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Singleplex real-time RT-PCR assay of porcine epidemic diarrhea virus (PEDV) viral load in Pampanga, Philippines

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Pampanga is one of the main sources of pork used for food processing and culinary in Central Luzon, Philippines. Recently, farm owners reported mortality among pigs due to a diarrhea which might be Porcine Epidemic Diarrhea Virus (PEDV). Recent qualitative studies showed the presence or absence of the virus. Here, we aimed to conduct an absolute quantification of the viral load in fecal samples from suspected sucklings and weanlings using a Singleplex Real-time Reverse Transcription Polymerase Chain Reaction (qRT-PCR). We report that the average viral load at the time of collection are Farm S Sucklings, 1.7×10^{-2} copy numbers (cn); Farm S Weanlings, 21×10^{10} cn; Farm R Sucklings, 9.0×10^7 cn; Farm R Weanlings, 1.3×10^6 cn. PEDV was detected at a sensitivity range of 1.89×10^{-7} up to 1.89×10^1 cn. The viral load reference index was as low as 4.44×10^{-21} cn and as high as 9.82×10^{16} cn. Given the positive result for PEDV and 100% mortality among the collected samples, it can be said that PEDV was present in the two farms of the province. These data may serve as a research-based reference for the department of Agriculture in crafting and implementing policies for the swine industry. Furthermore, it will encourage the industry to prepare management and preventive measures against the virus.

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