United States Department of Agriculture

Animal and Plant Health Inspection Service

Veterinary Services

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2023 Equine Infectious Anemia Cases in the United States

January 1 – December 31, 2023

This document summarizes equine infectious anemia (EIA) cases and testing reported in the United States during 2023. Following current guidance, the over 400 EIA-approved laboratories sent monthly summary testing data directly to Animal and Plant Health Inspection Service (APHIS) Veterinary Services (VS). All positive cases were confirmed by the National Veterinary Services Laboratories (NVSL), and the VS Equine Health Team compiled case information in collaboration with State animal health officials.

Reporting of EIA testing is summarized on a calendar-year basis. During 2023, a total of 1,364,247 EIA tests were conducted, resulting in detection of 61 positive horses on 45 premises (Table 1). These results compared to 1,349,759 tests and 96 positives on 45 premises in 2022. Figure 1 is a map depicting reported numbers of horses and premises testing positive for EIA by state and county in 2023. Figure 2 presents a summary of EIA testing from 2003–2023. Historical data and additional information on EIA are available online at https://www.aphis.usda.gov/livestock-poultry-disease/equine/infectious-anemia.

Table 1. Test results reported for equine infectious anemia in the United States, 2023

State	Tests Performed	Positive Horses	Positive Premises
Alabama	17,605	0	0
Alaska	923	0	0
Arizona	19,761	4	4
Arkansas	29,342	0	0
California	27,725	6	4
Colorado	23,323	1	1
Connecticut	8,693	0	0
Delaware	3,947	0	0
Florida	100,076	1	1
Georgia	39,919	1	1
Hawaii	380	0	0
Idaho	13,463	0	0
Illinois	24,839	1	1
Indiana	16,794	1	1
Iowa	19,952	0	0
Kansas	18,039	0	0
Kentucky	66,898	0	0
Louisiana	26,321	0	0
Maine	5,216	0	0
Maryland	24,715	0	0
Massachusetts	13,408	0	0
Michigan	31,503	0	0

Minnesota	27,795	2	1
Mississippi	19,287	2	2
Missouri	54,387	0	0
Montana	17,924	0	0
Nebraska	9,994	0	0
Nevada	14,950	0	0
New Hampshire	5,992	0	0
New Jersey	17,268	0	0
New Mexico	13,476	2	2
New York	41,580	0	0
North Carolina	54,083	5	5
North Dakota	6,914	0	0
Ohio	49,703	0	0
Oklahoma	52,133	7	5
Oregon	4,435	1	1
Pennsylvania	47,995	0	0
Rhode Island	1,771	0	0
South Carolina	29,390	0	0
South Dakota	8,272	0	0
Tennessee	50,234	0	0
Texas	184,736	27	16
Utah	7,392	0	0
Vermont	5,854	0	0
Virginia	43,734	0	0
Washington	5,728	0	0
West Virginia	9,575	0	0
Wisconsin	31,444	0	0
Wyoming	15,264	0	0
Puerto Rico	95	0	0
U.S. Virgin Islands	0	0	0
U.S. Totals	1,364,247	**61**	**45**

