

QUEENSLAND PARLIAMENT

AGRICULTURE AND ENVIRONMENT COMMITTEE

PUBLIC ENQUIRY

*Hendra Virus (HeV) Equivac Vaccine and its Use by Veterinary Surgeons in
Queensland*

RACING QUEENSLAND SUBMISSION

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Racing Queensland is the statutory body charged with the regulation and administration of the three codes of racing (thoroughbred, standardbred and greyhound) in Queensland. Racing is the third-largest industry in Queensland with around 30,000 people directly involved. In terms of the two horse codes, for which Hendra virus is of direct relevance, there are approximately 13,500 currently registered and the two horse codes contribute around \$172M of annual betting turnover.

Hendra virus (HeV) has the potential to affect the racing industry in Queensland in several ways:

1. Hendra virus outbreaks in horses
2. Hendra virus infection in people – Workplace Health and Safety
3. National euthanasia policy for Hendra virus-exposed horses
4. Quarantine restrictions during HeV outbreaks
5. Loss of horse export earnings/markets
6. Veterinary business Hendra virus policies
7. Equine insurance implications

These potential effects will be detailed more fully below.

1. Hendra virus outbreaks in horses

Given that fruit bat populations all around Australia carry HeV, and given the great overlap of fruit bat and horse habitats, there are likely to be new outbreaks of HeV disease every year and the geographical range of the disease is likely to continue to spread outside the current QLD to mid-coast NSW area.

Even though HeV does not cause explosive outbreaks like equine influenza virus, depending on circumstances and locations, potentially significant numbers of horses may be involved in outbreaks centred in large horse population centres, as a result of disease monitoring and quarantine restrictions imposed (see 4. below). Hendra virus causes serious disease in horses with a natural mortality rate of around 80% in infected horses, but with losses of 100% due to the national euthanasia policy currently in force (see 3. below).

2. Hendra virus infection in people – Workplace Health and Safety

Hendra virus has spread on seven occasions from infected horses to people. In people it causes neurological disease linked to the virus' ability to localise in the brain and spinal cord with a mortality rate of around 60%. In recovered individuals, the disease can leave long-term neurological deficits, or cause relapses of disease after an apparent recovery.

People most at risk of contracting the infection are people dealing with sick and dead horses, with trainers and stable staff, as well as veterinarians, having been affected in the past. As Hendra virus can be found in many of the body fluids of an infected horse (such as blood, saliva, respiratory secretions and urine), even before clinical signs of disease are apparent, people from the racing industries coming

into close contact with horse body fluids (e.g. swab collection officers, trainers, strappers, race day farriers and veterinarians) are potentially at risk of HeV infection. Racing Queensland thus faces significant Workplace Health and Safety (WH&S) obligations in relation to HeV.

3. National euthanasia policy for Hendra virus-exposed horses

Up until now national policy has been to euthanize all animals showing evidence of exposure to HeV (in the form of antibody detected on blood testing). All horses with signs of having been exposed to HeV, regardless of whether they had shown signs of clinical disease, have been subjected to euthanasia during past outbreaks. One such incident affecting a racehorse was “Tamworth”, a Gold Coast racehorse which survived the HeV outbreak at Redlands only to be euthanized as part of the response to the outbreak. This national policy is currently under review, with the likely result that in future horses with evidence of anti-HeV antibody will be assessed on a case-by-case basis.

4. Quarantine restrictions during HeV outbreaks

When a new Hendra virus outbreak is detected, the affected property is immediately quarantined. All horses on the affected property undergo tests to determine their HeV status. Trace-back and trace-forward investigations are then undertaken to establish the possibility of contact of any horses that have recently arrived on or left the property with any HeV-infected horses on the property. Any additional horse properties with horses identified during these tracings will also be quarantined. Horses on all quarantined properties will be subject to repeated HeV testing. There are different types of tests used to establish the HeV status of a horse and each type of test has limitations, meaning that often the results of multiple tests are required before a horse’s HeV status can be fully established.

