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Outbreak of lumpy skin disease in cattle, Thailand 2021

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Lumpy skin disease (LSD) is a vector-borne trans boundary viral disease affecting cattle and buffaloes which causes significant economic losses in livestock production and trade. The first outbreaks of LSD were reported in Pha Nom Phrai district, Roi-Et Province, North-eastern Thailand, and an official document has been submitted to OIE on 9 April 2021. Since then, multiple outbreaks have been reported in other 67 provinces in Thailand, infecting 625,344 and killing 64,673 cattle. This study investigated the Thai LSD outbreak and confirmed that the disease spread rapidly during March – July 2021. Both cattle and buffaloes showed typical clinical signs of LSD, with appearance of several skin nodules and deep-seated, well-demarcated ulcers. The collected samples were first tested for the presence of LSDV by real-time PCR and virus isolation. We further applied molecular tools, RPO30, and GPCR, for additional characterization of the LSDV isolates circulating in Thailand. The LSD virus isolated in these first outbreaks was 100% identical to viruses isolated in China and Vietnam based on the RPO30 and GPCR genes. We also highlight the appearance of recombinant hybrid genomes in the Thai LSDV isolate which containing LSDV Neethling and LSDV SIS-Lumpyvax vaccine strains, limiting us to differentiate them from the Thai isolates and vaccine isolates. This study demonstrates the importance of disease surveillance and the need to determine the source of the disease introduction, the extent of spread, modes of transmission, and the necessary control measures.

Biography

Dr. Tapanut Songkasupa graduated Doctor of Veterinary Medicine from the Chulalongkorn university in 2012 and M.Sc. at the University of Edinburgh in 2017. He obtained the position of veterinary virologist (professional level) at National Institute of Animal Health, Thailand. His responsibilities include the diagnosis of several viral diseases of animals, including import/export testing and the development and validation of diagnosis tests. Over 8 years of extensive virology laboratory research experience in livestock health including epidemiology, molecular microbiology, and diagnosis based on virus isolation, PCR, and nucleotide sequencing. Discovered and detected novel viruses in livestock such as AHSV, PPRV and LSDV.

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