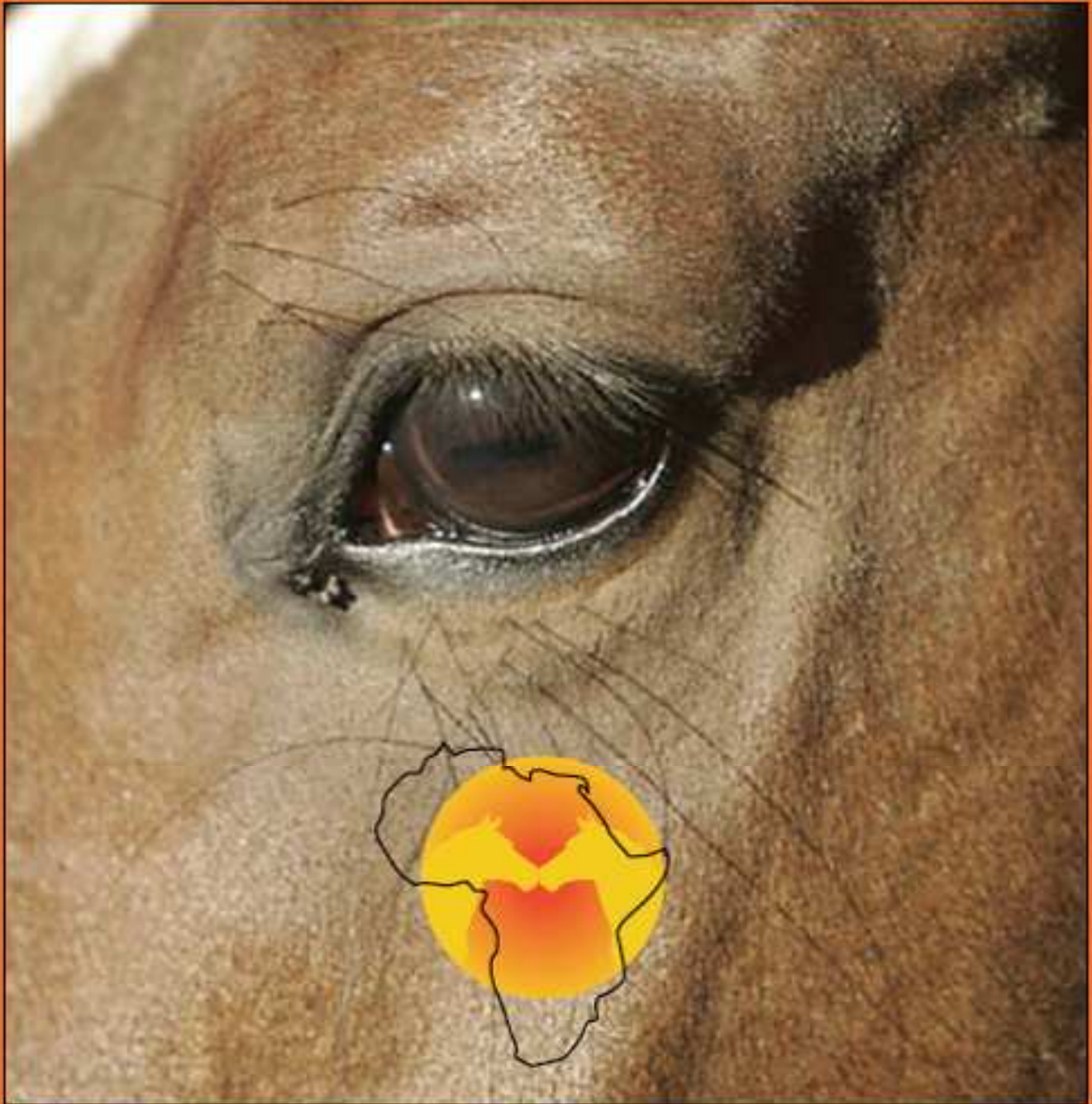


AFRICAN HORSE SICKNESS

INFORMATION BOOKLET

2012/2013



AFRICAN HORSE
SICKNESS TRUST

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About African Horse Sickness

What is African horse sickness?

African horse sickness (AHS) is a highly infectious, non-contagious, vector-borne viral disease affecting all species of Equidae. It is classified as an Orbivirus of the Reoviridae family of which there are 9 serotypes. All serotypes (1-9) are distributed throughout South Africa, although there is a variation in their temporal distribution. It is endemic to (occurs naturally on) the African continent, and is characterised by respiratory and circulatory damage, accompanied by fever and loss of appetite.