The minimum quarantine period imposed is 32 days (twice the longest-known incubation period of HeV in horses). This quarantine period will start over again on a given property every time a new case of HeV is detected. Given the above-mentioned limitations in the interpretation of individual HeV test results, delays in obtaining clear test results may result in prolongation of the overall quarantine period on any given property.

While horses with confirmed HeV infection may be relatively small in number during an outbreak, the effect of quarantine and testing requirements on an enterprise may be significant in terms of lost training days and racing opportunity, additional staffing and other quarantine costs. A significant industry-wide impact would result from the quarantining of large training/racing centres like the Gold Coast or Toowoomba racing precincts.

5. Loss of horse export earnings/markets

As has been demonstrated following previous HeV outbreaks, Australia’s trading partners move rapidly to shut down imports of horses. Quarantine restrictions and freedom-from-disease testing requirements result in delays which can jeopardise export markets, with importers quickly moving on to new markets with disease-free status.

When HeV vaccine was first introduced, many of Australia's racehorse export markets did not allow vaccinated horses to be exported. This was due to the fact that these countries require a negative blood test for HeV prior to export and horses that are vaccinated will return a positive result. Over time, following lobbying by government and industry, almost all of the major export markets (including Hong Kong, Singapore, United Arab Emirates) have amended their import protocols in relation to HeV to allow access for HeV-vaccinated horses. As a result, China is the only major market for Australian racehorses currently restricting export to horses with negative blood test results. China further stipulates that all horses to be imported must originate from 200km outside of a previous HeV outbreak, which rules out the majority of Queensland-based horses.

6. Veterinary business Hendra virus policies

Many veterinary businesses, in order to meet their own WPH&S obligations, require horses to be either vaccinated against HeV or for HeV testing to be negative before any significant treatment or diagnostic procedures are carried out. The inevitable delays involved in this process (min. 24-48 hours) may result in unvaccinated horses not receiving appropriate care in a timely manner. This scenario brings with it potential financial, legal and horse welfare implications for connections of unvaccinated racehorses.

Furthermore, due to these WPH&S related policies, several of the veterinary practices contracted to provide race-day veterinary services to Race Clubs or Racing Queensland have indicated that they are facing a conflict in continuing to provide race-day services, where some race horses have incomplete or absent HeV vaccination histories, while on the other hand maintaining strict policies of only attending HeV vaccinated horses in their non-race-day practice. This has already led to several practices withdrawing their services and others considering taking this option. Given that no race meeting in Queensland can proceed without an official veterinary surgeon in attendance, this could potentially lead to the cancellation of race meetings.

7. Equine insurance implications

All the major insurance underwriters apply exclusion clauses in circumstances where an insured horse dies either as a direct result of HeV infection, or as a result of a delay in treatment due to HeV exclusion testing. Coupled with the high incidence of veterinary business HeV vaccination-only policies, these scenarios are occurring increasingly more frequently.

To mitigate against these potential harmful effects on the industry, a recommendation has been made to implement a policy of mandatory vaccination for all horses racing in Queensland. The benefits and drawbacks of such a policy being introduced are:

Benefits:

1. Risk of vaccinated horses contracting HeV reduced to negligible. There will always remain a small residual risk in the following circumstances:

