Highlights from Equine 2015 "Baseline Reference of Equine Health and Management in the United States"

The Equine 2015 study was conducted in 28 States, which were chosen for participation in the study based, in part, on the size of the States' equine population or the density of the States' equine population. As with past equine studies conducted by USDA's National Animal Health Monitoring System, Equine 2015 provides valuable information to study participants, stakeholders, and the equine industry as a whole. Data collected for the study represented 71.6 percent of equids and 70.9 percent of U.S. operations with five or more equids.

The USDA's National Agricultural Statistics Service directly captures data on U.S. equine operations during the Census of Agriculture; thus, the list frame used to select participants for the Equine 2015 study was based primarily on information from the 2012 Census of Agriculture. All farms on the list with five or more equids (including horses, ponies, mules, and donkeys) were eligible to be included in the sample. Horses residing at racetracks were not eligible. In total, 3,997 operations were selected for participation via a stratified random sample. For details, see the Methodology section on page 173.

Approximately 9 of 10 operations (88.9 percent) had 19 or fewer resident equids on
May 1, 2015. These operations accounted for 58.1 percent of resident equids in the United States. Resident equids were defined as equids that spent more time at one operation than at any other operation (whether or not they were present on May 1, 2015). Although large operations (20 or more resident equids) accounted for only 11.1 percent of all operations, they accounted for 41.9 percent of all resident equids.

Operations could have had more than one type of resident equid on May 1, 2015. More than 90 percent of operations in each region (see map on p 3) had one or more horses. A higher percentage of operations in the South Central and Southeast regions (23.7 and 18.8 percent, respectively) had one or more donkeys or burros than operations in the West or Northeast regions (9.2 and 8.9 percent, respectively).

Overall, 65.6 percent of resident equids were 5 to 20 years old; this age category accounted for the highest percentage of all resident equids. Equids 1 year to less than 5 years of age accounted for 16.5 percent of resident equids, and equids 20 years of age or older accounted for 11.4 percent.

Quarter horses accounted for the highest percentage of all resident horse breeds (42.1 percent). This breed also accounted for the highest percentage of resident horses in the West and South Central regions (55.5 and 61.8 percent, respectively). The highest percentage of draft horses was in the Northeast region (15.2 percent of resident horses), and the highest percentage of Tennessee Walkers was in the Southeast region (15.1 percent).

Although equine operations used multiple information sources when making decisions related to equine health care, the majority (70.7 percent) used a private veterinarian as their primary information source in the previous 12 months.

Overall, 78.8 percent of operations had used a veterinarian to provide any service at least once in the previous 12 months; approximately 40 percent of operations had used a veterinarian to provide an individual-animal diagnosis, treatment, or surgery; vaccination consultation; administration of vaccines; drugs or vaccines not administered by a veterinarian; dentistry (e.g., floating, filing, or removing teeth); and individual or herd diagnostic services. Over one-fourth of all operations (26.9 percent) used a veterinarian to provide an official health certificate, and 6.2 percent of all operations used a veterinarian to perform a biosecurity assessment.

Overall, 66.7 percent of operations vaccinated any resident equids in the previous 12 months. The percentage of operations that vaccinated any resident equids in the previous 12 months increased as operation size increased.

Overall, 93.4 percent of births in the previous 12 months resulted in a live foal. A higher percentage of foals in the West region (96.8 percent) were born alive compared with foals in the Northeast (90.9 percent) and Southeast (91.5 percent) regions.

Deciding to end the life of an equid can be difficult. Gathering information that allows an owner to consider in advance the criteria to use when making the decision to euthanize an equid can be helpful. Overall, more than half of all operations (59.8 percent) had an end-of-life plan for equids.

Overall, 5.8 percent of resident foals died in the first 30 days following birth; 3.3 percent died in the first 2 days, and another 2.5 percent died from 3 to 30 days following birth.

For resident equids less than 1 year of age, conditions commonly attributed to cause of death were injury, wounds, or trauma (27.8 percent of deaths); digestive problems other than colic, such as diarrhea (17.8 percent); respiratory problems (15.4 percent); and failure to get milk or colostrum (13.2 percent).