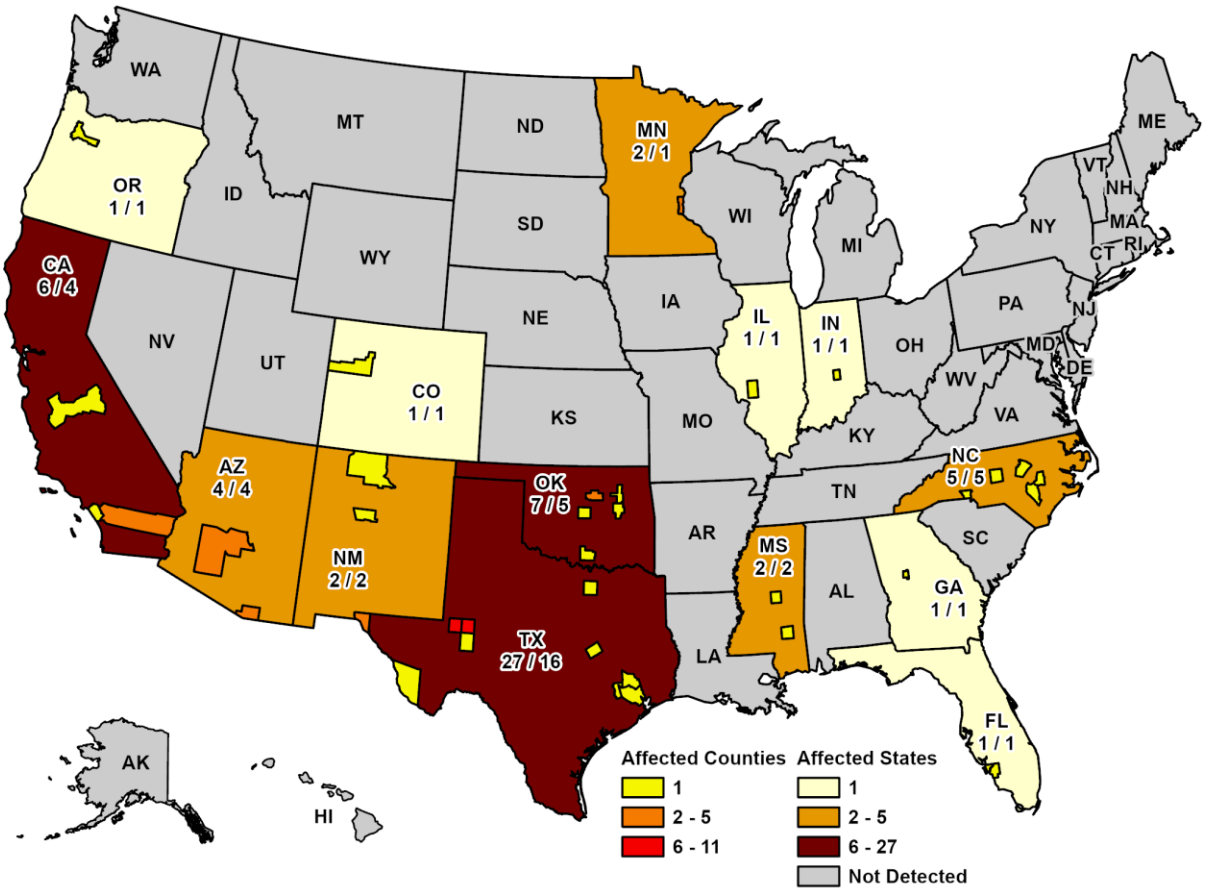

Figure 1. Reported numbers of horses and premises testing positive for EIA by state and county, 2023

Although the current prevalence of EIA in the U.S. equine population remains very low, at an estimated national prevalence of around 0.004 percent, the epidemiology of EIA-positive cases has shifted in recent years. Most EIA cases were previously found to occur from natural transmission by biting fly vectors in untested and undertested populations. Increasing cases of iatrogenic transmission (disease resulting from medical activity) are now being identified.

