

The implementation of a monitoring tool (laryngeal sampling) in a gilt acclimation program for *Mycoplasma hyopneumoniae*: a case study



V. Rodriguez-Vega¹, J.A. Muñoz de la Fuente², J. Fernandez², S.Figueras-Gourgues¹, I. Hernández-Caravaca¹, R. Sala-Echave¹, E. Fano³

¹Boehringer Ingelheim España, S.A. Spain; ²Agrocesa, Valladolid, Spain; ³Boehringer Ingelheim Vetmedica Inc, St Joseph, USA

INTRODUCTION

Mycoplasma hyopneumoniae is one of the key contributors to Porcine Respiratory Disease Complex (PRDC). Control of PRDC will not be achieved until a proper acclimation program of the gilts to *M. hyo* before entering the breeding herd is implemented^{1,2}. *M. hyo* vaccines can control clinical disease but cannot prevent infection so that acclimation is a critical process of the Infection Chain™ concept.

Laryngeal swabs showed the highest sensitivity for early detection of *M. hyo* compared to other sample methods³.

This case study documents the use of laryngeal swabs as a monitoring tool to optimize and validate a gilt acclimation program for *M. hyo*.

MATERIALS AND METHODS

This case study was documented in a *M. hyo* positive 3,000 sow farrow to feeder farm *M. hyo* positive, located in the central region of Spain. The gilts for this site and for another 3,000 sow farm site of the same production system, are born and raised in the site of the study. 30 randomly selected gilts were sampled at 70, 90, 112 and 132 days of age, using laryngeal swabs to assess the pattern of infection and shedding of *M. hyo*. According to the results we intended to use the age group of gilts with the highest *M. hyo* excretion rate as seeder pigs for acclimation of new arrivals in the AI/AO per room gilt development unit. The final goal of the acclimation protocol is to promote early exposure during the acclimation process.

Five months later we sampled again gilts at 75, 95 and 120 days of age to determine if there had been a change in the pattern of shedding. We ran real time PCR in pools of 3 samples.



Picture 1: Sampling laryngeal swabs.

RESULTS

Percentage of PCR positive gilts in first sample is shown in figure 1. With 90 days of age we found a 100% of PCR positive gilts, so we decided to use gilts of 90 days of age as seeder pigs for new arrivals entering the development unit at the age of about 55 days.

In the second sample, we saw that the age with a high shedding was delayed to 120 days of age; therefore we adjusted the acclimation protocol and we used gilts of 120 days of age as seeder pigs.

Figure 1: First laryngeal swabs sampled from gilts between 70 and 132 days of age.

