



African horse sickness area status declarations 2022

Adapted from the African horse sickness control: Area status declarations report 2022 by J.D. Grewar, C.T. Weyer and D. Carter of South African Equine Health and Protocols (SAEHP) NPC and L. van Helden of Western Cape Department of Agriculture: Veterinary Services

Introduction

This is the first report on the use of African horse sickness (AHS) Area Status Declarations (ASDs) in South Africa to assist in the mitigation of the introduction of AHS virus (AHSV) into the AHS controlled area of South Africa. The classification of areas in South Africa as high or low risk for AHS has been in place for many years, the former mainly used during the high-risk summer and autumn seasons to prevent the direct movement of equids into the AHS controlled area from South Africa's northern and north-eastern provinces. These areas typically have AHS cases annually during that time. Since the AHS controls were formalized through the AHS Veterinary Procedural notice (VPN) in December 2019, the ASD system was officially implemented in a more systematic and defined manner.

ASDs are the AHS risk level defined by state veterinarians (SVs) and are used by SV Boland (Western Cape) when issuing permits. They fulfill the movement requirements of the VPN by ensuring SVs are involved with movement control and provide a foundational risk evaluation for their respective areas for AHS infection. The risk profile of an SV area is informed by the following guidelines (listed here in approximate order of importance):

- Confirmation of cases of AHS within an area, with the last case occurring within 40 days (WOAH infectious period for AHS).
- Suspicion of disease where AHS could be considered a differential diagnosis, based on deaths and/or clinical signs in a susceptible population.
- Time of year and location: AHS is seasonal based on the epidemiology of vector transmission. Colder months are less likely to have AHS cases and cases are known to occur seasonally.
- Proximity to large populations of equids of unknown AHS status - an example of this would be areas close to the Kruger National Park with its large population of zebra, or proximity to a country border where AHS might be uncontrolled.
- Unexpected weather patterns that may result in higher than expected vector populations.
- Higher than usual prevalence of other vector-borne arbovirus infections. Equine encephalosis virus infection is an example.

Area status declarations are provided by SVs to SV Boland, with the exception of those areas from which equids are not moved. They can be amended by the SV at any point. Since SV Boland receives all laboratory results for AHS and is engaged with the passive surveillance of AHS in the infected zone, they can also implement a high-risk status for an SV area based on surveillance, with this status communicated back to the SV of origin. As a rule, an area with an unknown/undefined risk status is considered high risk for movement purposes.

The definitions of various AHS risk status for areas are:

AHS high risk

This is where the disease factors or recent history of a disease precludes direct movement into the AHS controlled area. In this case movements into the controlled area can only take place using mitigated movement protocols like stop-over quarantine or vector protected quarantine at origin.

AHS low risk

The risk of AHS is considered low enough to allow direct movements of horses to the AHS controlled zone. Permits are still required for these movements and all standard movement conditions must be met.

AHS partial risk

This occurs where, due to the season and/or size of SV areas, there are parts of an area that are considered AHS high risk and parts that are considered low risk. Individual movements are evaluated in these cases to determine the proximity to known cases and confirmation is made by SV Boland to the SV of origin, prior to the movement, of the pathway that may be undertaken for the movement application. AHS partial risk status is also allocated to areas by SVs where they would like to be consulted on each movement from their area, irrespective of the AHS risk. This generally occurs when the SV is uncertain as to the AHS status of an area.

2022 area status declarations

Since each ASD issued has a start and end date, the status of each of the 126 state vet areas in the country can be defined daily, and area days at risk (ADAR) determined. For the country, there were 45 990 ADAR for 2022. 23 870 of these had a defined area status (52%)

during 2022. 11 958 ADAR were classified as high risk, which makes up 26% of the total ADAR and 50% of the classified ADAR. 10 073 ADAR were classified as low risk, making up 22% of the total ADAR and 42% of the classified ADAR. 1839 ADAR were classified as partial risk, making up 4% of the total ADAR and 8% of the classified ADAR.

