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Serological behavior study of *Actinobacillus pleuropneumoniae* (App) in swine commercial herds from the central region of Chile

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Actinobacillus pleuropneumoniae (App) is the etiologic agent of the porcine contagious pleuropneumonia, one of the most important bacterial diseases of the respiratory track, and also of great relevance in the world pig production. In Chile it has been done just one study on App. For that reason the objectives of this research were to determine the maternal immunity duration, the animals' age seroconversion and the apparent and true prevalence in 7 swine commercial Farm.

Sixty samples per herd were taken and divided in 10 samples from animals of 4, 6, 10, 14, 18 and 21 weeks of age, which were analyzed by ELISA[®]. Two different method were used in order to estimate the true prevalence, the first one was by "Survey Toolbox" software version 1.04 (Kennedy y col 2005. <http://www.ausvet.com.au>), with a sensitivity and specificity of 99% in ELISA technique and the second one was through a formula that use the apparent prevalence and the sensitivity and specificity of the ELISA technique.

From the 420 samples, 134 were positives where 112 belonged to pigs under 10 weeks of age and only 22 were from animal over 10 weeks of age, which seroconverted presumably because a natural infection. About maternal immunity duration it was found that around 10th weeks of age, the animals lost their colostrums antibodies. In seroconversion from 18th weeks of age begun to appear animals with their own circulating antibodies. Two from the 7 herds did not seroconverted after the maternal immunity drop, but other two presented a seroconversion over 50% at 18th weeks (Figures 1 and 2).

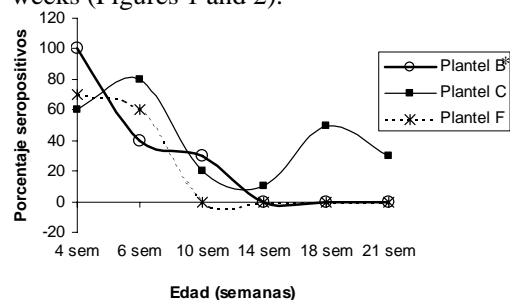


Figure 1: Population immunity patterns evolution of Herds (B y F) that did not seroconverted after the maternal immunity drop and the only herd pattern (C) that showed positive animal during all weeks of samples. *: It indicates that the population immunity curve of Farm B is overlapping from the 14 weeks with the one of Farm F.

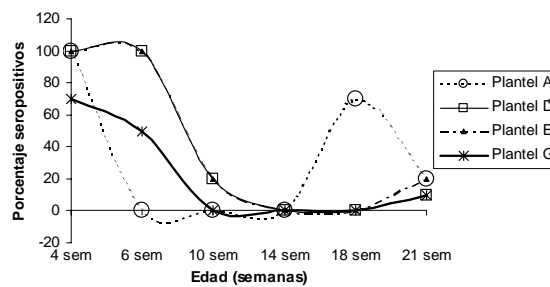


Figure 2: Population immunity patterns evolution of Herds (A, D, E and G) that seroconverted after the 10th week. *: It indicates that the population immunity curve of Farm D is overlapping until week 18 with the curve of the Farm E and then with the one of Farm G.

The apparent prevalence was 10,48 %, with a range of 0 to 30%, meanwhile the true prevalence calculated by two statistics methods was 9.6% (CI: 7.6% -11.7%), with a range of 0 to 30.4%, and 10.68% respectively.

In that way it was proved that the prevalence in the analyzed herds is similar than the one found in USA, presumably because of types of production system and the serotypes presented in both countries. On the other hand, although most of the herds seroconverted immediately after the maternal immunity drop, it was seen different serological patterns among them.

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