United States Department of Agriculture

Animal and Plant Health Inspection Service

Veterinary Services

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2022 Equine Infectious Anemia Cases in the United States

January 1 – December 31, 2022

This document summarizes equine infectious anemia (EIA) cases and testing reported in the United States during 2022. Following current guidance, the over 400 EIA-approved laboratories sent monthly summary testing data directly to 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 2022, a total of 1,349,759 EIA tests were conducted, resulting in detection of 96 positive horses on 45 premises (Table 1). These results compared to 1,416,809 tests and 103 positives on 54 premises in 2021. Figure 1 is a map depicting reported numbers of horses and premises testing positive for EIA by state and county in 2022. Figure 2 presents a summary of EIA testing from 2003–2022. Historical data and additional information on EIA are available online at https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/equine/eia.

Table 1. Test results reported for equine infectious anemia in the United States, 2022

State	Tests Performed	Positive Horses	Positive Premises
Alabama	20,209	0	0
Alaska	654	0	0
Arizona	18,745	7	1
Arkansas	32,461	0	0
California	21,603	40	9
Colorado	25,650	1	1
Connecticut	9,204	0	0
Delaware	3,642	0	0
Florida	104,167	0	0
Georgia	38,896	1	1
Hawaii	388	0	0
Idaho	13,662	0	0
Illinois	25,662	1	1
Indiana	16,888	0	0
Iowa	19,974	1	1
Kansas	16,735	0	0
Kentucky	66,303	1	1
Louisiana	25,963	0	0
Maine	5,760	0	0
Maryland	23,237	0	0
Massachusetts	14,180	0	0

Michigan	31,811	0	0
Minnesota	28,941	0	0
Mississippi	18,534	0	0
Missouri	53,731	1	1
Montana	16,704	0	0
Nebraska	10,410	0	0
Nevada	13,907	1	1
New Hampshire	6,847	0	0
New Jersey	17,919	0	0
New Mexico	13,581	1	1
New York	40,293	0	0
North Carolina	52,650	16	7
North Dakota	6,714	0	0
Ohio	40,329	1	1
Oklahoma	55,399	0	0
Oregon	8,462	0	0
Pennsylvania	46,036	0	0
Rhode Island	1,901	0	0
South Carolina	28,766	7	3
South Dakota	8,652	0	0
Tennessee	43,465	0	0
Texas	179,765	14	13
Utah	8,348	1	1
Vermont	5,867	0	0
Virginia	38,833	0	0
Washington	6,624	2	2
West Virginia	8,537	0	0
Wisconsin	36,778	0	0
Wyoming	15,905	0	0
Puerto Rico	58	0	0
U.S. Virgin Islands	9	0	0
U.S. Totals	1,349,759	**96**	**45**

