management, 2005, October 2006

- Vaccination info sheets, expected fall 2006

