

# Parvovirus (PPV)

## reproductive losses represented by:

Parvovirus, caused by porcine parvovirus (PPV), together with Erysipelas and leptospirosis, is one of the main infectious causes of reproductive loss in swine. PPV multiplies normally in the intestine of the pig without causing clinical signs. However, it can cause **serious reproductive problems in susceptible pregnant females** (usually gilts and low parity sows without immunity against the virus).

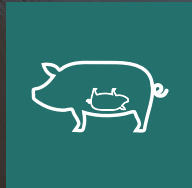
**In susceptible pregnant pigs, predominantly gilts, the virus crosses the placental barrier causing reproductive losses**



Stillbirth



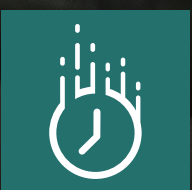
Mummification



Embryonic death



Infertility (SMEDI-syndrome)



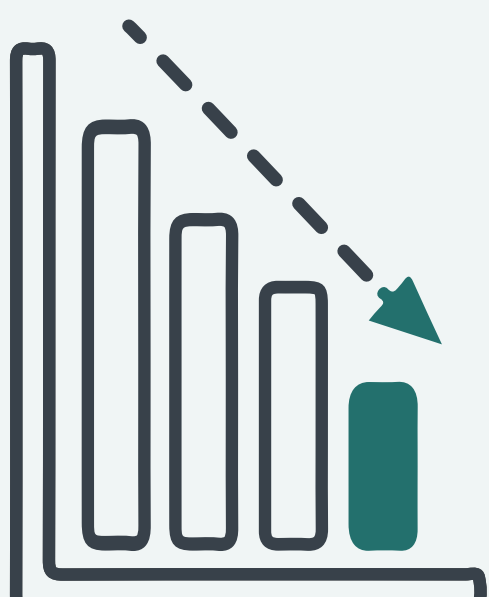
Delayed return to oestrus.



## Economic impact

IA PPV **outbreak in a 300-sow farm**<sup>1</sup> has been estimated to result in:

- A shortfall of **678 weaned piglets or 2.26 pigs** per sow per year
- A cost of up to US **\$28,340 (\$95 per sow)**



<sup>1</sup> M.E.C. White, personal communication.



## Prevalence

PPV **can persist in the environment for many months and it is resistant to most disinfectants**. That is why PPV is **widespread distributed and so difficult, if not impossible, to eliminate** from swine herds.

Thanks to the **widespread vaccination in breeding herds**, a **low PPV prevalence of 6.2% has been recently reported** in cases of abortions from Italy.<sup>2</sup>

<sup>2</sup> Salogni C, et al. Infectious agents identified in aborted swine fetuses in a high-density breeding area: a three-year study. J Vet Diagn Invest. 2016.

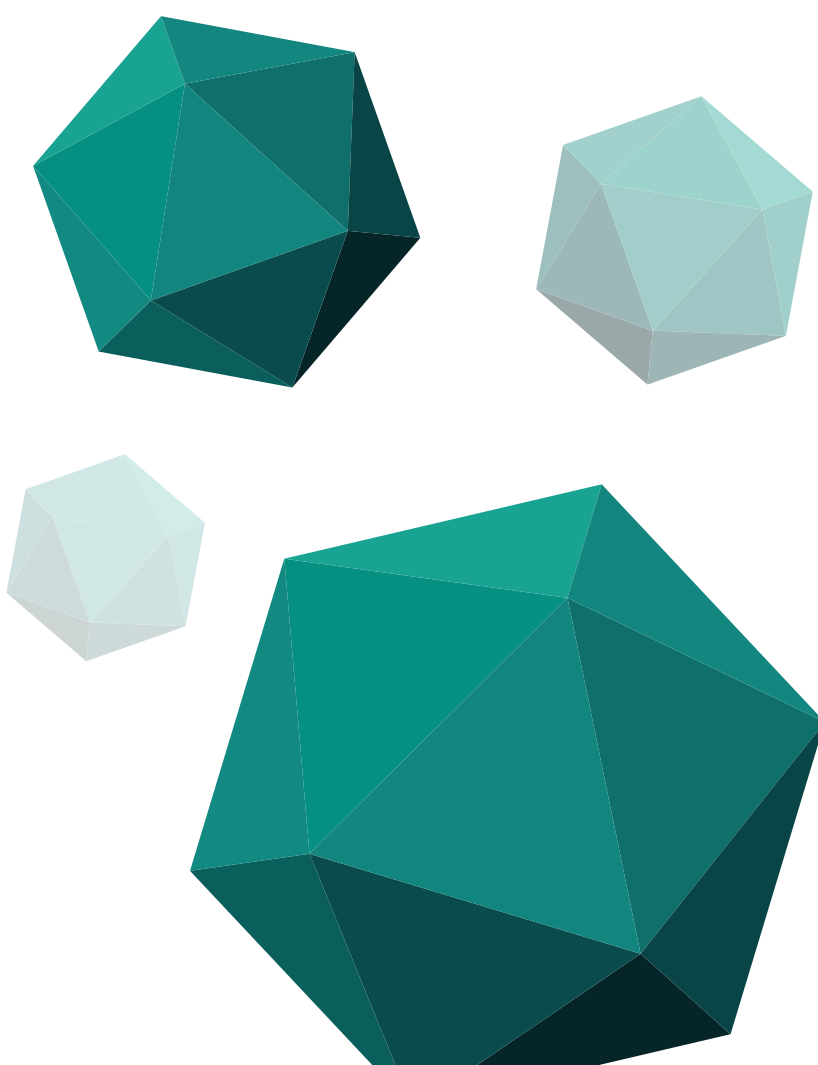


## Diagnosis

**PPV infection is inapparent in all swine except developing fetuses.**

**Key points to recognize parvovirus:**

- Increase in the number of mummified and stillborn piglets.
- Different sizes and degrees of foetal mummification.
- Litter scatter.
- Infertility and failure to farrow.
- Irregular return to oestrus of mated animals.



When fresh foetal tissues are available, **detection of PPV by PCR is the test of election**. If they are not available, serology in dams may be useful.

Since maternally derived antibodies cannot cross the placental barrier, **foetus antibodies (in serum or fluids) are indicative of intrauterine infection**.



## Treatment and prevention

**Control and prevention of PPV are key** to ensure good reproductive performance in breeding herds. They should include:



Biosecurity



**Cleaning and disinfection**  
(especially important as E. rhusiopathiae can remain infectious for long time periods).



**Vaccination to improve immunity and reduce disease prevalence**

No herd, irrespective of its health status, **is likely to be free of PPV infection** and therefore **eradication is not possible or very unlikely**.