Host and Vector

Animals affected are, all breeds of horses (mortality rate of 70-90%), mules and donkeys. Wild life Equine species (Zebras) are resistant to the disease. The vector host, *Culicoides* midge, spreads AHS virus.

How do horses contract the disease?

AHS does not spread directly from one horse to another, but is transmitted by the *Culicoides* midge, which becomes infected when feeding on other infected equidae. It occurs mostly in the warm, rainy season when midges are plentiful, and disappears after frost, when the midges die. Most animals become infected in the period associated with sunset and sunrise, when the midges are most active.

Signs of AHS

The disease manifests in four forms, namely the lung form, the heart form, the mixed form, and the fever form.

The lung (“dunkop”) form is characterised by the following:

- Very high fever (up to 41° C).
- Difficulty in breathing, with mouth open and head hanging down.
- Frothy discharge may pour from the nose.
- Sudden onset of death.
- Very high death rate (90%).

The heart (“dikkop”) form is characterised by the following:

- Fever, followed by swelling of the head and eyes.
- In severe cases, the entire head swells (“dikkop”).
- Loss of ability to swallow and colic signs may occur.
- Bleeding (of pinpoint size) in the membranes of the mouth and eyes.
- Slower onset of death, occurring 4 to 8 days after the fever has started.
- Lower death rate (50%).

The mixed form is characterised by signs of both the “dunkop” and “dikkop” forms of the disease. The mildest “fever” form is characterised by fever without other clinical signs and has the lowest death rate.

Diagnosis and Notification

The signs described above may assist with an initial diagnosis of AHS. This diagnosis can only be confirmed by identifying the virus in a laboratory. It is, therefore, essential that blood samples be taken from the horse during the fever stage of the disease for analysis. As AHS is a controlled disease, horse owners are obliged by law to notify the local State Veterinarian of suspected cases.



Supportive treatment

A workshop for veterinarians attending the annual South African Equine Veterinary Association (SAEVA) Congress was held on 12 February 2012 to discuss and document supportive treatment options used by veterinarians treating AHS cases, with focus on the scientific rationale for treatment, scientific evidence supporting efficacy and safety of the treatment, AHS-specific data available, and reach agreement on whether the treatment was considered justified as veterinary supportive treatment for AHS or not. The workshop was attended by a total of 34 veterinarians from Southern Africa, various international delegates and representation by the AHS Trust.

- It was emphasised and agreed that there is no generic veterinary supportive treatment guideline for every AHS case and that veterinary supportive treatment must be customised on a patient by patient basis.
- The workshop participants agreed that treatment with nonsteroidal anti-inflammatories, short to medium acting corticosteroids and antimicrobials is justified as veterinary supportive treatment of AHS cases.
- The rationale for treatment with nonsteroidal anti-inflammatories is anti-inflammatory, analgesic, and antipyretic effects, based on cyclooxygenase (COX) inhibition. There is strong scientific evidence supporting the rationale, efficacy and safety of NSAIDs such as flunixin and phenylbutazone in horses.
- The rationale for corticosteroid treatment includes potent anti-inflammatory effects (lipooxygenase and cyclooxygenase), stabilization of cell membranes and preservation of vascular membrane integrity. There is strong scientific evidence supporting the rationale, efficacy and safety of corticosteroids in horses.
- The rationale for antimicrobial treatment is as prophylactic for secondary bacterial infection, particularly bacterial pneumonia as AHS cases with pulmonary oedema, leukopaenia and neutropaenia are considered at risk. There is strong scientific evidence supporting the rationale, efficacy and safety of specific antimicrobials in horses.
- Other supportive treatments agreed on were crystalloid and colloid intravenous fluids and DMSO. There is scientific evidence supporting a rationale, efficacy and safety of these treatments in horses.
- Whilst not a veterinary treatment per se participants agreed unanimously that strict rest was mandatory for horses suffering from AHS.
- It was emphasised that the treatments agreed with are supportive in basis and not curative. Many other factors, such as vaccination status and immunocompetence, are important in individual horse response to AHSV infection.
- It was noted that treatment with homeopathic remedies is utilized by some practitioners and owners as a supportive treatment in the field. Workshop participants did not agree on treatment with homeopathic remedies as a veterinary supportive treatment for horses suffering from AHS. Whilst they may do no harm there is no strong scientific evidence supporting a rationale and efficacy in AHS cases. Horse owners are advised to consult their veterinarian regarding use.
- Whilst the freedom and rights of horse owners to select the health care of their choice is recognised, the irrational use of 'medications' without scientific evidence is not in the best interests of horse welfare.
- Participants agreed that the use of unregistered products such as sodium hypochlorite/ bleach, colloidal silver, hydrogen peroxide, and ozone for treatment of horses is not supported. As there is no recognized scientific efficacy or safety data for these products in horses, horse owners and trainers are cautioned against use of these remedies and are advised to consult their veterinarian.
- There was overall consensus by veterinarians attending the workshop on the majority of points raised, which was supported by the results of the written survey circulated.
- The report on the workshop has been circulated to SAEVA members. Horse owners and trainers are advised to consult their veterinarians for further information.