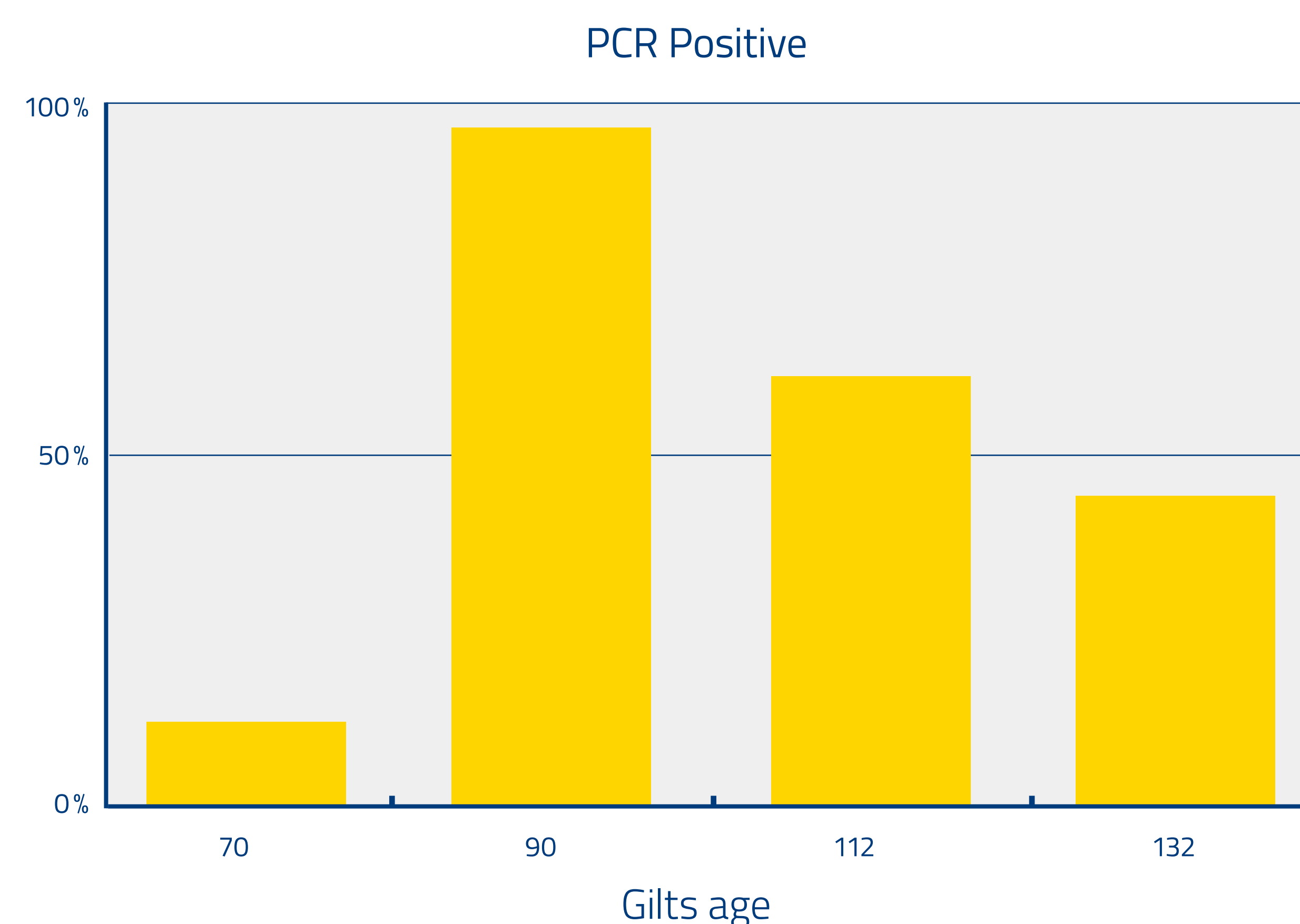
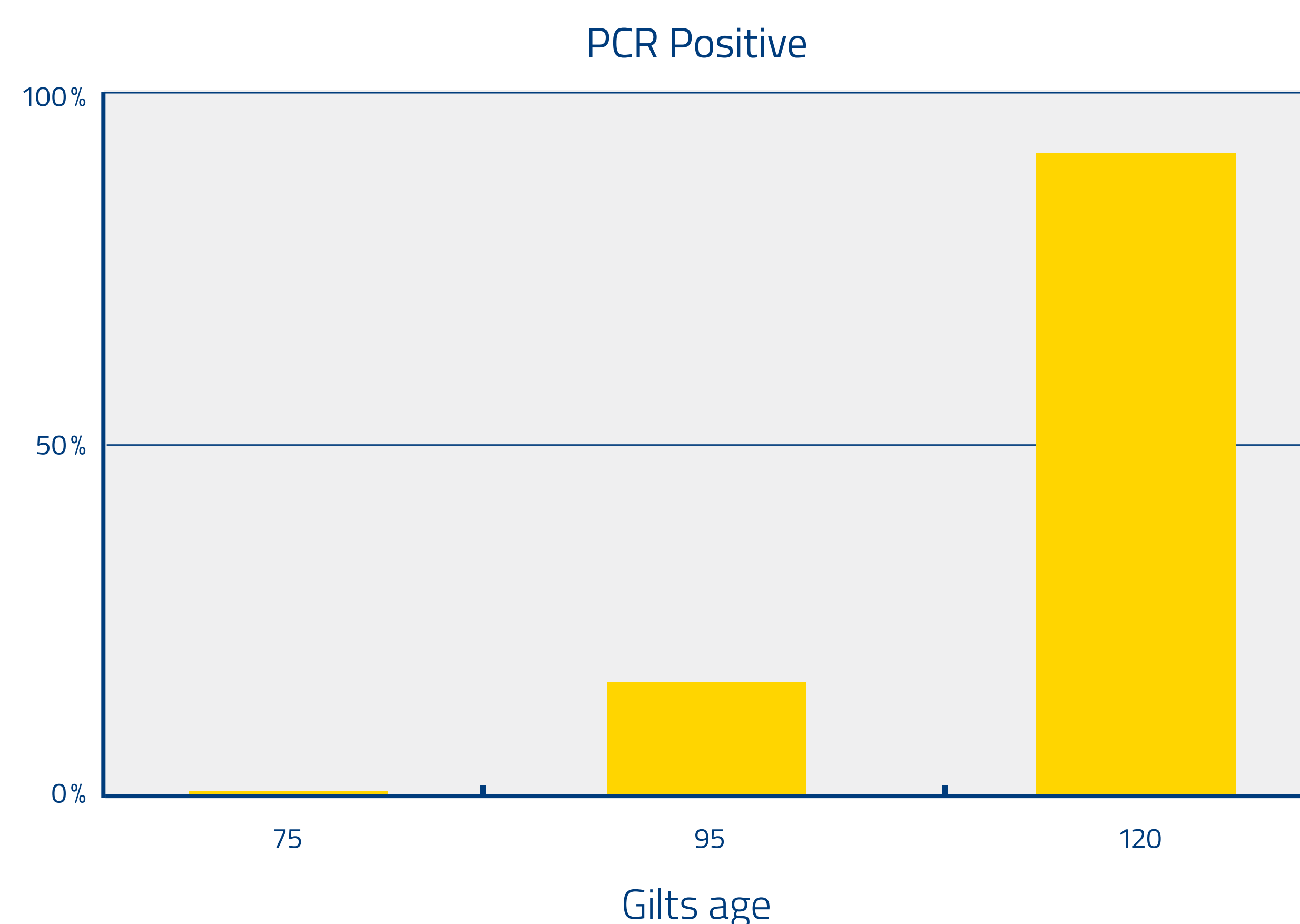


Figure 2: Second laryngeal swabs sampled from gilts between 70 and 132 days of age.



CONCLUSION AND DISCUSSION

A proper gilt acclimation program is necessary in order to control *M. hyo*. Laryngeal swabs are a good tool to assess the shedding status of the gilts to identify seeder pigs for acclimation, allowing a proper adjustment of the program. Due to possible shifts in the age groups with highest shedding status, a periodical re-evaluation of the shedding status is recommended to optimize the acclimation program.

REFERENCES

1. Lowe, et al. (2012) Allen D. Leman Swine conference 83 – 85.
2. Fano, et al. (2015) AASV Meeting 175 – 176
3. Pieters, M., et al. (2013) Allen D. Leman Swine Conference: 75 – 76.

