

POLICY BRIEF: Risk assessment for the introduction and establishment of equine piroplasmosis in the UK
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Date: 1st October 2018

1. KEY MESSAGE

The overall risk of introduction and spread of equine piroplasmosis (EP) into the UK native horse population (via imports of infected equidae, ticks, and/or blood products) is estimated as LOW (i.e. rare but can occur). The consequences of EP are significant and include negative social, economic and welfare outcomes for horses and their owners. Notably, there are no risk mitigation strategies currently in place in the UK should an incursion occur. Consideration should be given to: adoption of compulsory EP import screening, a review of current testing protocols and escalation of EP to notifiable disease status. This would bring UK policy in-line with OIE recommendations and those of other EP-free countries.

2. OBJECTIVES

The QRA addressed the specific risk question: “What is the risk of EP being introduced to the UK and disease becoming endemic in native equines?”

3. MAJOR FINDINGS

- i) Entry assessment: The overall risk of EP entry to the UK via importation of infected equidae or ticks is considered to be low, and the risk of EP entry in imported bloods is considered to be negligible.
- ii) Exposure assessment: The risk of EP exposure to naïve equidae in the UK is considered to be low by the infection routes of tick-bites, contaminated needles and contaminated blood, but very high via transplacental transfer.
- iii) Consequence assessment: The consequences to the UK equine industry of an EP outbreak were considered in a number of scenarios, ranging from negligible consequences where disease was identified and contained in a single animal, to consequences of high significance if EP were to become endemic.
- iv) Risk management: Major recommendations included: Escalation of EP to a notifiable disease status (bringing UK policy in line with other EP-free countries), compulsory serology testing of equidae 30 days prior to importation and veterinary certification of equidae as free from ectoparasites (bring UK policy in line with OIE recommendations), and validation of a PCR for regulatory purposes as an adjunct to serology testing (bringing UK EP biosecurity above that of other EP-free countries).

4. POLICY IMPLICATIONS

The UK is free from Equine piroplasmosis (EP), a blood parasite of horses and donkeys. However, in a recent UK survey, approximately 8% of equids tested were serologically positive for EP, indicating the presence of EP carrier horses in the UK (1). The QRA concludes that there are few if any risk mitigation strategies in place to deal with an incursion, although the establishment of endemic EP could have significant social, economic and welfare consequences. EP has significant global welfare and economic importance, with around 90% of the

world's equine population living in EP endemic areas. A 2008 outbreak in Florida cost government \$158,000 to contain, and previous EP eradication from the USA had taken 25 years and cost over \$12m (3). The UK is historically free from endemic disease, but recent work has highlighted the both presence of EP carrier horses (1) and the spread of disease transmitting tick species in the UK (2). Currently EP is not notifiable or screened for in the UK, a policy which is lacking compared to the strict entry requirements of other EP-free countries such as the USA, Australia and Japan. This qualitative risk assessment (QRA) advises a review of current policy in order to maintain EP biosecurity to protect the UK equine population and industry.

At present, there is no official policy regarding EP or any formal risk assessment. The current *status quo* would be inhibitory to the identification and subsequent control of any EP outbreak if it were to occur. This QRA recommends a review of the current stance on EP, and recommends a number of sanitary measures, including the elevation of EP to notifiable disease status, be considered. This would act to bring UK policy in-line with OIE recommendations, and those of other EP free countries.

5. IMPORTANT ASSUMPTIONS AND LIMITATIONS

The QRA identified the following areas of uncertainty when making its conclusions:

- UK tick populations are monitored only by Public Health England's Tick Surveillance Scheme. This passive scheme relies on submissions by the public, consequently there is potential for the undocumented existence of tick populations capable of transmitting EP in addition to those already known.
- The recent UK survey of EP laboratory submissions is biased towards internationally travelling equines. Consequently this is not representative of the national equine population.
- There are sensitivity limitations with serological and direct detection of EP. Consequently the recent survey of UK laboratory samples may have underestimated the quoted prevalence.
- EP can be transferred via contaminated needles. It is assumed that in the UK equine industry, needle hygiene amongst veterinary professionals is high, and that needle sharing in nefarious practices such as 'blood doping' are infrequent.

7. LINKS TO EXISTING PUBLICATIONS OR REPORTS

1. Coultous, R.M., Phipps, L.P *et al.*, 2018. Piroplasmosis status of equids in the United Kingdom: an assessment of recent laboratory diagnostic submissions. *The Veterinary Record*, in press.
2. Medlock, J.M. *et al.*, 2017. Distribution of the tick *Dermacentor reticulatus* in the United Kingdom. *Medical and veterinary entomology*, 31(3), pp.281–288.
3. Short, M.A. *et al.*, 2012. Outbreak of equine piroplasmosis in Florida. *Journal of the American Veterinary Medical Association*, 240(5), pp.588–595.