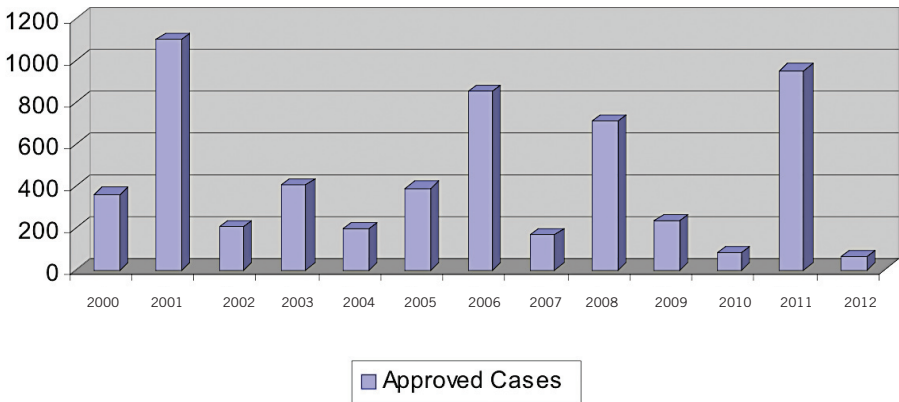
Recent Outbreak Information

The AHS Trust assists with the reporting of AHS cases and has developed an online method of reporting cases

The results of the reporting over the past eight outbreak seasons are as follows:

OVERALL STATISTICS							
	2005/6	2006/7	2007/8	2008/9	2009/10	2010/11	2011/12
Outbreak Duration (Months)	7	8	8	9	7	8	6
Total Approved Cases	850	163	707	236	84	952	65
Number of Horses Dead	148	89	409	139	39	632	31
Number of Horses survived	72	74	298	97	45	320	34
% Mortality	17%	55%	58%	59%	46%	67%	48%

AHS Outbreaks



Reporting Procedures for AHS 2012

AHS Outbreak reporting 2010/2011

The AHS Trust has once again undertaken to assist the Department of Agriculture with the reporting of outbreaks. It is critical that all cases are reported as they occur, as the movement of infected horses or horses incubating the disease will lead to the spread of virus to areas previously free of the disease. This is especially critical when moving horses into the Controlled Area of the Western Cape as South Africa's export status depends on maintaining the freedom of this area. All cases must be reported. The official disease reporting forms are available from the State Vet or from the AHS Trust. Please ensure that they are filled in correctly, with all information requested and returned. If in doubt, consult your local Veterinarian or contact the AHS helpline.



Reporting Procedures for AHS 2012 (cont)

CASES WHERE SAMPLES SHOULD BE TAKEN

1. ALL OR NEW CASES FOR AN AREA, CASES THAT APPEAR TO BE EQUINE ENCEPHALOSIS AND CASES THAT SHOW ABNORMAL CLINICAL SIGNS SHOULD BE SAMPLED.
2. THE FOLLOWING BLOOD SAMPLES ARE REQUIRED FROM CLINICAL CASES:
 - A. RED Top – Serum
 - B. GREEN Top – Heparin
 - C. PURPLE Top – EDTA
3. THE FOLLOWING SAMPLES ARE REQUIRED ON ICE FROM DEAD HORSES:
 - A. LUNG
 - B. SPLEEN
4. THE SAMPLES SHOULD BE SENT TO:

Dr M Quan
Equine Research Centre
University of Pretoria
Soutpan Road
0110 Onderstepoort
5. THE SAMPLES MUST BE PACKED IN A COOLER BOX WITH ICE PACKS AND SENT OVERNIGHT COURIER – WE HAVE FOUND THE MOST EFFICIENT TO BE SPEED SERVICE COURIER VIA POSTNET.
6. THE COST OF THE COURIER TOGETHER WITH ALL INFORMATION CAN BE SENT AND BILLED TO:

THE AHS TRUST
P. O. BOX 40
DURBAN
4000
7. THE ATTACHED FORM – **NOTIFICATION AND SAMPLE SUBMISSION FORM** NEEDS TO BE COMPLETED IN FULL AND FAXED TO THE DEPARTMENT OF AGRICULTURE AND YOUR LOCAL STATE VETINARIAN.
8. IT IS IMPORTANT THAT A COPY OF THE FORM ACCOMPANIES THE SAMPLE SENT TO THE EQUINE RESEARCH CENTRE.