For resident equids 1 to less than 20 years of age, conditions commonly attributed to cause of death included colic (31.2 percent of deaths); injury, wounds, or trauma (16.3 percent); and respiratory problems (10.4 percent).

For resident equids 20 years or age or older, conditions commonly attributed to cause of death included “other” (26.6 percent of deaths), colic (13.4 percent), cancer (13.2 percent), neurologic problems (12.1 percent), and chronic weight loss (11.7 percent). The most common “other” specified condition attributed to death was old age.

Operators on 38.8 percent of operations were knowledgeable about equine infectious anemia (EIA), while 18.2 percent recognized the name, not much else, and 7.7 percent said they had not heard of it before. The percentage of operators knowledgeable about EIA was higher on large operations than on small operations (50.8 and 35.8 percent, respectively). Note: The interview question included the following prompt: “EIA is the disease for which the Coggins test is performed.”

Overall, 47.1 percent of operations performed at least one EIA test on resident equids in the previous 12 months, and 36.8 percent of resident equids had at least one EIA test in the previous 12 months.

For all operations, the average cost of an EIA test in the previous 12 months (including call fee or cost of transportation) was $40.77 and ranged from $39.34 in the South Central region to $46.39 in the West region.

Overall, 29.8 percent of operations never had resident equids leave the operation and return. A higher percentage of small operations (35.9 percent) never had resident equids leave the operation and return compared with medium and large operations (19.7 and 12.4 percent, respectively). A lower percentage of small operations (24.0 percent) only isolated resident equids for a cause such as disease or known exposure to disease compared with medium and large operations (36.2 and 35.9 percent, respectively). A similar percentage of operations across operation sizes never isolated returning equids.

The highest percentage of all operations (76.0 percent) used repellents applied to equids as a method of insect control. Over half of all operations (58.7 percent) emptied water containers and refilled them with fresh water at least once a week or used automatic waterers; 51.8 percent of all operations frequently removed weeds and/or manure from the premises as a form of insect control. Other common methods of insect control included insecticides applied in or near the equine housing area (36.8 percent of operations), face masks on equids (32.6 percent), and sticky tape or insect traps (31.8 percent). Operations may have used more than one method for insect control.

Overall, about one-third of operations (31.7 percent) composted equine manure on the operation. A higher percentage of large operations (47.3 percent) composted equine manure on the operation than small or medium operations (28.9 and 32.6 percent, respectively).

Highlights from Equine 2015 "Changes in the U.S. Equine Industry, 1998-2015"

This report is primarily devoted to comparing the study findings from NAHMS Equine '98, 2005, and 2015 studies for selected equine health and management practices. The same 28 States participated in the 1998 and 2005 studies, and 20 of the 28 States in the 2015 study also participated in the 1998 and 2005 studies. For the 2005 and 2015 studies, data were collected in the participating States on operations with five or more equids. For ease of comparison, data from the 1998 study were reanalyzed to include only operations with five or more equids on January 1, 1998.

Equine demographics

According to the 2012 Census of Agriculture, there were 3,621,348 horses and ponies on U.S farms in 2012, which was a decline from 4,028,827 horses and ponies reported in the 2007 Census of Agriculture. While the number of horses and ponies declined from 2007 to 2012, the number of mules, burros, and donkeys increased (283,806 to 292,590, respectively). In addition, several breed registries observed a decline in new foal registrations from 2007 to 2012, which was attributed to the financial recession.

Trends 1998–2015

In 1998, 2005, and 2015, the percentage of operations that primarily used equids for pleasure was similar (46.1, 45.7, and 47.2 percent, respectively), when considering the estimates/standard errors, as was the percentage of operations that primarily used equids for farm/ranch work (18.7, 24.8, and 25.0 percent, respectively).

Large operations (20 or more resident equids) represented a higher percentage of all equine operations in 1998 and 2015 than in 2005. Small operations (5 to 9 resident equids) made up the majority of all operations in each study year.