Figure 1 depicts the ASD status on the 15th of each month during 2022. This is a generalization of the whole year, but the AHS risk season was prolonged in 2022 with large parts of the country still high risk for movements in June and July, only easing up between August and November. The Western Cape remained generally low risk except for a high-risk status in the Beaufort West region in June 2022 because of confirmed cases. For a time-lapse visualization of the full daily ASD status of the

country please visit:

<https://myhorse.jshiny.com/verfiles/2022asd.gif>

Acknowledgements

The South African Equine Health and Protocols NPC are the authorized permit issuing body and, as part of this process, obtain area status declaration information from state veterinarians around the country on behalf of State Veterinary Services in the Western Cape. We are grateful to our state veterinary colleagues across the country for assisting in the controlled movement of equids through the classification of their areas in respect to AHS.

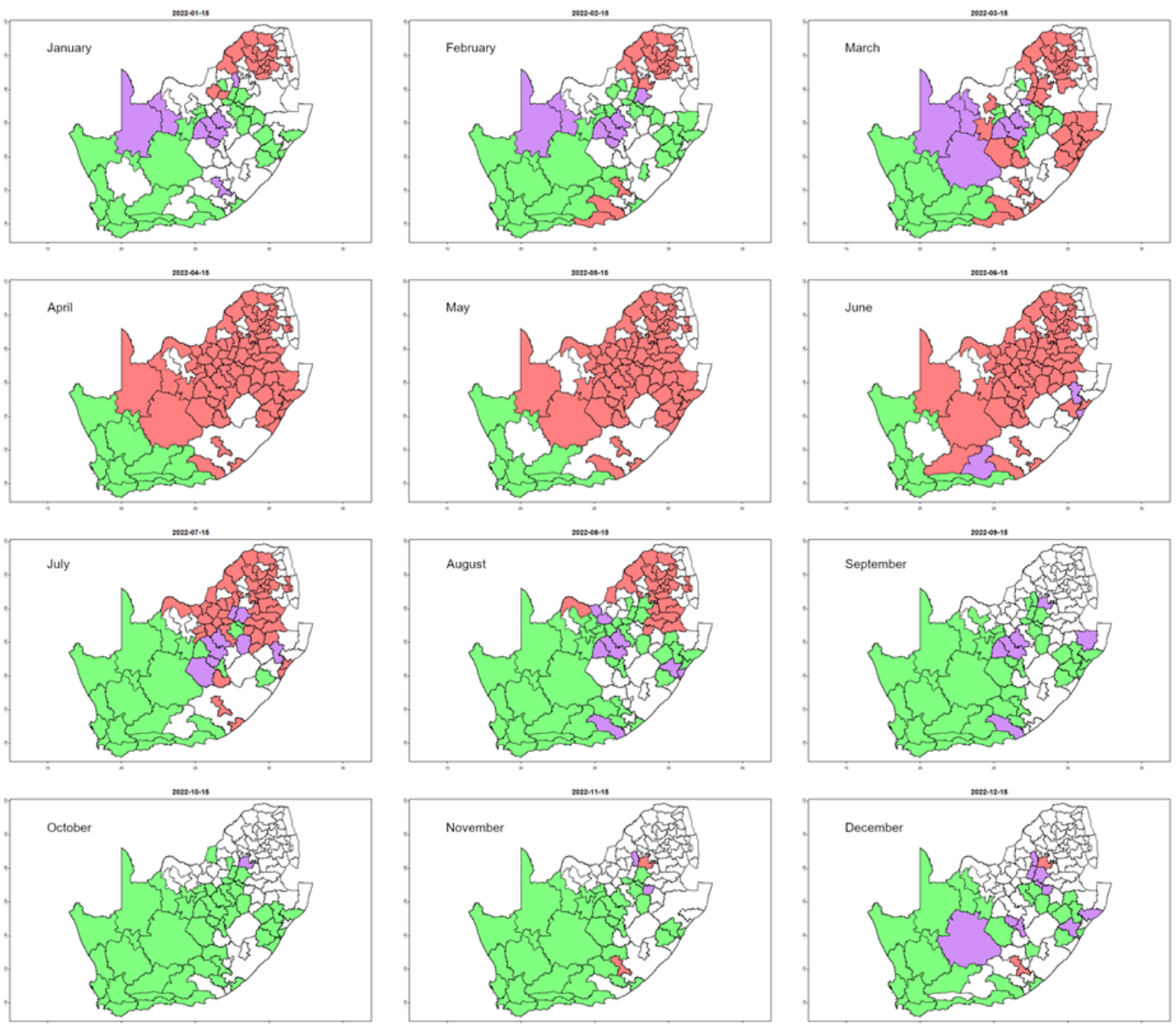


Figure 1: Area status declarations for each state veterinary area in South Africa on the 15th of each month during 2022. Red indicates high risk, green low risk and purple partial risk. White regions are unknown risk and are effectively high risk for movement purposes.

African horse sickness vaccination permissions 2022

Adapted from the African horse sickness control: Vaccination permissions report 2022 by J.D. Grewar, C.T. Weyer and D. Carter of South African Equine Health and Protocols (SAEHP) NPC and L. van Helden of Western Cape Department of Agriculture: Veterinary Services

Introduction

Annual vaccination against African horse sickness (AHS) is compulsory in South Africa (Animal Diseases Act, 35 of 1984) except in the AHS free and surveillance zones in the AHS controlled area in the Western Cape Province. Vaccination against AHS in these zones can only be performed following written approval from the Veterinary Services of the Western Cape Department of Agriculture (WCDOA). Permissions to vaccinate against AHS are granted for vaccination to be performed strictly between 1 June and 31st October each year. This vaccination period is based on the potential for vaccine virus re-assortment/reversion to virulence and the risk of transmission during periods of increased vector activity. The restricted vaccination period mitigates this risk.

Summary of permissions issued

