

EQUINE INFLUENZA INQUIRY

SUPPLEMENTARY SUBMISSION BY DARLEY AUSTRALIA PTY LIMITED (DARLEY) IN RELATION TO THE ONGOING VACCINATION AGAINST EQUINE INFLUENZA (EI) OF CERTAIN HORSES IN AUSTRALIA

Preamble

- 1 On 3 April 2008, counsel for Coolmore Australia, Mr D.E.J. Ryan SC, made a supplementary oral submission and sought the Commission's recommendation that a particular cohort or subset of horses should continue to be vaccinated against EI in Australia. That subset of horses were thoroughbred horses, equestrian event horses and polo horses (**Relevant Horses**) (T4522.22-T4522.26) (**the Coolmore submission**).
- 2 Coolmore's counsel further commented that there was a general view amongst Australian breeders that continuing vaccination of Relevant Horses was desirable and indeed necessary as part of the attempt to ensure that there were no further EI outbreaks in Australia (T4524.2-T4524.6).
- 3 Darley supports the Coolmore submission made on 3 April 2008 and seeks a recommendation from the Commission in favour of an ongoing program of vaccination against EI for Relevant Horses in Australia, for the reasons outlined below.

Submission

- 4 Counsel Assisting has submitted that the most likely cause of the outbreak of EI in the Australian general horse population is that in the period after 10 August 2007, EI escaped from ECQS on the person, clothing or equipment of a groom, vet, farrier or some other person who had contact with the horses and who then left ECQS without adequately or at all cleaning or disinfecting themselves, their clothing or equipment [SUBS.INQ.001.0173, para. 16.21].
- 5 Darley supports the need for review and improvement to quarantine and biosecurity standards and procedures at ECQS (and also the point of arrival) to avoid any recurrence in future of the EI outbreak. Darley acknowledges however that while this may reduce any further risk of outbreak, such risk cannot be eradicated.
- 6 The recent EI outbreak has caused massive losses to the Australian economy, and in particular to the thoroughbred and racing industry. At a recent Australian Racing Board Meeting in Tasmania, accurate estimates put gross losses to the thoroughbred industry at between \$750 million and \$1 billion including such losses as a limited and compromised foal crop in 2008.
- 7 Darley notes that strict transport and biosecurity protocols, complemented by a regime of vaccination, appear to have contained the EI outbreak. Without further vaccination however the Australian Equine population will revert to its former naïve status. If this occurs, Australia may regain its "Disease Free" status but the industry's



- future will rely upon the upgraded standards and protocols at quarantine stations (and points of entry) alone. As the present outbreak proves, this is not enough to protect against the incursion of EI. Rather, Australia should aim for the best available system of defence which, in Darley's submission, would involve mandatory vaccination of Relevant Horses, ie a multi-layered quarantine continuum.
- 8 The thoroughbred horse racing industry is increasingly global both in terms of trade and profile. There are now more than 6 major international race meetings, including the Melbourne Cup carnival, where race horses from many racing jurisdictions come together to compete. Additionally, the breeding market is now recognised as an international forum with bloodstock routinely being purchased in one hemisphere and flown to another.
- 9 If a similar EI outbreak was to occur in future years as a result of a breach of quarantine protocol, the impact on a naïve horse population will be significantly greater, both economically and potentially geographically, than the recent EI outbreak. An ongoing vaccination program would minimise the number of animals infected, and may also permit racing, eventing, breeding and transport of those horses to continue. Further, the cost of that program would be negligible in comparison to the cost of an outbreak.
- 10 Such ongoing EI vaccination will have the following additional benefits:
- 10.1 vaccinated horses shed less virus for a shorter period of time than unvaccinated horses, and are therefore less likely to contribute to the onward spread of EI than non-vaccinated horses;
- 10.2 it may result in some level of "herd immunity", the phenomenon whereby vaccination of a proportion of a population confers protection on the remaining unvaccinated horses.
- 11 These advantages are evident from the experience in the United Kingdom, where vaccination of race horses has been mandatory since 1981, while vaccination of other horses is optional. (It appears that approximately 30 percent of the United Kingdom horse population is vaccinated). Although there have been EI outbreaks there since 1981 (indeed, EI is endemic in the United Kingdom), those outbreaks have never stopped racing or required the imposition of movement restrictions. [Annexed to this submission is an outline of the vaccination position in the United Kingdom, which was prepared by Dr Julie Ross of the Animal Health Trust.]
- 12 For these reasons, Darley supports the ongoing EI vaccination of Relevant Horses in a nationally monitored program. EI is endemic in almost all developed racing and breeding countries (with the exceptions of only Australia, New Zealand and Iceland) and ongoing EI vaccination recognises the reality of this and attempts to manage this risk.

