

## Submission to the Agriculture and Environment Committee

### Hendra virus (HeV) EquiVacc® vaccine and its use by veterinary surgeons in Queensland

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I am presenting this submission as an industry participant in thoroughbred racing and breeding.

I make this submission based on my experience and qualifications summarised as

- Practicing Agricultural scientist (30 years),
- Lecturer Horse management (VCAH/University of Melbourne),
- Member Department of Agriculture and fisheries convened Horse Industry Biosecurity and Market Access Liaison (HIBMAL) Group from 2010 to 2012
- Owner Operator Thoroughbred Horse Racing and breeding stud 24 years

I was a member of the liaison group during the 2011 major Hendra events. Early in process of liaison by Biosecurity Qld with industry a large amount of information was shared with the group on each Hendra event. This stopped when industry started to question aspects of the system. Enough information was supplied to allow group members to make some critical observations of the data on spill over properties (called infected properties (IPs)). The group's members distributed and discussed at length the data. I also refer to a specific meeting 8/11/2011 Queensland Centre for Emerging Infections Diseases (QCEID) which made a presentation on Hendra virus (Dr Hume Field / Dr Nina Kung convened by the General Manager Biosecurity). I also attended numerous other meetings including several Hendra virus conferences. I have published and co-authored papers (peer reviewed) on Hendra.

#### 1. Summary

I believe the following

- Hendra research on spill over properties was inadequate and critical information was not investigated and because of this advice to horse owners has been compromised. It is absolutely important that this is rectified'
- The majority of horse owners lack the experience to make a judgement on a Hendra vaccination adverse reactions
- Vaccination costs are significant and this has a profound impact on uptake
- Vets are not the issue with costs
- Vets are being unfairly targeted both by Workplace Health and Safety who have failed to understand the situation
- Hendra is an Australia wide issue
- Government should play a greater role in Hendra vaccination

I will provide information and data to support my views and I will provide compelling evidence, to support this.

#### 2. Horse Industry overview and the implications for Vaccination

##### 2.1 Data

An industry overview is important because an understanding of the makeup of the horse industry will help explain why there has been angst and concerns over Hendra vaccination.

The following table was developed by collecting data from horse group leaders and accumulated in notes over time during my industry involvement and are best estimates and they serve a purpose to demonstrate the level of

professionalism in the industry as opposed to horse ownership as a **hobby**. It was also apparent by the responses to the committees questions in the transcript from the Committee's public briefing held on 22 March 2016, that the witnesses had limited knowledge of the scope of the industry so here is a guide for the committees benefit.

Group	Member numbers	Horse numbers	Professional members
Thoroughbred Breeders Queensland Association	1200 members (of 3661 individual breeders)	10993	250
Australian Trainers Association Queensland	1017 (trainers)	8152*	800 (200)
Harness Racing	381 trainers 2604 owners	3150	250
Australian Camp draft Association	11400 members QLD 295 clubs 325 events per year	22800	25
Pony Club Queensland	12000 members 270 clubs	15237	Zero
Equestrian Queensland	3300 individual members 8000 affiliated members 140 clubs	12800	150
Polocrosse Queensland	3000 members 44 clubs	11000	Zero
Queensland Racehorse Owners Association	17000 actual owners 130 members	8152*	Zero
South Qld Management Council of the Australian Stock Horse Society	3000 members 13 branches	15,392	20
Riding for Disabled Qld	1000 members	500	Zero
Arabian Horse Association of Qld Inc.	1000 members	1500	3
Queensland Endurance Riders Association	800 members 51 events per annum	2000	3
Other hobbyist non affiliated	??	?100,000:?	Zero