IF ALL RELEVANT INFORMATION IS SUPPLIED TO THE AHS TRUST, THE TRUST WILL THEN LOAD THE DATA ON THE AHS WEBSITE, NOTIFY THE LOCAL STATE VET, DEPARTMENT OF AGRICULTURE AND BOLAND STATE VET ON YOUR BEHALF AND FOLLOW THE SAMPLES TO A RESULT.

FOR CASES WHERE NO SAMPLES HAVE BEEN TAKEN; WHERE REPEATED CASES IN AN AREA; OR WHERE IT WAS NOT POSSIBLE OR DESIRABLE TO DO A POST MORTEM; PLEASE FOLLOW THE FOLLOWING STEPS.

1. Go to WWW.AFRICANHORSESICKNESS.CO.ZA and register a new case – please fill in as much detail as possible.
OR
2. Fill in the official Department of Agriculture on the official Department of Agriculture form – **NOTIFICATION AND SAMPLE SUBMISSION FORM IN FULL** and state the number of samples taken and fax to 034 312 4263 and the Trust will submit the report on your behalf to the Dept of Agriculture and notify the State Vet

ALL SUSPECTED CASES OF AHS MUST BE REPORTED



Protective Measures

Vaccinations

Currently, approximately only 50% of the national herd of horses is vaccinated, many of which have inadequate immunity due to ignorance or non-compliance of the recommended vaccination procedures. As a result, the risk to the inoculated herd increases dramatically and the Trust urges all horse owners to routinely vaccinate under the following conditions:

- Where possible use professional veterinary services.
- Ensure that the cold chain is not broken prior to administering the vaccine.

Ideally vaccinate during the low vector activity period (August – October). This ensures that optimal vaccine immunity is provided during the high-risk period of March and April. This increased vaccine coverage will reduce the impact of outbreaks and the risks of the rapid spread of the disease in high-risk periods.

Previously vaccinated horses can be worked normally during the vaccination period only if no temperature reaction to the vaccine is indicated. Horses receiving their first AHS vaccine should not be exercised or only minimally exercised during the 6-week vaccination period. Please adhere to the vaccine manufacturer's instructions.

Additional Protection Methods

Apart from vaccination, horse owners should consider the following additional measures to reduce exposure to the disease:

- Stable horses when the vector is most active i.e. from late afternoon, overnight to mid-morning.
- Cover all access points in the stable with 80% shade cloth – it has been proven to reduce the midge activity inside the stables up to 14 times. For horses living out, shade cloth awnings could be built and horses enclosed during the night.
- Place fans in stables. Midges are attracted to horse odours and the carbon dioxide emission of the horses – a fan will assist in dispersing the odour trail.
- Midges are very light and appropriately directed air movement makes it difficult for them to enter stables and/or to stay immobile long enough to feed.
- Apply registered insecticides/ repellents, e.g. permethrin spray, to horses in the late afternoon.

The spread of the disease is directly linked to the midge activity in the area and this is dependent on a number of conditions, such as rainfall, temperature, breeding sites and soil types. Areas that have sandy soils seem to have less midge activity than areas with clay based soils. The high rainfall we have been experiencing increases the breeding cycle of the vector and therefore increases the transmission of the disease.

Myths

- Smoking drums at stables – this seems to have no effect on midge activity.
- Garlic supplements – no scientific evidence that supports this.
- Moving horses to higher ground – depending on other factors, midges are active at altitude.



Control of African Horse Sickness

African Horse Sickness (AHS) is one of a number of diseases known to be potentially damaging to the livestock economy. By way of the Animal Diseases Act (Act No. 35 of 1984), AHS has been declared a state controlled disease, thereby empowering the state to implement measures to control the disease. Horse owners are also required by this law to notify their local state veterinarian of any cases of AHS. The Act also requires that all equines (horses, donkeys and mules) must be vaccinated at least once a year with an approved AHS vaccine.