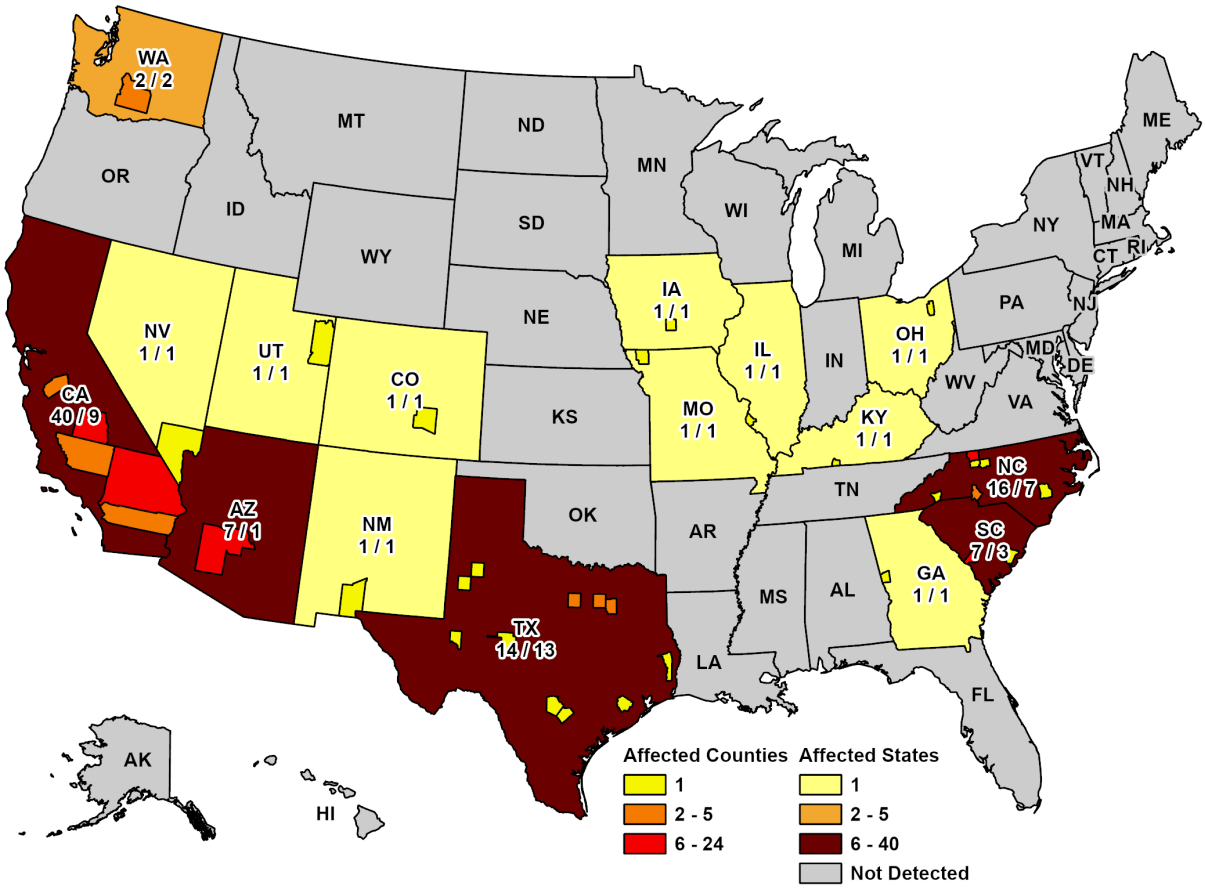

Figure 1. Reported numbers of horses and premises testing positive for EIA by state and county, 2022

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.