From above data there is estimated 45,000 to 50,000 individuals in horse industry groups, these groups have 115000 horses and I estimate there may be double this for horse owners not associated with a major groups so maybe 250000 horses in Queensland. By interviewing industry group leaders I was able to apply some economic data generating the following estimates, Capital investment \$1.038 billion, Annual reinvestment 208 million, Operating Costs \$1.129 billion (NOT including racing turnover) but including thoroughbred owners and breeders E.g. Thoroughbred Ownership \$364million, capital \$401 million, Prize money \$293million total sales \$68 million. So to the Queensland economy the horse industry (not racing) contributes \$1.337 billion per annum this ranks us very much a leader in Agriculture and up there with tourism. So you'd think we would be taken seriously? But we have no representation on key DEEDI reference groups, we have no dedicated staff (e.g. dairy have 3 officers) we are not treated as an industry (Racing excluded). As a consequence there is a lack of skilled professionals in the industry and within government and there is a large amount of unprofessional support mechanisms mostly by social media.

## 2.2 Horse management expertise

The Key point is of the 50,000+ members there would be less than 1000 horse management professionals in Queensland those that work fulltime with horses and horse property management (this excludes racehorse trainers who generally don't have properties and work in a stabled environment and rely on spelling properties when racehorses leave the stable).

The vast majority of horse owners have 1 or 2 horses and on average the management of the horse would be as little as ½ hour per day and many only a few hours on the weekend. Whereas the professionals work 7 days a week's 8 to 10 hours per day on their properties, the level of expertise and experience is very vast.

### **2.3 Experience with vaccinations**

Information supplied from the major manufacturers and wholesalers of horse vaccines, such as tetanus, strangles and Equine Herpes Virus would indicate that the level of vaccination for these vaccines in Queensland and NSW is very low compared the horse population. Major retailers have indicated that the majority of their sales are to the thoroughbred breeding and racing industry.

What this means is that not only are the majority of horse owners inexperienced they also do not vaccinate regularly and as a consequence have not seen the normal reactions that can occur when a horse is vaccinated. From my experience the vaccination reaction to Hendra is as is experienced with other vaccines.

I wish to use an analogy to explain experience, we all have drivers licences, that doesn't mean we understand how a fuel injection system works, 18 year old drivers think they are good drivers, formulae 1 drivers are good drivers but they continually practicing, the majority of horse owners are mum and dad drivers and, many are equivalent to the 18 year old drivers.

Because there is not a structured horse management advisory service most horse owners rely on social media and mum and dad drivers for information and with Hendra the facts are they have it wrong but they lack the experience to know this is the case.

### **3. Infected Property Horse Management Research**

In 2010-12 the Horse Industry Biosecurity and Market Access Liaison (HIBMAL) Group was forwarded and afforded access information on the infected Hendra properties. Horse Industry Biosecurity and Market Access Liaison (HIBMAL) Group this information came from biosecurity staff and the Queensland Centre for Emerging Infections Diseases (QCEID).

The HIBMAL group had in its membership 2 or 4 very experienced professional horse property managers between them they managed 400 to 500 horses. They members of this group believes there was a pattern to infected properties. For us a picture told a 1000 words these photos of Hendra horse still do!



I personally knew 5 of the properties and 3 of the attending vets.

We repeatedly requested to have horse management aspects of the IPs investigated properly in a scientific manor by horse management experts. This has never been achieved.

### **3.1 Managing horse is important regardless of vaccination**

Why is this important even if we were to achieve 100% vaccination of horses in Queensland there would still be significant risk from 2 parts of the horse population,

1. Young horses from 2 months to 4 months of age (immunity from mare to foal to 2 months and vaccination can be done at 4 months)
2. New arrivals to Queensland, there are 11000 horse movements across the NSW border into Queensland every year.

