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## Spread within a herd

PRRS virus tends to circulate indefinitely within a herd due to the persistency of infection in carrier animals and the continuous availability of susceptible animals by birth or purchase.

Typically, this virus is perpetuated by a cycle of infection from mothers to piglets in utero or co-mingling of affected and free stock.

Even with an endemically infected herd transmission rates vary within litters – some litters seroconverted at 6-8 weeks, while others reached 12 weeks of age without seroconverting.

## Spread between herds

The role of infected pigs, semen and aerosols in spreading PRRS between herds is well documented. Up to 80% of herds breaking with PRRS got their infection from a nearby pig unit and this was due in no small part to poor compliance with biosecurity protocols.

The risk of a herd becoming infected increases with the density of PRRS infected herds nearby. In an analysis of sources of infection 45% of herds had become infected from a herd close by (<500m away) and only 2% from a herd far away (>1 km away).

On the other hand, evaluation of ORF5 gene sequences from 55 herds in the Midwest of the USA found that genetic relatedness of isolates did not correlate with distance and concluded that PRRS virus was most commonly introduced into herds via semen or animals.

## Environmental stability

Shedding of PRRS virus via saliva, urine and faeces results in environmental contamination. It also creates the potential for transmission on fomites.

However, PRRS virus is fragile and quickly inactivated by heat and/or drying. The half-life of the PRRS virus is as follows:

Temperature (°C)	Half-life (hours)
4	155.0
10	84.5
20	27.4
30	1.6

## Disinfection

PRRS virus decontamination programmes involving drying, heat assisted drying or foaming disinfectants containing glutaraldehyde and quaternary ammonium chloride compounds are effective at inactivating the PRRS virus.

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