

## Quarantine Action for Horses Originating from Countries with different Health Status to EDFZ Jakarta for the 18<sup>th</sup> Asian Games 2018

Mujiatun<sup>1\*</sup>, Risma Juniarti Paulina Silitonga<sup>2</sup>, Agus Sunanto<sup>1</sup>, Sriyanto<sup>3</sup>, Susanne Munstermann<sup>4</sup>, Tri Wahyuni<sup>1</sup>, Desniwati<sup>3</sup>, Nuryani Zainuddin<sup>3</sup>, Arum Kusnila Dewi<sup>3</sup>, Adi Komara<sup>5</sup>, Woro Wulandari Kalanjati<sup>1</sup>, Yasmin Qurataayunina<sup>1</sup>, Seruni Agistiana<sup>3</sup>, Haeriah<sup>3</sup>, Hestu Prastanti<sup>3</sup>, Dwi Indah Anjarsari<sup>3</sup>, Lidwina Anastasya<sup>3</sup>, Ashari<sup>5</sup>.

<sup>1</sup>Center for Animal Quarantine and Biosafety, Indonesian Agricultural Quarantine Agency (IAQA)

<sup>2</sup>Soekarno Hatta Agricultural Quarantine Office, IAQA

<sup>3</sup>Center for Agriculture Quarantine Laboratory, IAQA

<sup>4</sup>Animal Health Consultant, Bonn, Germany

<sup>5</sup>Tanjung Priok Agricultural Quarantine Office, IAQA

\*Corresponding author's email: mujiatun.bbuskp@gmail.com

**Keywords:** Diseases, EDFZ, Horse, Installation, Quarantine.

### INTRODUCTION

Indonesia hosted the 18<sup>th</sup> Asian Games on 18 August to 2 September 2018. In order to organize the equestrian competitions of these Asian Games, an Equine Disease Free Zone (EDFZ) was set up. EDFZ is a term used by the World Organisation for Animal Health (OIE) for a specific zone in which equestrian competitions can be organized. This system is based on the OIE's concept of compartmentalisation and zoning. A specified area is shown to be free from a defined list of equine diseases that are otherwise present in the country or region. Horses within an EDFZ are protected from diseases that may occur in other parts of the country (OIE 2018).

Once the EDFZ is established, implementation of biosecurity management, health certification standards and procedures have to be observed, including the setting up of a Registered Animal Quarantine Installation (RAQI) to prevent the spread of diseases to this EDFZ.

Horses that came from countries that have a disease situation equal to the EDFZ with specific health requirement such as vaccination and testing, were taken directly to the EDFZ core zone, which was the venue for the equestrian events at the Jakarta Equestrian Park, Pulomas [DGLAHS, 2018]. Few horses came from countries with a health status not equal to the EDFZ. These horses had to be quarantined in their country of residence for 21-30 days and again in Indonesia for 14-21 days. Based to the regulations of the Indonesian Agriculture Quarantine Agency (IAQA) a RAQI was set up to observe the health status of these horses.

General observation of horse health status in the RAQI consisted of inspection for clinical signs of infectious diseases and also a repeat of laboratory testing for specified diseases which, as per requirement of the "Veterinary Certificate for

the Temporary Importation of horses into Indonesia to compete in the equestrian events of the 18<sup>th</sup> Asian Games" (here: Asian Games Health Certificate), had already been tested in the country of residence.

The purpose of this paper is to describe the quarantine action for horses in the RAQI at the 18<sup>th</sup> Asian Games 2018.

### MATERIALS AND METHODS

#### Quarantine Installation System

The Quarantine Installation system is based on Ministerial Decree No. 70 of 2015 and the Biosecurity Manual of the 18<sup>th</sup> Asian Games 2018.

The RAQI was set up on a private equestrian stable located in Depok, DKI Jakarta, about 60 km away from the EDFZ core zone. An area of approximately 1 acre which is separated by a river and a road from the main equestrian centre, was chosen for the RAQI. Disease surveillance for resident horses in the equestrian centre had been performed twice before the installation was registered by IAQA.

Horses were accommodated in temporary stables in a large covered shed. Groups of horses from two different countries were moved into distinctly separated corners of the shed. Access to the RAQI was controlled and only permitted to IAQA personnel, workers dedicated to each of the horse groups, grooms and riders.

The main entrance of the RAQI was secured by a gate with access control, clearly displayed instructions about biosecurity and a wheel wash for vehicles and a foot mat with disinfectant for people. Vehicles used for the transport of horses were disinfected before and after loading of the horses.

Standard Operation Procedures (SOP) for sanitation to be observed by all people getting in

contact with the horses were issued and their observance periodically controlled by IAQA staff. IAQA staff resided on the site.