The total vaccination applications received are shown in Table 1 with their comparisons to previous seasons. The number of unique applications and horses applied for have decreased over the years with 2022 the lowest to date at 890 applications for 6530 horses. In 2022 the majority (86 of 123 – 70%) of declined applications related to invalid or non-existent passports, with only 3 (down from 24 in 2021) horses declined due to incomplete applications. Thirty-nine veterinarians and veterinary practices were registered as the associated vet likely to perform the vaccination (same as 2020 and up from 37 in 2021), with the top 5 practices responsible for vaccinating 79.4% of the permission granted horses (n= 5086 of 6407), and the top 10 practices responsible for 91.3% of all permission granted horses.

Applicants are required to give a reason for vaccination. The majority (91.1%, up from 89.4% in 2021) were to enable horses to comply with AHS movement requirements. This is also similar to previous years.

We now have six years of detailed, individual horse information for the vaccination permission process in the AHS controlled area. 4271 horses that were granted permission in 2022 had also been granted permission in 2021 (compared to 4195 in 2002 - 2021 and 4457 in 2019 -2020), making up 66.7% (63.14% in 2020-2021) of the total for the year. Across six years: 1369 horses were granted permission to be vaccinated between 2017 and 2022, accounting for 21.3% of permission granted horses in 2022. There are currently 18 347 horses registered in the AHS surveillance

and free zones.

When vaccination permissions are requested it is prospective and verification of vaccination is not done. We evaluated the horses that have been granted vaccination permission since 2017, and queried the movement database to establish what percentage of those granted permission would reasonably have required it. Since 2017: a total of 16 549 individual horses have obtained permission to be vaccinated. Of these, 67.2% have moved in a fashion that would have required AHS vaccination. Of the remaining 32.8%, the primary reason permission was requested was on the basis for movement or competition (83.2%) and individual horse/yard protection (15.6%).

Conclusion

Vaccination coverage within the AHS controlled area, including the AHS surveillance and free zone, continues to be fairly comprehensive, with approximately 40-50% of the known population being vaccinated based on permissions requested during any year. 16 549 different horses have been vaccinated in the AHS surveillance and free zone in the last 6 years (i.e., since 2017). A high number of those horses are associated with repeat requests from year to year, and also since vaccination is a prerequisite for movement into the controlled area, any new adult horses entering the controlled area will be vaccinated already.

