

Heartwater survey on changes and causes

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Research focus area: A Survey of veterinary and farmer experiences and opinions on heartwater incidence, distribution and associated factors in domestic ruminants in South Africa

Full Title of the project

A Survey of veterinary and farmer experiences and opinions on heartwater incidence, distribution and associated factors in domestic ruminants in South Africa

Aims of the project

- To establish the extent and incidence of HW by a structured questionnaire sent to farmers and veterinarians in heartwater areas
- To establish changes that may have occurred in these areas
- To identify possible reasons for the changes observed
- To make recommendations for further action

Executive summary

The Questionnaire Survey achieved the aims set out for the project. Sample sizes, structure, demographics, geographic distribution and experience profiles of both Veterinary and Farmer groups were adequate for gathering useful data and for conclusions to be drawn.

There appears to be epidemiologically significant change in the spatial distribution of heartwater in many areas, with serious expansion in some, of up to 150 kilometres, and 48% of veterinarians and 42% of farmers reported seeing increases in the number of farms affected by heartwater. The disease is also increasing in incidence and severity judging by the number of cases seen, increases in occurrence observed and also some indication that there is an increased risk of heartwater in more months of the year than in the past.

Climate change as a causative factor, indicated by observations of increased average temperatures, milder frosts, less rain and shorter rainy seasons, was identified by the majority of farmers but not by as many veterinarians. Respondents in both groups considered vegetation change an important factor. Increasing wildlife, especially antelope, was seen as a major factor by most veterinarians and also many farmers. Both groups identified the movement of livestock and wildlife as an increasingly important factor that must be seen as of major concern for both industries since it leads to the avoidable spread of many diseases apart from heartwater. Movement controls must be reinstated and reinforced by vigorously enforced legislation.

The use of the heartwater 'vaccine' is either unchanged or in decline and is apparently causing an increasing reliance on dipping and block treatments. Farmers reported mainly an increase in tick control by dipping and rated this as a very important factor in the management of heartwater; the veterinarians rated it lower. Control achieved by routine, regular block treatments of entire flocks or herds was also seen as a major factor and as increasing in use for both respondent groups, each giving it a high ranking. Relying on intensive tick control and ongoing block treatments leads to loss of efficacy in key acaricides and antibiotics and has very serious implications and consequences for the control of many diseases and parasites of livestock. The lack of a commercially available, safe, effective, practical and affordable true vaccine for the protection of ruminant livestock against heartwater should be of the absolute highest concern and priority. After decades of trials, OVI researchers have developed a very promising candidate vaccine, yet its further development to the commercial stage appears not to be receiving the urgency and attention needed.

Diagnosis of heartwater in post mortem cases is accurate and reliable if backed by appropriate histopathological staining and examination, but far too few farmers have their suspicions confirmed by laboratory tests. This leads to a danger of widespread misdiagnosis and the disease being potentially either under- or over-diagnosed. The problem extends to clinical cases especially, where diagnosis rests mainly on a few 'typical' signs. The presence of atypical forms of heartwater further complicates the problem.