

Economic impacts of the vaccination with ECOPORC SHIGA in a closed herd farm



Rik Lemey, Luk Willems

Clinique vétérinaire de l'Elorn-Landerneau, France

Paul Créac'h

IDT Biologika sarl, Nantes

Objective

The aim of this study is to determine the economic impacts of Oedema Disease on an affected herd and the return on investment due to the use of the vaccine ECOPORC SHIGA.

Material and methods

The farm is a closed herd farm (300 sows) which previously solved post-weaning *E. coli* diarrhoea problems via metaphylactic use of antimicrobials and restriction of feed. In November 2013, the first batch was affected with ED. Two to three weeks after weaning 6.9% of the piglets had died from ED. First it was tried to control the disease with antibiotics and changing the feed structure. Despite these measures, the mortality increased even further (13.6% from weaning to slaughter house) and the daily weight gain (DWG) decreased (from 721 to 707 g/day). Finally it was decided to vaccinate the following batches with

ECOPORC SHIGA after the presence of shigatoxin producing *E. coli* had been confirmed via microbiology and subsequent PCR analysis. The study is based on the comparison of three different periods:

- before the outbreak of ED (01/2013 to 10/2013: 10 months)
- during the outbreak ED (from 11/2013 to 06/2014: 8 months)
- since the start of vaccination (07/2014 to 10/2014: 4 months)

Results

- **Percent mortality:** from 6.2% before, it increased to 13.6% during the outbreak and decreased again to 3.1% since the implantation of the vaccine
- **DWG:** from 721 g before, it decreased to 707 g during the outbreak and increased to 739 g with the vaccine allowing a heavier weight at slaughter house from 114.9 to 116.4 kg.
- **Costs of antibiotics:** before the outbreak the cost of antibiotics had been already high (€1.59/piglet), during the disease it increased to €1.61 but with the vaccination, it decreased to €1.15.

Following these results, 2 calculations of the economic impact of ED and the return of investment of the vaccine were made:

1. **Vaccination period vs. outbreak period:** The economic impact was €7.36 per piglet produced. The net gain of the vaccination is €6.90 per piglet (374% ROI) due also to the increase in DWG.
2. **Vaccination period vs. the period before ED:** The net gain of the vaccination is €1.78 per piglet produced (nearly 100% of return on investment)

Conclusion: This study shows that the economic impacts of an outbreak of ED are not only due to the increase in mortality, but also due to an increase in therapeutic costs as well as the decrease in DWG. Vaccination with ECOPORC SHIGA increases the profitability by the reduction of the losses, the reduction of the use of antibiotics and the increase of the DWG. Then, the return on investment is assured. ■