The percentage of equids on large operations was similar in 1998 and 2015 (39.4 and 41.9 percent, respectively) but lower in 2005 (29.7 percent). Over half of all equids resided on operations with 10 or more equids in 1998, 2005, and 2015.

In all three study years, over 90 percent of operations had full-size horses. A higher percentage of operations had donkeys or burros in 2005 and 2015 than in 1998. A higher percentage of operations had miniature horses in 2015 (12.7 percent) than in 1998 (5.4 percent) or 2005 (7.2 percent).

The percentage of the equine population 20 years of age or older increased across study years (5.6, 7.6, and 11.4 percent, respectively), while the percentage of the overall equine population less than 5 years of age was lower in 2015 than in 1998 or 2005. These key findings suggest an aging equine population with fewer foals born in 2015 than in previous study years.

The percentage of operations that used computerized records as the primary method of recording equine health information was higher in 2005 and 2015 compared with 1998. Nearly half of operations used hand-written notes, either in a designated log or on a calendar or check book as the primary method of record keeping in 1998 and 2005, while only 41.1 percent did so in 2015.

The percentage of operators that had at least heard of equine infectious anemia (EIA) was higher in 2005 and 2015 than in 1998. The percentage of operations that tested at least one equid for EIA was similar in 1998 and 2005, but slightly lower in 2015.

The overall percentage of equids tested for EIA was similar in 1998, 2005, and 2015. The average cost of an EIA test (including call fee or transportation) increased from 1998 to 2005 and again in 2015.

The percentage of operations that vaccinated any resident equids during the previous 12 months was similar in 1998 and 2005, but lower in 2015.

The overall percentage of foals aged 30 days or less that died was similar in all three studies; between 4 and 6 percent of foals born alive died in the first 30 days of life.

The highest mortality rate in all three studies occurred in equids 20 years of age or older. The percentage of equids 20 years of age or older that died was lower in 2015 than in 1998 or 2005.

Trends in selected equine diseases

The prevalence of EIA has declined dramatically since the initiation of control efforts in 1972. In 2015, 1.35 million EIA tests were performed, and the prevalence of positive equids was 0.005 percent.

Fully licensed vaccines for protecting equids from West Nile virus (WNV) have been available since 2003. There has been a dramatic decline in the number of equine WNV cases since vaccines became available. For example, 5,181 WNV cases in equids were reported in 2003 compared with just 225 in 2015.

Large outbreaks of vesicular stomatitis (VS) occurred in 2014 and 2015; 435 premises in 4 States reported cases in 2014, and 823 premises in 8 States reported cases in 2015. Most VS cases were in equids.

Highlights from Equine 2015 "Equine Management and Select Equine Health Conditions in the United States"

Vaccinations

Just over three-fourths of operations (75.8 percent) vaccinated one or more equids in the 12 months before administration of the study's phase II questionnaire. This percentage is higher than reported in phase I of the study (66.7 percent), likely due to the fact that the operations that participated in phase II were a subset of operations that participated in phase I that were more likely to vaccinate their equids.

On operations that vaccinated resident equids, 48.3 percent had a veterinarian administer vaccines. Operation personnel, including the owner, administered vaccines on 38.1 percent of operations, and both veterinarian and/or operation personnel administered vaccinations on 13.6 percent.

The majority of operations vaccinated equids with the core vaccines, e.g., tetanus (70.7 percent of operations), Eastern/Western encephalitis (67.6 percent), and West Nile virus (56.3 percent). Only 40.4 percent of operations vaccinated one or more resident equids against rabies in the previous 12 months, even though this vaccine is considered a core vaccine, and rabid equids pose a public health risk.

Influenza and equine herpesvirus vaccines are considered risk-based vaccines by the American Association of Equine Practitioners (AAEP). Over half of operations provided these vaccines to at least one resident equid. Just over 13 percent of operations (13.5 percent) vaccinated one or more resident equids against strangles.

Parasites

Deworming was a common management practice. Over 93 percent of all operations dewormed any resident equids in the previous 12 months. The percentage of operations that dewormed resident equids ranged from 85.9 percent in the West region to 100.0 percent in the Northeast region.