Contrary submissions

- 13 Submissions against the vaccination program proposed by Coolmore have been made by various parties. The primary criticisms those submission make are that:



- 13.1 it is unnecessary in a country that is free from EI. However, as the present outbreak has shown, while the Australian horse population may have been free from EI, that does not prevent EI being introduced;
- 13.2 having a small proportion of the general horse population vaccinated may make detection of an outbreak more difficult. However, the experience in the United Kingdom has been that the vast majority of EI cases have involved unvaccinated horses spreading the disease to other unvaccinated horses. In any event, if a canary-pox vaccine is specified for use, the C-ELISA test can distinguish between antibodies as a result of infection and those as a result of vaccination [SUBS.INQ.001.0001, para. 2.22; see further below regarding the testing and reporting regime that could be implemented];
- 13.3 vaccinated horses can still contract and shed EI. However, as noted above, if a vaccinated horse does contract EI, it is likely to shed less virus for a shorter period;
- 13.4 herd immunity will only be achieved if 80 percent of the horse population is fully immunised [see, for example, to SUBS.AHIC.003.0001, paras 3.18-3.20]. However, as noted above, some degree of herd immunity can be obtained with a lower level of vaccination, as the United Kingdom position has shown;
- 13.5 there will be a need for increased testing and reporting [see, for example, SUBS.AHIC.003.0001, para 3.45]. Darley notes the submission of the Australian Racing Board in this regard [SUBS.ARB.002.0001];
- 13.6 state legislation would need to be amended. This is not at all unusual.
- 14 Darley further notes that:
- 14.1 the submission of the State of Queensland [SUBS.QLD.002.0001] opposes vaccination of the general horse population. With respect, that is not part of the Coolmore submission. Further, the State of Queensland also raises the issue of cost and who would pay for this vaccination. In the vaccination of only Relevant Horses in the Coolmore submission, any cost would be paid by the horse owner. Darley estimates this at about \$300 per annum, a relatively small percentage of a horse's annual upkeep.
- 14.2 in respect of the supplementary submission on behalf of the State of New South Wales dated 8 April 2008 (SUBS.NSW.002.0001), Darley considers this issue is properly raised for the Commission's attention as an incidental matter to the terms of reference.

Conclusion

- 15 Darley respectfully seeks a recommendation from the Commission in the form of the Coolmore submission.



A handwritten signature in black ink, appearing to read 'Scott McDonald'.

Scott McDonald
Partner, DLA Phillips Fox
Solicitor for Darley Australia Pty Limited

