

# ATBC Special Newsletter



## HENDRA VIRUS STUD FARM PERSPECTIVE

### An open letter to all thoroughbred horse owners

I have written this open letter as I am a stud farm owner and racehorse owner/breeder and feel the message needs to be URGENTLY delivered to everybody. I am also a scientist and a member of the Queensland DPI's Biosecurity Liaison Group. Whilst I am not an expert, I have a greater exposure to information about Hendra than most horse owners and I have also consulted widely on the issue.

Hendra has hit the news in an unprecedented manner this year. Hendra occurs where there is a spill-over of the disease from flying foxes (bats, fruit bats) to horses. Flying foxes inhabit the whole of Eastern Australia; there are large colonies from Port Macquarie to northern Australia, as well as in the lower Hunter, the Sydney region, the Sapphire Coast, East Gippsland, Melbourne and Adelaide and smaller colonies in all places in between.

ALL these bat colonies carry a level of the virus; the disease is present in these bats without any apparent clinical effect on them. Queensland's chief veterinary officer reported this week that their testing of fruit bat samples has resulted in a 30% incidence of the virus as compared to 10% in other years. This is a significant concern! There are now 5 separate outbreaks with the possibility more will happen. This is unprecedented, there having been only 2 in previous years.

There is some fantastic news with the impressive progress of the development of a vaccine. Dr Deborah Middleton from the Australian Animal Health Laboratory (AHL) has reported directly to our stud farm vet (one of the vets involved in the first outbreak this year) that with some political will a vaccine could be ready by

March 2012. **All of the industry needs to make an effort to get behind making this happen; your political pressure will help.**

But until then OUR members need to be aware of the risks posed by this disease. You cannot assume you are safe because you have your property in lower NSW. All horses under the circumstances described below are at risk. This came home to roost today with the southernmost case confirmed at Macksville on the mid north coast of NSW. It seems there is a peak period for spill-over events from May to September, but there have been cases throughout the year, especially in north Queensland.

To ensure that you and your horses are safe you need to have an understanding of the disease and undertake some basic management practices.

### **HOW DOES A HORSE CATCH THE VIRUS?**

Research has identified that the virus can be shed by bats at particular times in their fluid secretions, significantly saliva and urine (and birthing fluids - pupping season is about to begin). The feeding habits of the bats are a key factor that we need to be aware of. Bats ingest fruit and nectar, process it in their fore stomach, and then regurgitate it, or 'spit' it out in what are known as SPATS. They do this over the whole night whilst feeding and as they fly over their range. The spats are processed fruit material and have a high concentration of saliva. Bats also urinate while feeding, a fact that any car owner in bat areas will attest to if they have unwittingly parked under a bat feeding tree.

Dr Hume Fields, Queensland's world authority on fruit bats, has found that there are very high concentrations of virus material directly under trees, the area commonly known as the 'drip zone', and almost no virus away from the trees. This area is where the spats and urine of feeding bats will be dropped and potentially is an **extremely high risk area for horses**. This information is not published, but was communicated to us in a telephone conference last week. This is critical information as it provides solid proof that there is a very real 'high risk zone' of opportunity for horses to become infected. As a consequence, Dr Martin Lenz, of Queensland Racing and a member of our group has issued a warning to all trainers not to 'pick' or graze horses under trees frequented by bats. **This warning should be extended to all horse owners.**

Direct access to a source of the virus is the way a horse contracts Hendra virus. They will not catch Hendra virus on the breeze. Direct access to a source of the virus means either fruit bat fluids or another infected horse that is actually excreting the virus.

The concept put forward from the experts is that horses eat/snuffle/chew contaminated material and this is how they pick up the virus. The research has NOT discovered the causal link; there are still holes in our understanding. Clearly the idea that a horse eats bat contaminated material doesn't sit well with professional horse managers that have experienced rejection of feed by horses in the management of them. There may well be mitigating circumstances. A brief examination of the case histories shows that all, except one, of the properties have been smaller, less professionally managed places. On at least four of the recently infected properties horses have been under nutritional stress, with factors effecting this being, lack of feed, wet weather, significant frost events reducing pasture nutrient value, age of horses and others. BUT as all these factors have not been researched and published, again I am making pure speculation. There is a significant hole in the research in regard to horse management and farm management factors, the focus of the research so far having been on bats.

One of Queensland's leading expert vets in regard to Hendra, Dr Peter Reid, has warned me not to draw these conclusions and that **it could be any horse under any circumstance where bats are involved that contracts Hendra.**

Some misguided media have suggested that bats are not the vector, which does not reflect the known science. The research has clearly identified that bats are the primary source. I want to make it clear it is NOT the bats fault. Fruit bats are protected; they are under environmental threat and just innocent parties. Fruit bats are important for our environment. They are in fact the primary pollinators for many rainforest trees and perform a vital role. The concentration of fruit bats in our community is a function of what we have done to the environment and in fact we are the cause of the interaction with our horses and thus the focus should be on US and what we do and not the bats.

## **HOW DO PEOPLE CATCH HENDRA?**

To catch Hendra you need to be exposed to fluids from a horse that is actually excreting the virus. Fluid can be blood, urine, saliva, mucus etc and your exposure is through your membranes for example eyes, mouth, nose or through an open cut. During this current outbreak there has been some discussion on direct horse blood to human skin contact, the general consensus is that this is high risk.

If you are unfortunately one of the people exposed to the virus it is very serious with a high human fatality rate. One of the only treatments is an experimental Monoclonal Antibody Therapy, which has side effects (yet to be disclosed) and

as it is not registered or controlled by the relevant health department. Health departments are hesitant to use the therapy for legal and other reasons so they screen patients very carefully to determine the risk of exposure. They will only give the therapy in a high risk exposure situation. **It is important if you are involved in this situation that you are very clear on your recollection of the transfer of fluid from an infected Hendra horse having occurred.** It may save your life.

Direct bat to human transfer has never been proven but it still is a possibility. Several other diseases do transfer from bats to humans, including a disease closely related to Hendra, so we should always **be careful when dealing directly with bats.**

Currently the Hunter Valley studs have a requirement that horses from certain areas have a negative PCR test for Hendra before travelling to stud. This is a good practice but has some problems. Bats do not follow lines on maps and to assume that Hendra is only in certain areas is possibly foolhardy. A negative test does not mean a horse is not infected and so ANY horse that is sick should be treated with proper personal protection. The symptoms of Hendra in a horse vary greatly. One of the common attributes was thought to be a high temperature, although this year a terminal horse did not have a high temperature but was close to death when examined. The virus causes a breakdown of blood and blood vessels and this results in a number of vital organ failures. Commonly the horses have coordination problems, nasal discharges, swelling, uncomfortable gait but not all horses have these signs and many are thought initially to be suffering from colic or snake bite. So it is important to be very, very aware of any horse that is SICK.

It is not just the SICK horse that is a risk to us because it is now known that a horse can actually secrete the virus for a short period of time (up to 72 hours) before actually displaying any clinical signs. The incubation period for the disease is reported at 5-16 days from when the horse is exposed to the virus to when it will develop signs of the disease.

Dr David Lovell of Redlands Vet Clinic has a good understanding of the facts associated with Hendra (being involved in an outbreak with devastating circumstances) and as such has provided us with the keys to management that will allow us to eliminate, or certainly dramatically reduce, the risks from this disease and he has produce the following guide

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