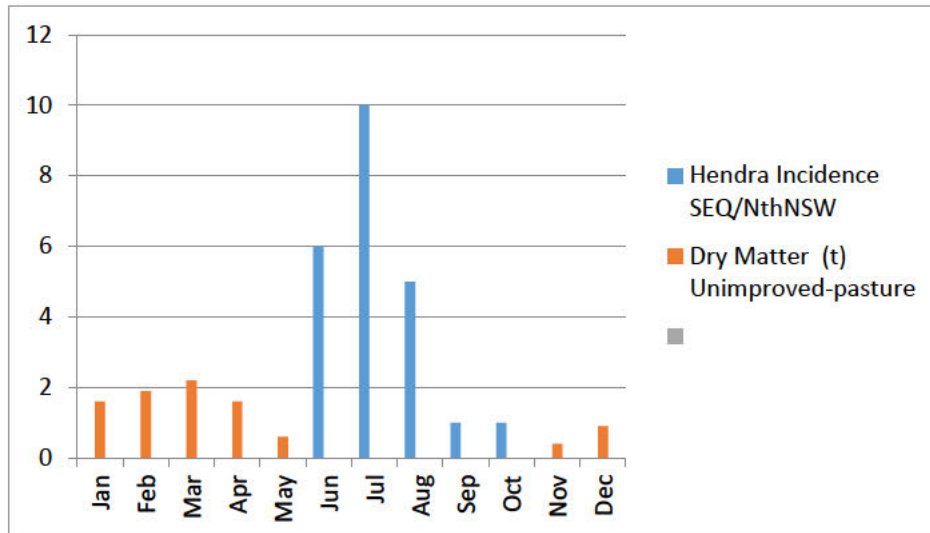
So for these horses we need the best possible advice on management.

### 3.2 Evidence of unprofessional IP research

To prove that horse management research was poor I provide 2 examples.

1. In frustration with what I saw as poor research I prepared a simple analysis based on data supplied by Dr Nina Kung of QCEID
  - All infected properties were unimproved pasture (we could see this from the photos)
  - The horses were in light condition from the photos
  - Supplementary feeding was minimal if at all (details vague)

The following graph was prepared to demonstrate the impact of these aspects on horses



What this graph shows is that pasture growth in June to November is extremely low and this overlays perfectly with the incidence of Hendra. This is what we were saying in to biosecurity staff and it was being ignored so I gave this data to Professor Bryden of UQ and he published an article at the Australian Equine Science symposium. The Universities media team used this article as a media release and it made national news. As DOES PASTURE AVAILABILITY INFLUENCE HENDRA VIRUS INFECTION OF GRAZING HORSES ? University of Queensland, Equine Research Unit Professor Wayne Bryden and Dale Anderson, The national newspapers broadcast "Hendra horses are Hungry". With this media coverage the Biosecurity staff reluctantly changed the Hendra advice to reflect this situation. This should never have occurred this way.

2. At the public hearing your panel asked "Wasn't 2011 a wet year" with reference to this having an impact on Hendra. The answer =from the Biosecurity staff was yes. This is in fact a misnomer. Summer was a wet summer but winter was extremely dry and in fact we had frosts from the 19<sup>th</sup> April continually through winter. (the information is readily available on the BOM website). The impact on pasture and feed availability to horses on unimproved pastures was significant. But as stated before this research was never undertaken so of course they didn't know.

### 3.3 Horse management advice

There are many other aspects of horse management that we believe may have an influence on Hendra infection that have not been properly investigated.

This is important for the 11,000 horses moving into Queensland each year and the annual foals.

### 3.4 Vets and Professional horse managers make a judgement

We Vets and professional horse managers are not stupid we can see that there is a pattern to Hendra infection, regardless of the poor advice from DAFF to the contrary. Every day when dealing with sick horses we make value judgements on the likely chance that the sick horse is a Hendra horse. The fact is we have to deal with these horses. We all make an educated assessment and act on our judgements in regard to our knowledge of Hendra. It is unfair for WPHS to target vets for making this judgement when we are working in a situation which has been created by inept research.



#### 4. Cost of Vaccine

##### 4.1 Loss making for vets

The cost of vaccine by veterinarians has 2 parts, total \$77 plus travel

- Vaccine costs \$66
- Labour + Administration of records \$11

The costs I have experienced are in my opinion are a loss making exercise for our preferred veterinarian practice. In canvassing my owners cost is one of the significant deterrents to Hendra vaccination and from the above figures it's not the vet that is the issue it's the cost of vaccine.