Overall, 58.8 percent of operations dewormed foals (equids less than 6 months old). The AAEP recommends deworming foals twice in the first 6 months of age.

For operations that dewormed equids, over 70 percent used a deworming program that called for rotating the deworming product used. Daily administration of a dewormer was used on less than 4 percent of operations. The percentage of

operations that tested manure for parasite eggs and then based their deworming practices on the test results ranged from 8.2 percent of operations with foals and 7.9 percent of operations with broodmares to less than 2 percent for operations with equids 6 months to 3 years old. The use of fecal testing to determine which equids require more frequent deworming and the effectiveness of the dewormer used is the current recommendation by the AAEP, yet the majority of equine operations are not using this parasite control practice.

For operations that dewormed, the most commonly used deworming products were ivermectin (78.7 percent of operations) and ivermectin combined with praziquantel (45.6 percent). Operations might have used more than one product.

On 12.0 percent of operations, a veterinarian recommended fecal egg testing before deworming, and on 12.9 percent of operations a veterinarian recommended both pre- and postdeworming fecal egg testing. The majority of operations (72.9 percent) reported that their veterinarian had never recommended fecal egg testing. Overall, one-fourth of operations (25.3 percent) had a fecal egg count performed on resident equids in the previous 5 years. Over one-half of boarding/training/riding stables (58.5 percent) had fecal egg counts performed.

Overall, 4.2 percent of operations had ever had their equids examined for antiparasitic drug resistance using a fecal egg count reduction test or egg reappearance period testing. Only a very low percentage of operations (0.3 percent) had a documented case of drug resistant equine internal parasites. For operations that had a documented case of drug resistant equine internal parasites, the resistance was detected to ivermectin, 5-day fenbendazole regimen, or pyrantel pamoate. Overall, 41.4 percent of operations changed their equine deworming plan due to concern about drug-resistant parasites.

Ticks

Overall, 59.1 percent of operations found ticks on resident equids in the previous 5 years. A higher percentage of operations found ticks on resident equids from March through May (40.5 percent) and from June through August (40.4 percent) than from December through February (10.2 percent) and from September through November (27.6 percent).

Over three-fourths of operations (76.8 percent) checked resident equids for ticks in the previous 12 months. Of these operations, 57.7 percent found ticks on resident equids. For operations that found ticks on resident equids, 57.2 percent found them in the crest/mane area, 51.2 percent in the elbow/girth area, 50.8 percent in the tail head or under the tail, and 41.1 percent found them between the hindquarters/thighs.

For operations that checked for and found ticks on resident equids, 22.3 percent identified the type of ticks found. A higher percentage of operations in the Northeast region (57.6 percent) identified the type of tick found on resident equids than operations in the South Central and Southeast regions (7.6 and 7.6 percent, respectively). The highest percentage of operations that identified ticks found on resident equids found deer ticks.

The percentage of operations that treated resident equids with a product to control ticks ranged from 35.6 percent in the Northeast region to 64.3 percent in the South Central region. Overall, 49.3 percent of operations treated resident equids with a product tocontrol ticks, and 87.3 percent of these operations used a product that had pyrethrin/pyrethroid as one of its active ingredients and 6.5 percent used a natural product such as garlic, vinegar, diatomaceous earth, or a combination of these ingredients to control ticks.

Overall, 2.4 percent of operations had one or more resident equids diagnosed with Lyme disease in the previous 12 months. A higher percentage of operations in the Northeast region had resident equids diagnosed with Lyme disease than operations in the other regions. All respondents that had resident equids with Lyme disease indicated that the disease had been diagnosed through laboratory testing or by examination by a veterinarian.

Lameness

Overall, 67.1 percent of operations had one or more lame equids in the previous 12 months, while 38.7 percent had one or more lame equids on the day the study questionnaire was administered.

Equids less than 2 years old were underrepresented among lame equids, accounting for 7.5 percent of all resident equids but only 0.7 percent of lame equids. Conversely, equids aged 21 years or more were overrepresented among lame equids, accounting for 12.9 percent of all resident equids but 20.0 percent of lame equids. It is no surprise that older equids were more likely to have lameness problems than younger equids, since joint, tendon, and hoof problems are often the result of age. The percentage of lame equids by breed mirrored the breed distribution in the population.