African Horse Sickness (AHS)

Control Policy

The policy regulating AHS control and control over the movement of equines (horses, donkeys and mules as per definition) and zebra into and within the AHS Controlled Area of the Western Cape Province (WCP), must be adhered to.

A. Vaccination protocol :

1. All registered equines in the Republic of South Africa wanting to enter the AHS Control Areas must be vaccinated by a Veterinarian or a specifically authorized Animal Health Technician (AHT) in the employment of the Veterinary Authority, under direct supervision of the State Veterinarian concerned.
2. Vaccination must be done annually with AHS I and AHS II vaccine.
3. There must be a minimum of 3 weeks between I and II and the horse may not move into the AHS Control Area less than 60 days after the second vaccination.
4. All horses must be registered and identified by means of a passport.

Movement Controls

Movement controls into the AHS Control Area in the Western Cape were introduced when the export protocol (1997/10/EC) was ratified by the European Commission in 1997. Based on guidelines given by the World Animal Health Organisation (OIE), and South African and European legislation, the South African Veterinary Authority established a policy for the movement of all equines into this area.

**Please contact the Boland State Vet for further information
regarding these controls.**

**Dr G Buhrmann, (office hours) 021 808 5026
cell 083 642 0602 email: garyb@elsenburg.com**

About the African Horse Sickness Trust

THE AFRICAN HORSE SICKNESS TRUST – EXECUTIVE SUMMARY

The African Horse Sickness Trust is a non profit organization established in 2005 and is a progression from the African Horse Sickness Task Team formed in 2005 in response to the continued presence of African Horse Sickness (AHS) and its consequences resulting from the outbreak in early 2005.

MISSION STATEMENT:

“To eliminate African Horse Sickness as a threat to the horse industry in South Africa”.



About the African Horse Sickness Trust (cont)

To attain this The AHS Trust has a number of short term, medium term and long term objectives.

Short Term (2-3 Years):

- o To establish a system of reporting African Horse Sickness that more accurately reflects the number of cases annually as a basis to assess the economic impact of this disease in South Africa.
- o To assist the State Veterinary authorities in providing an “Early Warning Surveillance System” in order to protect the AHS Free and AHS Surveillance zones as required by the OIE.
- o Facilitate constant and meaningful communication between all AHS research bodies and relevant Government Institutions and Departments in South Africa.
- o To facilitate co-operation with international research institutions currently researching AHS.

Medium Term (3-5 Years):

- o Facilitate research into practical “on farm interventions” that horse owners can apply in the face of an outbreak or in the case of vaccine failure into the future.
- o To assess the relevance of a single strain inactivated (dead) vaccine.
- o To identify the role of zebra in AHS and its transmission.
- o To plan, implement and fund a blanket vaccination programme in high risk areas throughout South Africa to assist in raising the percentage of vaccinated horse from 30% to 75 %.
- o To assist the Equine Research Centre with diagnostic testing and new vaccine research.

Long Term (5 years +)

- o Facilitate research into the development of a more effective modern vaccine that will afford horse owners good immunity to all strains of AHS even in seasons of high disease pressure.
- o Facilitate research into other unconventional (non vaccine) control measures that become viable due to advances in knowledge and/or technology.

For example,

- i) Pheromone mating disrupters – used successfully in the growing of fruit to reduce particular pest populations.
- ii) Vector predators, etc.

Achievements to date:

1. Significant collection of data over the last two seasons in relation to the incidents of AHS.
2. Generally raising awareness of AHS.
3. The recent bringing together of all role players “around one table” to discuss current research into this disease.
4. Limited funding to two post graduate students of the School of Agricultural Sciences and Agribusiness at University of KwaZulu Natal.
5. Commissioning the CSIR to analyze the data collected by The AHS Trust. A report highlighting achievements and shortcomings in data collection and thus development of a strategy towards AHS was recently presented to The AHS Trust.
6. Implemented blanket vaccinations for four years covering the following areas: Gauteng, Northern KZN, KZN Midlands, Eastern Cape, Western Cape.
7. Active liaison with the South African Equine Veterinary Association regarding recommended veterinary supportive treatment of AHS cases.

With the help of significant funding The African Horse Sickness Trust is confident that horse owners in South Africa can, over time, be relieved of the burden of African Horse Sickness and look forward to the day when excessive travel restrictions, particularly with regard to export are eased.

The AHS Trust is grateful for the ongoing support of Racing South Africa and all our other donors. With their support, this important work would not continue.

