

# STATUS QUO AND RISKY FACTORS OF PORCINE REPRODUCTIVE RESPIRATORY SYNDROME IN DONG NAI PROVINCE

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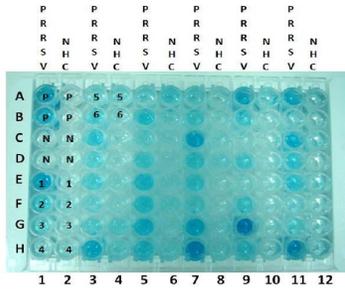
<sup>3</sup>NAVETCO company

Porcine Reproductive Respiratory Syndrome (PRRS) is still the heaviest threat for pig production in Vietnam. Dong Nai is the second largest region of whole country with many types of industrial pig production located here. Although, many advanced techniques have been applied for pig health care, the risks for PRRS are still lurking in pig farms of this area. The main purposes of this study are (1) to determine the status quo of PRRS in Dong Nai, including factors related to PRRS infectiousness, circulation of main PRRS virus strains in this area, and (2) to evaluate some risky factors that can affect to the spread of PRRS in this area and then to suggest some preventive solutions.

A survey was conducted on 156 pig farms located at three major districts for pig production in Dong Nai province, including Thong Nhat, Xuan Loc and Long Thanh. In these farms, there were

thirteen big farms with more than 1,000 pigs. Two sets of specific questionnaires were used for this survey. Total of 1,232 serum samples were collected from 93 pig farms with different production scales. The state of PRRS infection was determined by (*first*) ELISA test (HerdCheck\* PRRS Virus Antibody Test Kit 2XR, IDEXX Laboratories Inc. USA) to detect the existence of PRRS antibody (*second*) reverse transcriptase (RT) PCR (RT-PCR OneStep QIAGEN kit and procedure of National Veterinary Institute) and real-time PCR with Taqman probe (Real-time PCR iScript™ One-Step RT-PCR kit for Probe of Bio-Rad). The specific primer of PRRSV EU strain (followed by Kleiboeker et al, 2005) and specific primer of PRRSV NA strain (followed by Lurchachaiwong et al, 2007) were used in order to determine the existence for both of PRRS virus strains.





ELISA Plate



ELISA kit



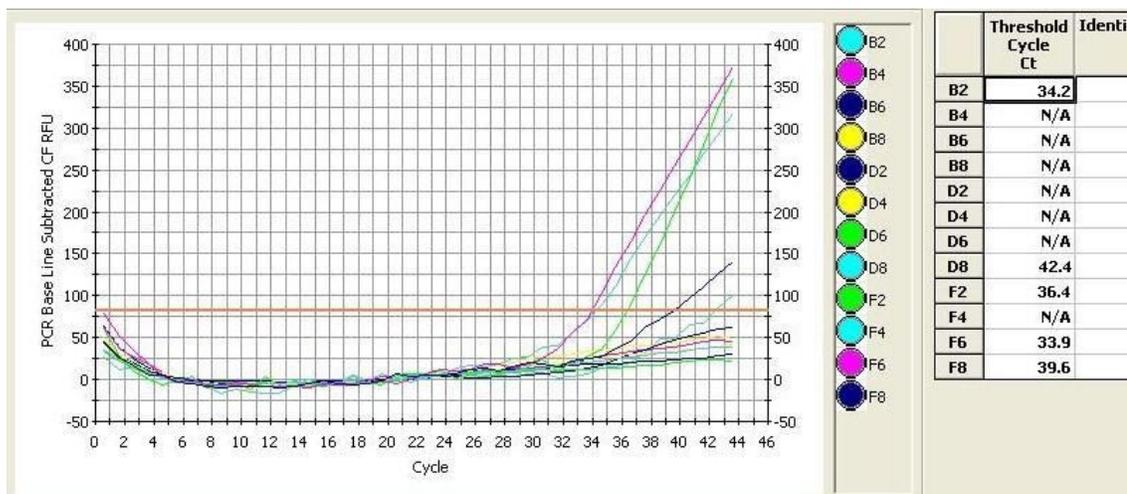
iScript™ One-Step RT-PCR kit for Probe (Bio-RAD)

Results of the survey have identified some factors related to PRRS infection and transmission. Based on positive ELISA test, the mean ratio of PRRS infection was 70.94 percents and it ranged between 50.06 and 80.37 percents among surveyed districts. In the period of this study, a small PRRS outbreak was found at Thanh Son village, Dinh Quan district, Dong Nai province in August, 2009.

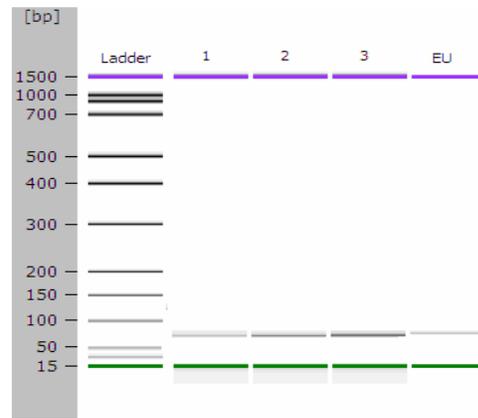
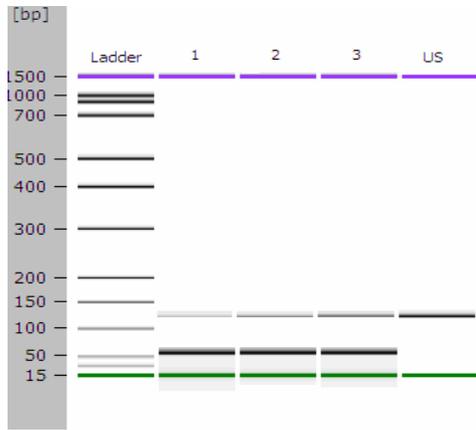
Some risky factors of PRRS infectiousness were also determined, including position of pig farm near to the main roads, unsuitable methods applied for stress reduction and for sanitary, too close distance from manure hole to pig shed. Moreover, poor rules for hygiene of in and

out farm, for isolation of new or infected pigs and using fresh semen from the boars without PRRS test were also the risk factors that needs to be interested in preventing PRRS infection.

In practical conditions of study area, some pig producers do not want to declare whether they applied for PRRS vaccination or not. This may affect to the evaluation of PRRS infection by ELISA test. Based on the test of 76 blood samples, there was 63.83 percent of these samples infected PRRSV-EU strain and 30.77 percent infected PRRSV-NA strain. For 25 fresh semen samples tested, about 84 percent of these was positive for PRRS virus.



Real-time RT-PCR with Taqman probe



Results of electrophoresis on DNA chip on both PRRSV EU and US strain (RT-PCR)

Based on above studying results, some preventive solutions have been suggested to help the farmers in this area to control PRRS.

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