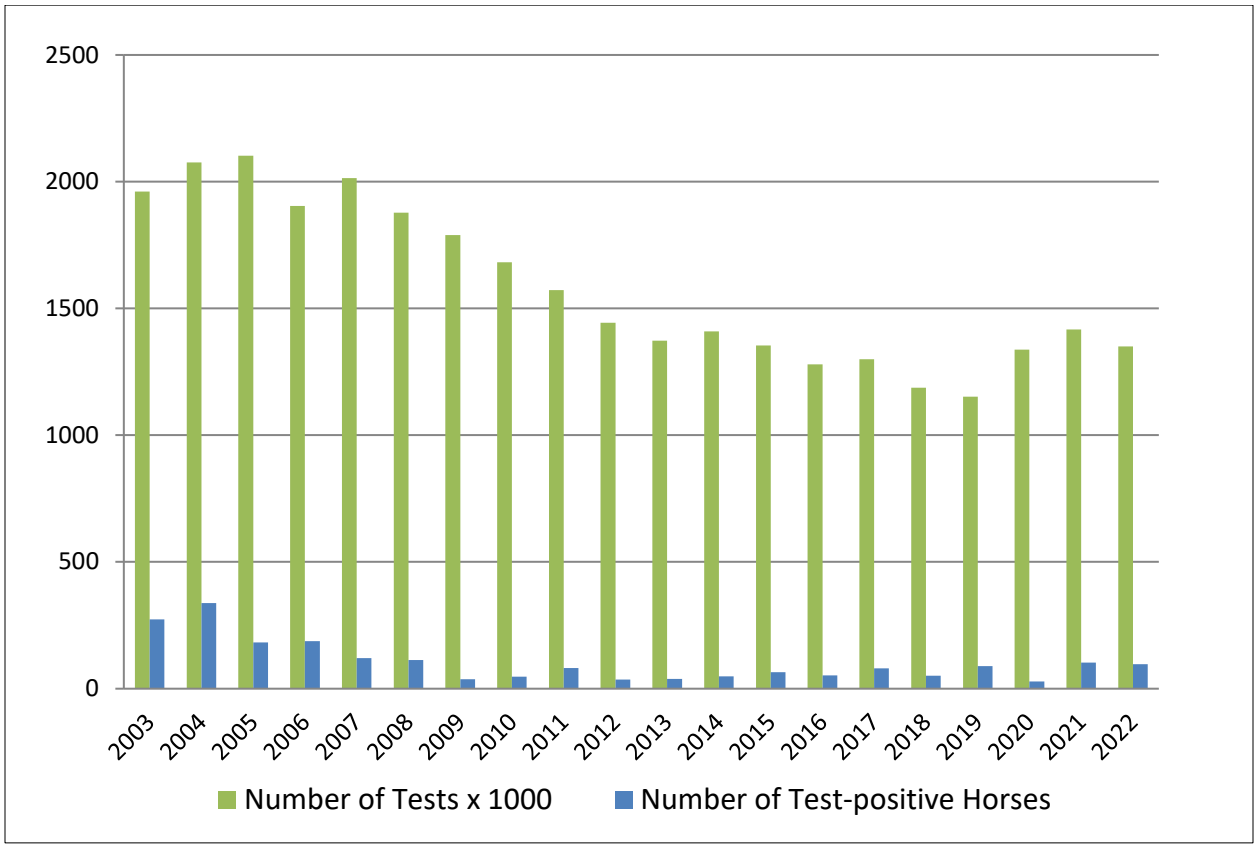

Figure 2. Reported numbers of EIA tests and positive cases in the United States, 2003–2022

In 2022, there were 84 confirmed cases of EIA in either current or former Quarter Horse racehorses where iatrogenic transmission was the method of disease spread. Iatrogenic transmission in this equine population is occurring 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 by 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 12 positive EIA cases identified in the United States during 2022, one (1) 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 seven (7) 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 2022 by month. April, March, and May, respectively, were the busiest months when EIA testing occurred in 2022.