References and Acknowledgements

We are grateful to both horse owners and veterinarians for their patience during the vaccination permission season. We acknowledge the continued support of the Western Cape Veterinary Services (in particular Dr Gary Buhrmann) and the team members from the SAEHP: Danielle Pienaar, Esthea Russouw, Marie van der Westhuizen, Johanne Jacobs and Lizel Germishuys.

Table 1: Number of applications received for vaccination permissions with associated horses. Granted applications are shown with a percentage of the total in brackets.

Year	Applications received/Associated holdings	Total horses applied for	Total horses granted
2017	1078/647	7183	6893 (96%)
2018	1117/606	7277	7058 (97%)
2019	1108/610	7330	7044 (96%)
2020	976/567	6691	6476 (97%)
2021	920/568	6775	6643 (98%)
2022 (this report)	890/529	6530	6407 (98%)

Outbreak events

On a farm near **Beaufort West**, deaths of many wild rabbits/hares were seen since November 2022. The carcass of a **Cape hare** was sampled for testing in mid-January and tested positive for **rabbit haemorrhagic disease virus**.

Johne's disease was confirmed in **sheep** on two properties in the **Hopefield** area after sheep were seen losing weight over an extended period of time.

Outbreaks of **sheep scab** were detected in the **Wellington** and **Lambert's Bay** areas. In the latter case, the outbreak had started in April 2022, but was reported only once the skin lesions became severe (Fig. 2).

On a smallholding near **Beaufort West**, 26 of 40 newly brought in **chickens** died suddenly. Subsequent tests were positive for presence of **Newcastle disease virus**. No clinical signs were seen in backyard chickens on neighbouring properties and there are no commercial poultry or ostrich farms nearby.

In Du Noon, **Cape Town**, 44 of 51 small-scale farmers experienced **pig** deaths, resulting in the death of approximately 60% of the pigs kept in Du Noon. **African swine fever** was confirmed by laboratory testing. There were apparently no recent movements of pigs in the area and the suspected origin of the outbreak is raw pork brought from the Eastern Cape and fed to pigs.

A clinical diagnosis of **bluetongue** was made in **sheep** with ulceration around the mouth on a farm near **Uniondale**.

On a broiler **chicken** farm in the **Worcester** area, routine swabs taken at chick placement tested positive for **Salmonella Enteritidis**.

Lumpy skin disease was diagnosed clinically on two **cattle** farms in the **Beaufort West** area when lesions were seen during routine surveillance visits.

On a farm in the **Vanrhynsdorp** area, **sheep** showed severe clinical signs of "**dikkop**": swelling of the face, lips and ears as a result of photosensitivity caused by consumption of *Tribulus terrestris* plants.

Orf was diagnosed when crusty lesions were seen on the noses and mouths of **sheep** on two properties in the **Montagu** area.



Figure 2: Sheep scab lesions (Photo: I. Speelman)

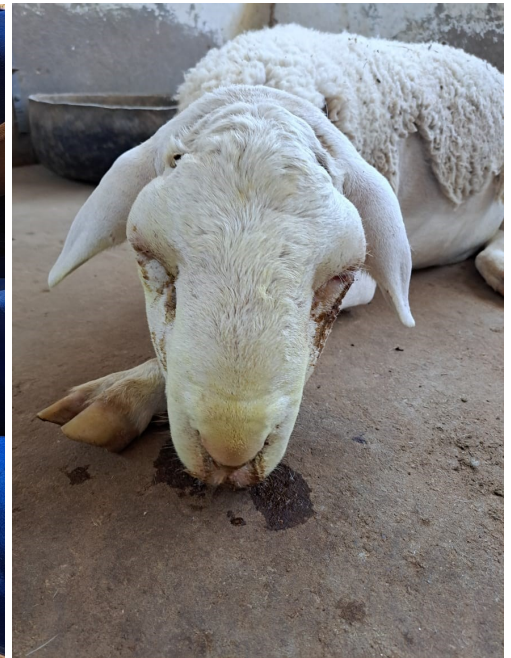


Figure 3: Dikkop (Photo: J. Kotzé)

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