

臺灣家禽坦布蘇病毒的檢測

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摘要

坦布蘇病毒屬於黃病毒科的黃病毒屬，是一種新興的蟲媒病毒，最初於 1955 年在馬來西亞的庫蚊中被發現，之後在 1970 年代東南亞的不同調查中偶爾有報告。2010 年中國開始有鴨隻感染坦布蘇病毒而造成嚴重產蛋下降症候群疫情，之後疫情蔓延到馬來西亞和泰國的養鴨場。坦布蘇病毒除了造成鴨隻嚴重的產蛋下降外，還會導致食慾下降、抑鬱、生長遲緩、腹瀉和神經功能障礙。其發病率為 90%~100%，死亡率為 5% 至 15%，偶爾因繼發性細菌感染而增加至 30%。先前的報告指出，坦布蘇病毒也會在雞和鵝中引起類似的臨床症狀，並且該病毒也已從蚊子、鴿子和麻雀中被分離到。在臺灣，坦布蘇病毒最先於 2019 年在庫蚊與鴨場被發現，之後在鵝場也有報告。在本報告中，我們描述臺灣家禽場的坦布蘇病毒感染病例，分析所分離的坦布蘇病毒核酸序列，並建立檢測臺灣坦布蘇病毒核酸的 RT-PCR 和 real-time RT-PCR，其檢測限分別為 1,000 和 10 個複製數。

Detection of Tembusu Virus in Poultry in Taiwan

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Abstract

Tembusu virus (TMUV) is an emerging arbovirus, belongs to the genus *Flavivirus* within the family *Flaviviridae* and was first identified from *Culex* mosquitoes in Malaysia in 1955. TMUV was then occasionally reported in different surveys in Southeast Asia during the 1970s. Since 2010, several outbreaks caused by TMUV have been reported in duck farms in China, with severe egg drop syndrome. This series of outbreaks eventually spread to duck farms in Malaysia and Thailand. In addition to causing significant decreases in duck egg production, TMUV infection in ducks can also result in decreased appetite, depression, retarded growth, diarrhea and neurological dysfunction. Upon infection, morbidity rates are typically 90% to 100% and mortality rates range from 5 to 15% and occasionally increasing to 30% due to secondary bacterial infections. In previous studies, TMUV has also been noticed to cause similar clinical symptoms in TMUV-infected chickens and geese, and has also been isolated from mosquitoes, pigeons and sparrows. In Taiwan, TMUV was first identified in *Culex* mosquitoes and duck farms in 2019, and was also detected in goose farms afterward. In this report, we describe cases of TMUV infection in poultry farms in Taiwan; analyze the nucleic acid sequences of the isolated TMUV; and establish RT-PCR and real-time RT-PCR for detecting nucleic acids of TMUV in Taiwan, which detection limits are 1,000 and 10 copies, respectively.