DATED: 15 April 2008

Equine Influenza and Vaccination: A Summary of the United Kingdom Situation

- The UK has been affected by H3N8 equine influenza (EI) virus since it first transferred to Europe in 1965 following its emergence in Miami, Florida, USA in 1963. A large outbreak in 1979 had a significant impact on the UK equine industry and affected many racing and non-racing horses throughout the country. Mandatory vaccination of racehorses was introduced in the UK in March 1981 in response to the impact of this outbreak. **Racing has not been cancelled in the UK due to equine influenza since mandatory vaccination was introduced in 1981.**
- Accurate measures of the size of the UK horse population do not exist but it is estimated to be between 600,000 and 1.2 million. The majority of racehorses in the UK are found in a limited number of geographical areas where the density of horses is particularly high e.g. in areas of southern England and Yorkshire. **In 2006, there were approx. 26,000 Thoroughbred horses in the UK used for racing or breeding i.e. between 2% and 4.2% of the UK horse population.**
- EI vaccines in Europe are licensed for use on the basis of proven efficacy and safety. Several different makes and technologies of vaccines are available and their use ultimately depends on the preference of the individual veterinary surgeon. Mandatory vaccination requirements mean that all racehorses, and most high level competition horses, are vaccinated against EI. Vaccination remains largely optional for the recreational horse population, although some events require vaccination. **Based crudely on estimates of horse numbers and known vaccine dose sales, it is believed that only up to 30% of horses in the UK are vaccinated against equine influenza.**
- Although EI is diagnosed most years in the UK, particularly among non-vaccinated horses that mix at shows and events in the summer months, since 1979 there have only been two large EI outbreaks (1989 and 2003). **In neither year did the outbreaks lead to mandatory movement restrictions being enforced nor any race meetings being cancelled.**
- It is widely accepted that horses vaccinated against EI do not necessarily have 100% protection against the disease. However, it has been repeatedly shown, that horses that are vaccinated against EI shed significantly less virus for a shorter period of time compared to non-vaccinated horses. **Consequently vaccinated horses are less likely to contribute to the onward spread of EI than non-vaccinated horses.** The markedly differing financial and welfare consequences of significant influenza outbreaks in Thoroughbreds in 2003 in Great Britain and South Africa in which mandatory vaccination was and was not respectively adopted, serve to highlight the benefits of EI vaccination in horses. The outbreaks in Japan and Australia in 2007 contrast each other similarly.
- There is concern among some people that if a sub-population of horses is vaccinated against EI then these animals can unwittingly transmit the infection to non-vaccinated horses resulting in an epidemic. **The vast majority of EI cases in the UK involve non-vaccinated horses spreading disease to other non-vaccinated horses.** This was clearly demonstrated earlier in 2007 when at least 23 horses were confirmed with EI on a total 7 premises, distributed across the UK. Our investigations revealed that all horses involved were not vaccinated and the index cases in 4 outbreaks were non-vaccinated horses arriving recently from a horse sale in Ireland. No cases were obviously associated with transmission from subclinically infected vaccinated animals.
- Periodically, vaccinated horses do develop clinical signs of EI. Investigations conducted to identify reasons for this apparent failure of vaccine efficacy (so-called 'vaccine breakdown') have shown that there is need for inclusion of epidemiologically relevant viral strains in the

most potent and/or technologically advanced vaccines in order to maintain protective immunity. **On-going monitoring of the evolution of circulating EI through global surveillance is critical to maintain up to date vaccine strains of H3N8 EI.**

- 'Herd immunity' is the phenomenon whereby vaccination of a proportion of a population confers protection on the remaining non-vaccinated portion of that population. Although it is widely accepted that for an infectious disease such as EI the proportion of vaccinated animals required for effective herd immunity is high (e.g. >80%), experience in the UK indicates that this most significantly applies to those parts of the population that move and mix most frequently and are consequently at highest risk of infection. The young, mobile racing Thoroughbred population is an example of this and consequently it is believed that the relatively low frequency of non-epidemic EI that occurs in the UK despite relatively low vaccine coverage is in part due to the protective effect from targeted vaccination in Thoroughbreds and other highly mobile horses. **The racehorse population is therefore significantly less important in the transmission of EI around the UK than if they were not vaccinated.**
- The control and eradication of EI in Australia is the stated aim of the government veterinary authorities and based on the evidence of progress made to date from the control strategies operating in New South Wales and Queensland this does appear achievable in the long term. However, we believe that eradication of EI should not necessarily absolutely preclude the use of vaccination of the highest risk horses (such as racehorses) within Australia on an ongoing basis.
- Stringent pre- and post-importation and quarantine protocols and associated biosecurity will be central to keeping Australia free of EI in the future after disease freedom has been re-established. However, as recent events in Australia and Japan and those in South Africa in 2003 demonstrate, these measures are not always enough to prevent the introduction of EI into a country with a largely susceptible horse population. It is possible that if EI is eradicated, quarantine may be breached again in the future resulting in similar levels of disease and associated financial losses.
- **Consideration should be given to the use of vaccination of high risk populations such as racehorses as an adjunct to strict importation/quarantine requirements to help protect the equine population and its associated industries in the event of another breach of quarantine.** As described above, vaccination of a relatively small proportion of the national equine population in the UK does appear to help prevent EI epidemics and we have no reason to believe that the situation would not be the same in Australia.
- We should stress that we fully understand that racehorses in Australia, even if they are regularly vaccinated, might reasonably be subject to movement restrictions and control measures in the future should an EI outbreak re-occur. However, outwith the tightly controlled areas, vaccinated racehorses might with appropriate review be able to continue competing more safely compared to non-vaccinated animals, thereby resulting in a significant reduction in the economic losses arising from another EI outbreak. In addition, days lost to training and racing due to racehorse illness would be significantly reduced, again helping to decrease the economic impact of EI in this important sector of the Australian equine industry.

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