##### 4.2 Vaccine profiteering

During the Equine Influenza outbreak the costs of vaccine were shared with industry.

The costs were from \$4.5 to \$7 depending on transport and cold storage issues.

It is my opinion there is a significant profit margin by the manufacturer and this has an impact on uptake.

This manufacturer has a history of profiteering with equine vaccines and has in fact been investigated by the ACCC for such anti-competitive behaviours. The multi national company in question has in the past purchased from other manufacturers horse vaccines to add to their stable of products. By following the cost of these horse vaccines over time it demonstrates their profiteering approach to our industry. Please see the following table which shows that costs of these horse vaccines to the wholesaler over time.

		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015		
2in1	retail	\$12.10	\$12.65	\$14.30	\$14.55	\$16.25	\$16.65	\$17.15	\$17.15	\$17.80	\$22.40	\$24.20	\$27.30	\$30.20	
	wholesale	\$10.29	\$10.75	\$12.16	\$12.37	\$13.81	\$14.15	\$14.58	\$14.58	\$15.13	\$19.04	\$20.57	\$23.21	\$25.67	\$32.00
			4.5%	13.0%	1.7%	11.7%	2.5%	3.0%	0.0%	3.8%	25.8%	8.0%	12.8%	10.6%	24.7%
EHV		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
	Wholesale			\$27.15	\$31.10	\$33.05	\$34.60	\$35.80	\$36.05	\$43.05	\$46.15	\$49.05	\$60.00	Not Avail	
					14.5%	6.3%	4.7%	3.5%	0.7%	19.4%	7.2%	6.3%	22.3%		

Here is a company that purchases a vaccine with no outlay for R&D and market development and has just ripped into to market and horse owners have had to pay regardless as there is simply no competition.

##### 4.3 Intellectual Property and Hendra vaccination responsibility

How is it that the government develops the vaccine with some brilliant research fully funded by tax payers and then the vaccine is handed over to a multinational company to charge what they can, without any consideration of the public good aspects of vaccinating horses against Hendra?

Obviously there was a failure by government to understand the ramifications and market implications of vaccine profiteering.

Clearly Hendra vaccination is the owners' responsibility and any consequences of not vaccinating are the responsibility of the owner. But with such high consequences from a public good aspect it seems irresponsible of the government to divest the management of the vaccine to a company that has no interest in public good or for that matter the good of horse owners as demonstrated by their market behaviour above.

This committee should recommend an immediate government intervention and a change to this situation.

#### 5 Heads in the sand over Hendra

##### 5.1 Human to human infection transfer

Hendra is almost identical to Nipa Virus in Asia and is also maintained in Flying Foxes. Nipa has been transmitted to humans from humans and also other vectors. Clearly this has profound consequences for biosecurity and ramifications for the public good aspects of vaccination. The government must intervene to change the poor uptake and information to horse owners.

##### 5.2 Hendra is an Australian East coast issue

Research has shown that Hendra is in bats From South Australia to North Queensland. For example drop sheets for bat urine at a colony near Geelong in Victoria were 29% positive.

It is just a matter of time before a Hendra case occurs in the southern states.

Queensland should seek national support to tackle the Hendra vaccination issues.

### **5.3 There is too much focus on bats**

It is interesting to seek information about bats and their habits, this is evident by the questions from the committee to the DAFF staff during the public briefing.

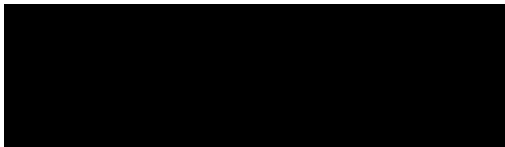
Yes bats are interesting but we can't control them.

What we can control is how we manage horses. Horse owners and how we managed our horses should've been the focus of research not bats.

As such horse owners and influencing their behavior should now be the focus of this committee.

I would be happy to present my report as a witness to the committee

Dale Anderson



22/04/16