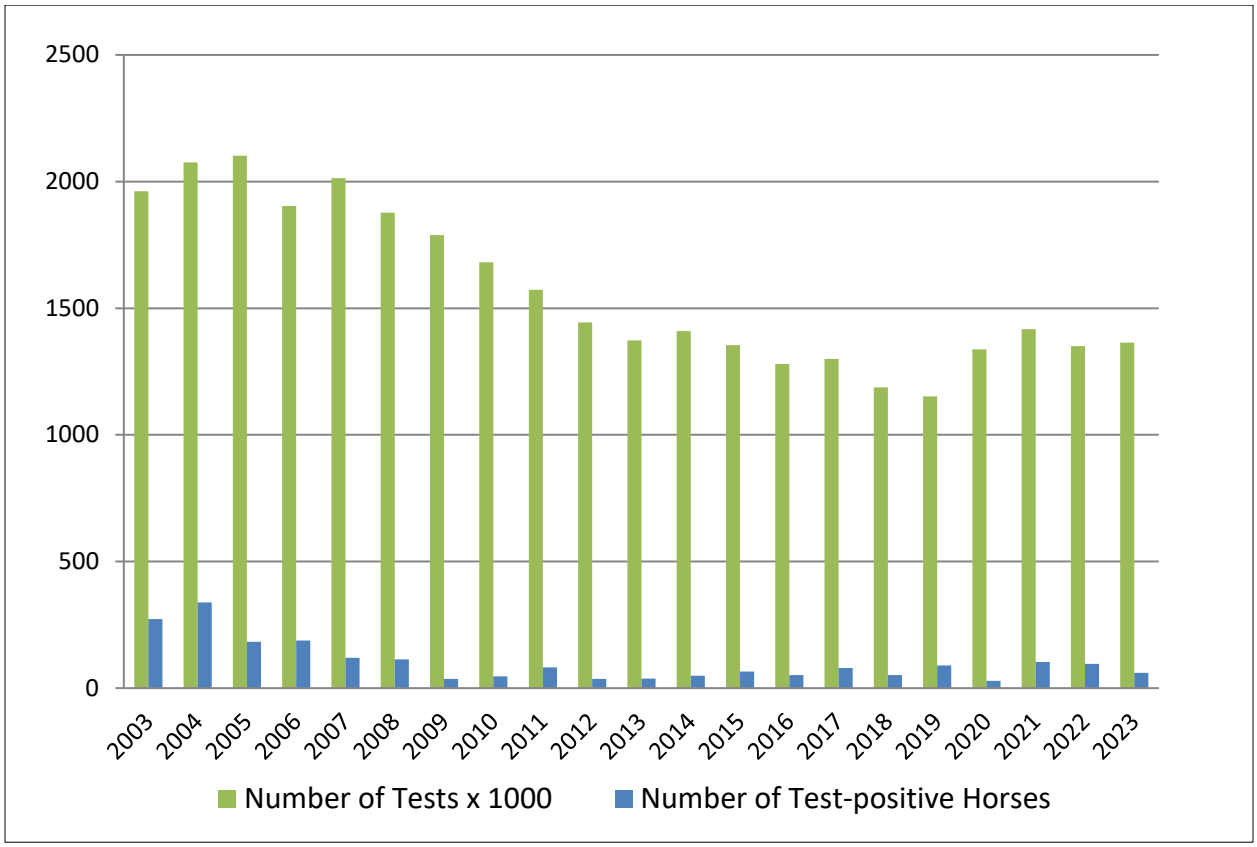

Figure 2. Reported numbers of EIA tests and positive cases in the United States, 2003–2023

In 2023, out of the total 61 confirmed EIA cases identified, there were 40 cases of EIA in either current or former Quarter Horse racehorses where iatrogenic transmission was the method of disease spread. Two of these cases were co-infected with *Theileria equi*, a causative agent of equine piroplasmosis, which was also transmitted by iatrogenic means. Iatrogenic transmission in this equine population occurs through unhygienic practices by horse trainers and owners. Practices include re-use of needles, syringes, and IV sets; administration of blood transfusions from untested donor horses; use of illegal blood products from other countries; and infectious blood contamination of multi-dose drug vials.

Some of the iatrogenic transmission cases in the Quarter Horse racehorse population are found in horses participating in unsanctioned racing. However, there are also recognized crossover cases between unsanctioned and sanctioned racing in some parts of the United States. Cases in sanctioned Quarter Horse racehorses with no obvious connection to unsanctioned racing have also been identified. EIA-positive cases in this emerging high-risk population are frequently found in clusters, indicating a horse trainer or owner repeatedly using unhygienic practices which caused disease spread to multiple horses. These cases are preventable with good hygienic practices and basic biosecurity measures. Thus, increased education and outreach to trainers and owners of Quarter Horse racehorses are needed to mitigate the continued spread of EIA.

Of the remaining 21 positive EIA cases identified in the United States during 2023, eight (8) originated from untested/undertested herds where natural transmission was likely occurring over a long period, four (4) horses were suspected or confirmed to have been illegally moved into the United States from Mexico, and nine (9) horses were infected from an unknown/undetermined source.

Current APHIS guidance for EIA-approved laboratories now provides more comprehensive EIA testing data than previously existed. Figure 3 captures the number of EIA tests performed in 2023 by month. March, April, and May, respectively, were the busiest months for EIA testing in 2023.