### **Health Monitoring of Horses**

General clinical observation was performed in the RAQI for all horses that entered. Temperature measurement, pulse counting or heart rate auscultation, capillary refill time and other clinical observation was done at least twice daily. Horses with elevated temperature were measured every 2 hours until the temperature went back to normal and no clinical sign of disease was observed. If required, medication approved for the 18<sup>th</sup> Asian Games was used.

### **Laboratory Assay for Health Requirement**

Horses were imported into Indonesia after complying with the conditions set in the "Asian Games Health Certificate" which stipulated, amongst other conditions, that the horses had been tested for glanders, dourine, piroplasmosis (*T. equi* and *B. caballi*) and Equine infectious anemia (EIA). Piroplasmosis positive horses were allowed to travel to Indonesia but were to be accommodated separately from other horses.

Horses from countries that required quarantine prior to export and again in Indonesia, were retested for glanders, EIA and dourine during their stay at the RAQI. In addition to these tests, horses were also tested for strangles, a disease which is not notifiable but considered an "event killer". Testing was done in accordance with the OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals (2018).

### **Quarantine measures at the venue**

Horses that were transferred from the RAQI to the venue were accommodated in completely separated stable units, were attended to by different groups of workers and had a different training schedule from the other horses. These biosecurity measures were introduced as additional risk mitigating measures in order to add additional security for otherwise healthy horses.

## **RESULTS AND DISCUSSION**

China, India and Indonesia are countries that were considered as not having an equal health status with that of the EDFZ. Horses from those countries were quarantined in home or a third country before transfer to Indonesia.

Indian horses were quarantined in India for 30 days (Chennai Quarantine Station), then in Thailand (country with health status equal with EDFZ) for 30 days. In both countries the conditions as stipulated in the Asian Games Health Certificate were observed and tests were carried out with negative results. They were then transferred directly into the EDFZ core zone.

Horses from China were quarantined in Beijing Quarantine Installation for 30 days (based on Quarantine Protocol of 18<sup>th</sup> Asian Games 2018) with approval of the quarantine installation by an inspection carried out by IAQA. Two horses were subsequently flown from Beijing to Jakarta and transferred to RAQI for additional 14 days of quarantine.

Ten Indonesian horses, coming from different regions of Java Island (Bandung, Bogor, Depok and Tangerang) were transferred to RAQI for 14 days. They had all been included at least twice in the disease surveillance that was carried out for the establishment of the EDFZ with negative results.

Amongst the 12 horses held in RAQI, two horses showed fever and dehydration on day one, and an eye inflammation. Fluid replacement, antibiotics and eye drops were administered until the symptoms had disappeared. Antibiotic treatment strictly observed withdrawal periods. On day 14, one horse developed a sawdust allergy.

All 12 horses tested negative for glanders, dourine and EIA, however, 4 horses showed a positive result for strangles in the serology test (ELISA). Nasal swabs and serum were retested in bacteriology (Sweeney, 2005) and biochemical identification (API Streptococcus, Biomerieux) with negative results.

Based on the negative results of all tests, all horses could be released after the quarantine period from RAQI to the EDFZ core zone.

The establishment of an EDFZ and a RAQI allowed Indonesia to host the equestrian competitions of the 18<sup>th</sup> Asian Games under conditions acceptable to equestrian teams from European and Asian countries. Only three of the 21 participating countries had to undergo quarantine procedures due to the different health status of the resident country with the EDFZ. Therefore 18 countries were able to send their horses directly to Jakarta and back to the country of residency immediately after the competitions.

## **CONCLUSION**

Efficient preparation and monitoring of quarantine measures before and during the equestrian events of the 18<sup>th</sup> Asian Games contributed to the success of the event which was concluded with no occurrence of infectious disease.

## **ACKNOWLEDGMENTS**

The efforts of the Directorate General of Livestock and Animal Health Services, Ministry of Agriculture and the Local Government of DKI Jakarta and Depok City for the establishment of the EDFZ, disease surveillance for residential horses and the cooperation in the event of 18<sup>th</sup> Asian Games 2018 is greatly appreciated. Special thanks go to the Director of IAQA for fully supporting the

staff and for all personnel of the Animal Quarantine Team for their dedication and hard work during the quarantine period and the event.

#### REFERENCES

- [1] Directorate General of Livestock and Animal Health Services [DGLAHS]. 2018. Biosecurity Manual of Equestrian Competition 18<sup>th</sup> Asian Games 2018. Ministry of Agriculture. Jakarta.
- [2] Ministry of Agriculture. 2015. Ministerial Decree No. 70, 2015 about Animal Quarantine Installation. Jakarta.
- [3] OIE 2018. Equine Disease-Free Zone (EDFZ). [www.oie.int](http://www.oie.int).
- [4] Sweeney CR, Timoney JF, Newton R, and Hines MT. 2005. *Streptococcus equi* Infection in Horses: Guideline for Treatment, Control, and Prevention of Strengles. *J Vet Intern Med* 19:123-134