

## EFFICACY OF A LIVE PRRSV VACCINE OF THE US GENO- TYPE IN A PRRSV POSITIVE SOW HERD

Watchara Somwongin,<sup>1</sup> Padet Tummaruk,<sup>2</sup> Dachrit Nilubol,<sup>3</sup>  
Sittichok Lacharoje,<sup>1</sup> Roongroje Thanawongnuwech<sup>1</sup>

*<sup>1</sup>Department of Veterinary Pathology, <sup>2</sup>Department of Obstetric Gynaecology and  
Reproduction, <sup>3</sup>Department of Veterinary Microbiology,  
Faculty of Veterinary Science, Chulalongkorn University*

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**Abstract** The objective of this study was to evaluate the efficacy of a modified live virus (MLV) of porcine reproductive and respiratory syndrome (PRRS) vaccine of the US genotype (Ingelvac $\gamma$  PRRS<sup>TM</sup> MLV, Boehringer Ingelheim, USA) in a PRRS positive sow herd (3,300 sows). The first study was a mass vaccination in the sow herd in order to increase herd immunity to the PRRSV. The second study was the gilt acclimatization using the MLV vaccine in 2 groups of the selected gilt pools. Those gilts were initially vaccinated with the MLV vaccine twice at 18 and 22 weeks old. A month after the mass vaccination, 95% of the sows were positive for the commercial ELISA whereas only 44% of those sows were previously positive. However, the number of positive animals was gradually decreased to 53% 32 weeks later, but 80% of the sows became positive a year after the first vaccination, possibly due to exposure to the new PRRSV strains. In the second study, averaged S/P ratio in the gilt pools were not different between before and after vaccination. However, the averaged S/P ratio were increased significantly when those gilts were moved into the sow herd due to the exposure to the new PRRSV strains in the farm. Serum neutralization (SN) test demonstrated no cross-protection among viruses tested but showed only the neutralizing titers against the field isolate (05SB3) faster and higher than those of both MLV vaccines. Interestingly, several new isolates (05SB1, 05SB2, 05SB3 and 06SB1) of both EU and US genotypes were found in the farm and showed highly variation of genetic diversity of the ORF5 among isolates. Vaccination failure in this study involved many factors including the presence of various PRRSV strains with no cross-protection in the farm, the existence of naive subpopulation with continuing PRRS shedding in the herd, herd management and other environmental factors. **Chiang Mai Veterinary Journal 2007;5(1):51-70.**

**Keywords:** modified live vaccine, porcine reproductive and respiratory syndrome virus, sow, US genotype

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