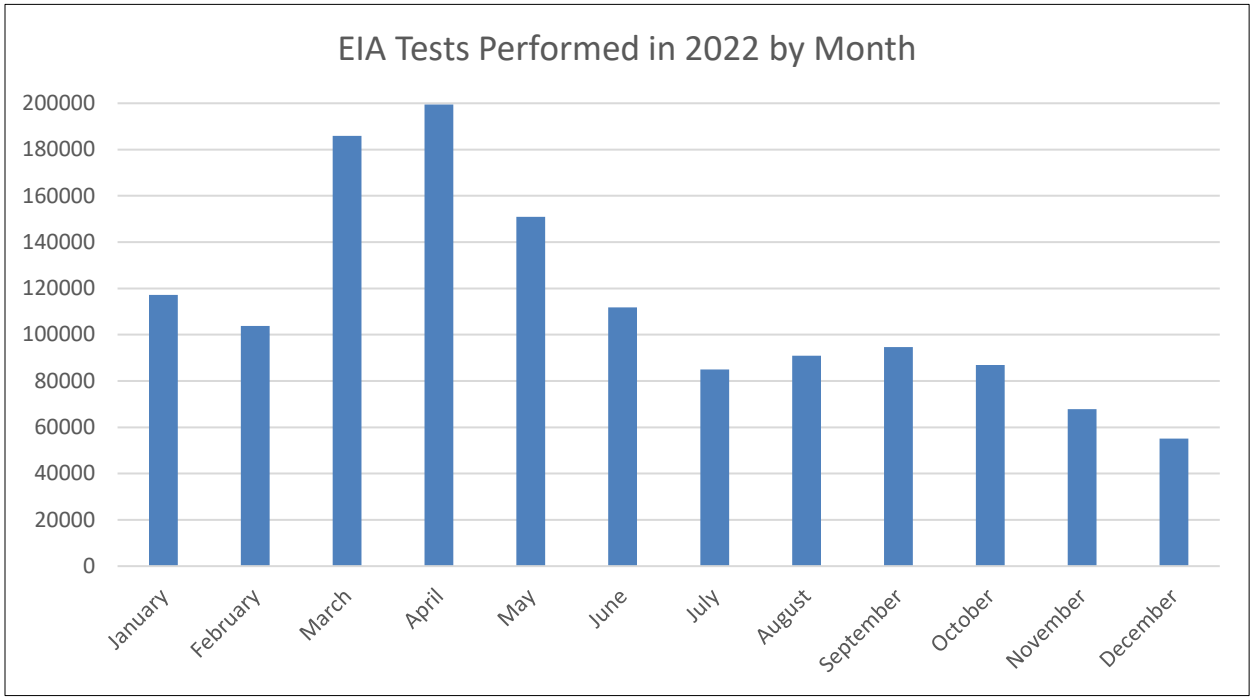

Figure 3. Reported numbers of EIA tests performed in the United States in 2022 by month

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 2022, compared to the number of ELISA tests performed. Both test assays were used in 2022 with nearly equal frequency.

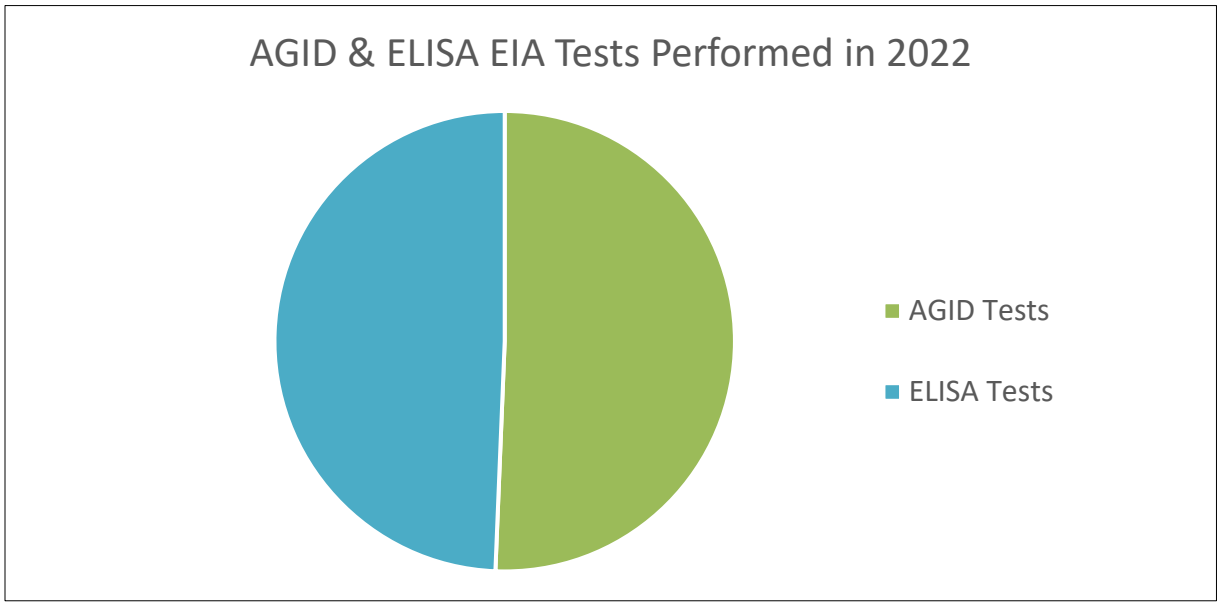

Figure 4. Reported numbers of AGID and ELISA EIA tests performed in the United States in 2022