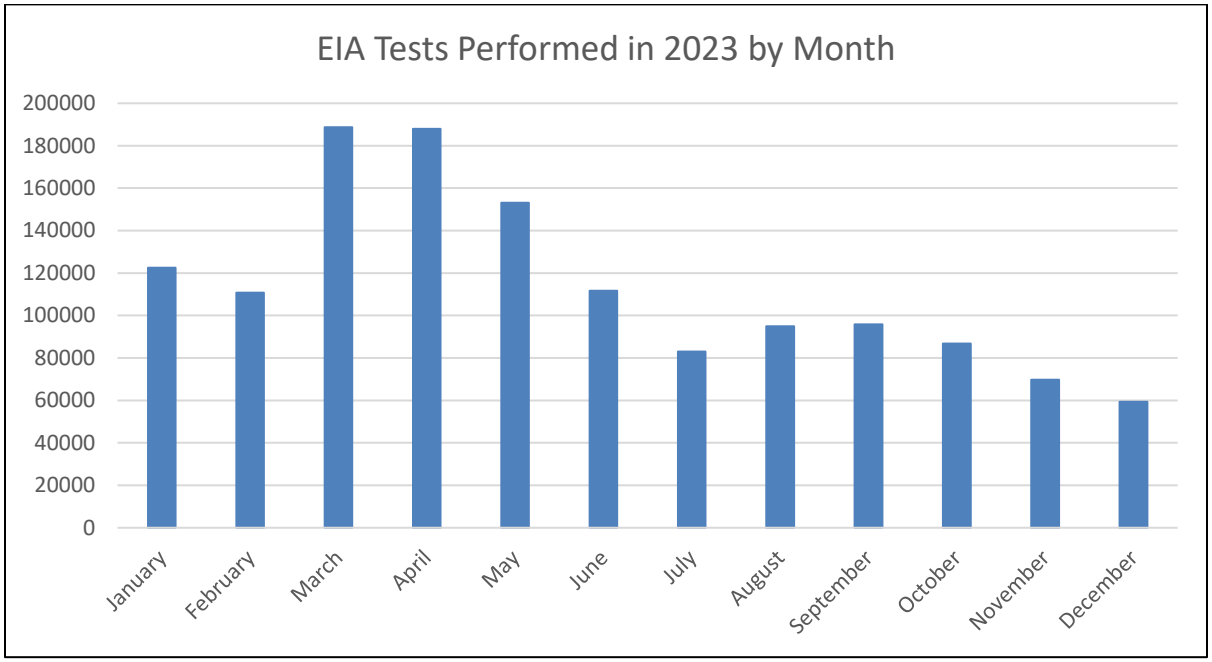

Figure 3. Reported numbers of EIA tests performed in the United States in 2023 by month

Two EIA test types are authorized for use by approved laboratories in the United States: 1. agar gel immunodiffusion (AGID) tests, commonly called Coggins tests, and 2. enzyme-linked immunosorbent assay (ELISA) tests. Figure 4 depicts the number of AGID tests performed throughout the United States in 2023, compared to the number of ELISA tests performed. Both test assays were used in 2023 with similar frequency.

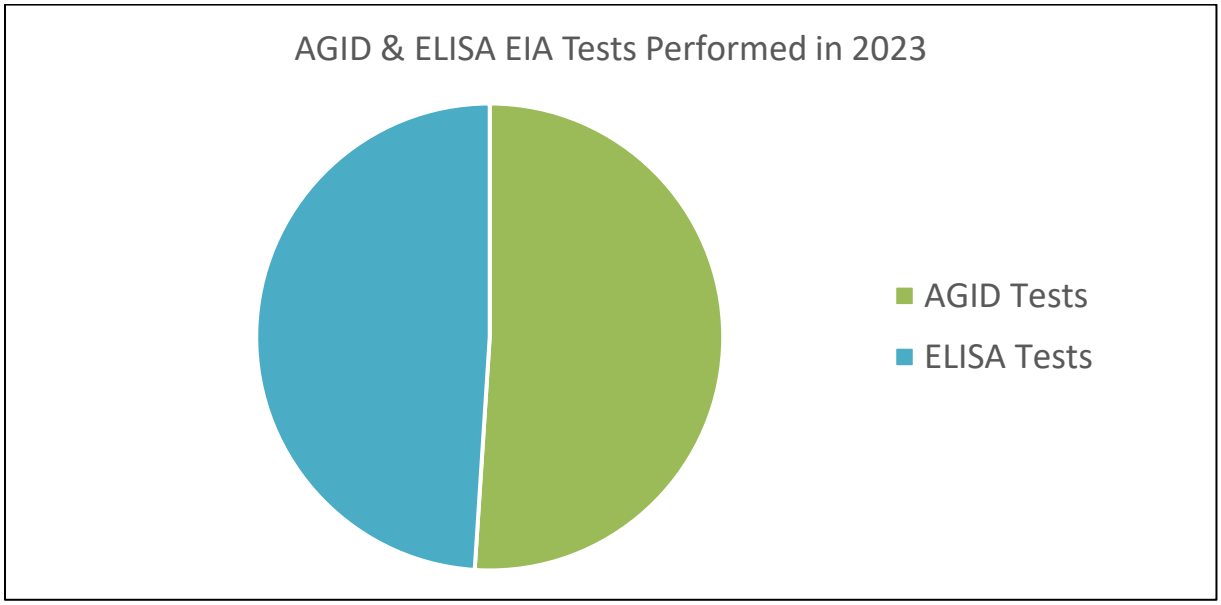

Figure 4. Reported numbers of AGID and ELISA EIA tests performed in the United States in 2023