Just under half of resident equids with lameness in the previous 12 months (46.8 percent) fully recovered and remained sound; 21.7 percent improved but still had some lameness; 15.0 percent got worse or showed no improvement; and 12.1 percent improved but lameness recurred. It should be noted that equids that developed lameness just before the study interview were included among the lame equids but may not have had adequate time to resolve their lameness.

Of the 67.1 percent of operations that had any resident equids with a lameness problem, 64.7 percent consulted a veterinarian for either a lameness diagnosis or a consultation about treating lame equids.

Health care expenses

The majority of operations (89.9 percent) provided routine hoof trimming to one or more resident equids in the previous 12 months. Hoof trimming is generally the minimum requirement for hoof care in equids. Some equids that forage on rough ground might wear their hooves down adequately and not require trimming. About half of operations (48.1 percent) provided basic shoes on four hooves for one or more resident equids.

For operations that provided routine hoof-trimming to resident equids, 14.2 percent reported no costs associated with hoof trimming in the previous 12 months. On 70.3 percent of operations, the typical per-equid cost of hoof trimming ranged from $1 to less than $300. The frequency with which hoof trimming is needed varies by equid; however, in general, hooves typically require trimming every 6 to 8 weeks.

Over one-fourth of operations that primarily used equids for farm or ranch work (26.9 percent) had no costs associated with hoof care in the previous 12 months. This finding is likely due to the fact that owners/operators of this type of operation performed hoof care themselves and, therefore, did not attribute a cost for hoof care. The majority of operations that primarily used equids for pleasure (58.2 percent) or breeding (66.3 percent) spent $1 to less than $300 per equid for hoof care in the previous 12 months, while the majority of operations that primarily used equids for lessons/school/showing/competition (66.9 percent) spent $300 or more per equid.

For the 75.8 percent of operations that vaccinated any resident equids in the previous 12 months, the overall operation average cost for vaccination per equid was $77.10. The average annual vaccination cost per equid by primary use of equid ranged from $48.30 for operations that used equids primarily for farm or ranch work to $106.50 for operations that used equids primarily for lessons/school/showing/competition.

Overall, 12.2 percent of operations spent no money for veterinary services for resident equids in the previous 12 months. Over half of operations (52.4 percent) spent from $50 to $350 on veterinary services. For operations that had a veterinarian make a farm call to provide services for one or more resident equids, the average typical cost for the call was $62.40. The average typical cost of a veterinary emergency call was $140.30—over twice the cost of a routine farm call.

Controlling insects and ticks is often accomplished through the use of one or more products applied to equids or placed into their environment. Sprays were used by 86.5 percent of operations. Other common products used were fly masks

(40.7 percent of operations), hanging insect/fly attractant such as a fly bag or sticky tape (39.7 percent), and spot-on treatments (21.2 percent).

The overall per-equid cost for insect- and/or tick-control products in the previous 12 months was $35.00. The average total per-equid cost decreased as operation size increased.

Nearly all operations (93.2 percent) used dewormers for resident equids in the previous 12 months. Over half of operations (55.5 percent) used vitamins/mineral nutrition supplements for resident equids. One-third or more used vaccines not obtained from a veterinarian (43.4 percent), other drugs (45.6 percent), joint supplements (33.0 percent), or medical supplies (48.7 percent).

The total operation average cost of veterinary supplies per equid in the previous 12 months was $109.40. About one-third of operations (36.6 percent) spent less than $50 per equid, while one-fourth (25.9 percent) spent $150 or more per equid. On an individual operation, some equids might not have generated any associated costs for veterinary supplies, while others might have generated large costs.

This is a summary of the National Animal Health Monitoring System's 2015 Equine Study and includes excerpts which can be found in the Items of Note sections of each study. The full reports can be found at: https//www.aphis.usda.gov/aphis/ourfocus/animalhealth/monitoring-and-surveillance/nahms/nahms_equine_studies