- A horse which already harbours the HeV at time of vaccination. In this circumstance, the virus may multiply and overcome the horse's immune system, prior to the horse's body being able to respond to the vaccine.
 - A horse with an insufficient immune response ability at time of vaccination, such as in the case of a horse with a pre-existing health condition. Veterinary assessment of all horses pre-vaccination will help to minimise this possibility.
 - A vaccine with reduced/absent potency is administered. This may occur at any stage during manufacturing, storage and transport of the vaccine. Maintenance of proper cold-chain is important to ensure the vaccine's continued effectiveness.
2. Risk of human infection through contact with an infected horse reduced to negligible, thus (not withstanding scenarios mentioned above) virtually eliminating WPH&S risks due to HeV. This will be the most important benefit of a comprehensive vaccination program to the racing industry.
 3. Biosecurity Queensland has indicated that HeV-vaccinated horses will not be subject to quarantine restrictions during HeV outbreak investigation and containment. Horses with verifiable current HeV vaccination status will be able to resume normal activities following assessment and possible decontamination. This will help to minimise business disruption to racing enterprises (training stables and race tracks).
 4. Minimal disruption to horse exports of HeV vaccinated horses, even in the event of an outbreak in a nearby unvaccinated (non-race) horse population. All importing countries reserve the right to set their own importing conditions, which are determined not solely on animal health criteria, and therefore importing countries may still impose bans on the export of *all* horses for a period of time, however the effects of such bans on the vaccinated racehorse population should be reduced compared to unvaccinated horses.
 5. Eliminated risk of business interruption to race meetings as a result of veterinary practice WPH&S policies. Many veterinary practices contracted to provide race day services have expressed the difficulty of continuing to work with unvaccinated horses at race meetings when they maintain a strict HeV-vaccination policy in the rest of their practice. Mandatory HeV vaccination of all racehorses would solve that conflict for these practices and ensure continued provision of race day veterinary services.

Drawbacks:

1. Cost of implementing vaccination program. These costs can be divided into the following components:
 - 1.1 Cost of vaccine - there is currently only one vaccine on the market to protect against this deadly disease (*Equivac HeV* produced by Zoetis, Australia), and there is a significant investment involved in bringing a novel vaccine onto the market. Racing Queensland encourages other

vaccine manufacturers to enter the market. Without competition in the market or a guaranteed of pricing from the sole supplier Racing Queensland is cautious of the commercial risk of a mandatory vaccination program.

1.2 Cost of veterinary administration of the vaccine - the current vaccine license requirements require administration to horses by veterinary surgeons accredited by the manufacturer. As discussed above, this requirement provides a mechanism to ensure:

- The correct storage and administration conditions of the vaccine are adhered to;
- That all horses are clinically assessed prior to vaccination to ensure adequate vaccination responses;
- That any significant adverse vaccination effects can be monitored and treated in an appropriate and timely manner; and
- The prompt and accurate recording of all vaccinations, which is critical for the administration of the vaccination program.

It is in the interest of vets administering the vaccine to continue to provide this service at an affordable cost, as vaccination helps them to make their work place safer for themselves and staff. However, industry participants have raised concerns that the requirement for a mandatory vaccination to be made by a defined profession has the potential to expose the industry to unregulated price increases.

1.3 Cost of micro-chipping – all thoroughbreds are already micro-chipped during foal identification. In standardbreds, however, where there is currently no such requirement, this will add a (minor) cost to vaccination. However, the minor cost will bring with it the benefit of increased ease and reliability of horse identification.

2. Vaccination adverse events/side effects – as with any medication, the use of HeV vaccine carries with it a certain risk of side effects. A compilation of these side effects by the government regulatory body (APVMA) has revealed that the vast majority of these are local or minor reactions occurring at rates comparable to those seen with other similar medications. More serious side effects, such as anaphylactic reactions, are expected to occur at lower rates. Vets administering the vaccine are equipped to recognize and treat such reactions. Any mandatory vaccination program will include provisions to accommodate horses that have documented evidence of such severe reactions.

In order to help prevent the risk of a vaccine reaction affecting the performance of a racehorse during a race, Racing Queensland introduced a racing rule to prevent vaccine being administered to a horse within seven clear days of racing.

3. Frequency of Administration – industry participants have noted that boosters are currently required every 6 months and that there is no booster which provides protection for 12 months. This creates a logistical and administrative burden on trainers who for practical reasons when managing teams of horses (given vaccination windows for horses may not align) Trainers, would prefer the booster timing to occur every 12 months.

Summary

Given the range of potential adverse effects of Hendra virus on the Queensland horse racing industries outlined above, Racing Queensland provides the above information to allow the committee to understand the benefits and the risks surrounding the use of Hendra Virus (HeV) Equivac Vaccine as it relates to the Queensland racing industry.