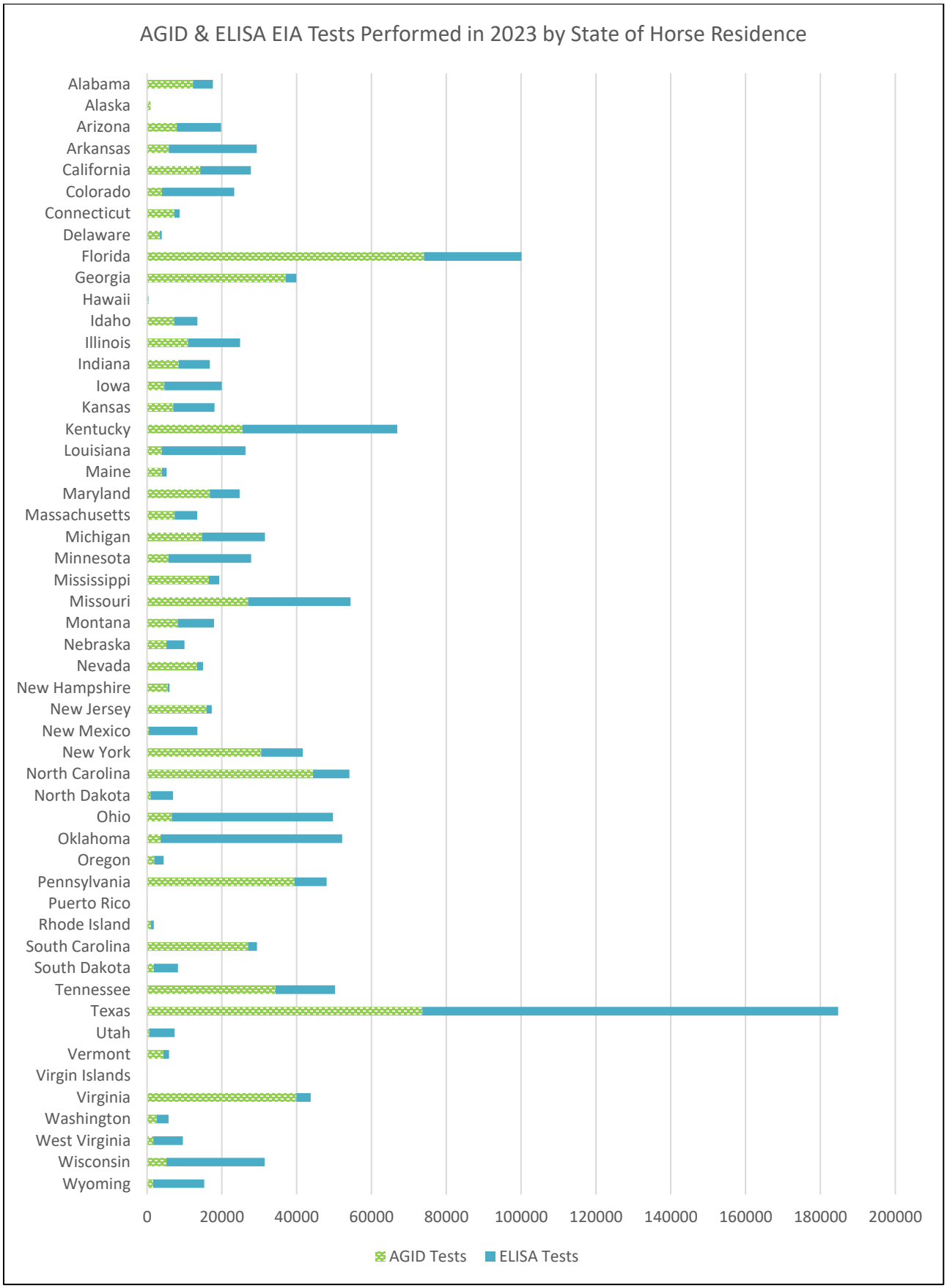

Figure 5. Reported numbers of AGID and ELISA EIA tests performed by state of horse residence in 2023

Figure 5 shows the number and type of EIA assays used to test resident horses in each state. Twenty-nine States and Puerto Rico reported fewer than 20,000 EIA tests performed on their horse populations in 2023. Nineteen States reported between 20,000 and 60,000 EIA tests performed on their horse populations in 2023. Three (3) States—Florida, Kentucky, and Texas—reported over 60,000 EIA tests performed on their horse populations in 2023. Horse populations in 24 states were tested more frequently using an ELISA assay than the AGID assay. In comparison, horse populations in 26 states and Puerto Rico were tested more frequently using the AGID assay compared to an ELISA assay.