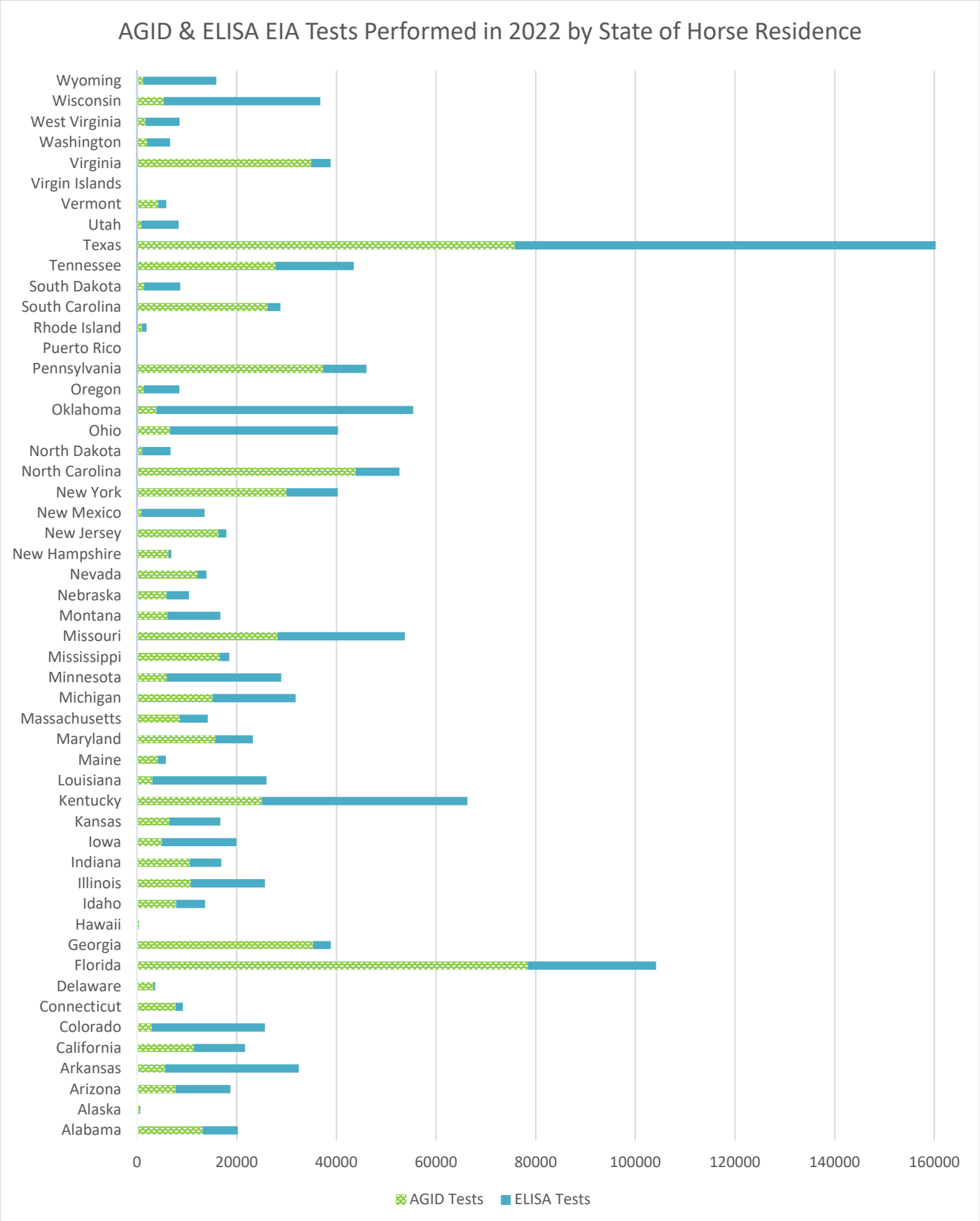

Figure 5. Reported numbers of AGID and ELISA EIA tests performed by state of horse residence in 2022

Figure 5 shows the number and type of EIA assays used to test resident horses in each state. Twenty-seven States, Puerto Rico, and the Virgin Islands, reported fewer than 20,000 EIA tests performed on their horse populations in 2022. Twenty States reported between 20,000 and 60,000 EIA tests performed on their horse populations in 2022. Three (3) States—Florida, Kentucky, and Texas—reported over 60,000 EIA tests performed on their horse populations in 2022. Horse populations in 23 states were tested more frequently using an ELISA assay than the AGID assay. In comparison, horse populations in 27 states, Puerto Rico, and the Virgin Islands were tested more frequently using the AGID assay compared to an ELISA assay.