



« Seroprevalence of PRRS in Wallonia, preliminary results »

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- Introduction
- Materials and methods
 - Sampling
 - Serology
 - Investigation
- Results and discussion
- Conclusion



INTRODUCTION

Porcine reproductive and respiratory syndrome (PRRS) causes major economic losses in pig farms.

A national plan is in progress.

A low density area of pig production (<0.05 pig farms/km²) has specificities to highlight.

The objective of the present study was to evaluate the apparent prevalence of PRRSv in Wallonia.

Herd prevalence recorded in Germany (85-90%) (Fahrion and al., 2011), in the United Kingdom (79%) (Evans and al., 2008) and Northern Belgium (100%) (Maes, 1997).

1. MATERIAL AND METHODS

1.1. Sampling

- Sera collected in 2016 from Walloon farms as part of the official monitoring plan "Aujeszky" and forwarded to ARSIA (-20 °C).
- In each farm, a maximum of 10 breeders and/or 5 piglets or fattening pigs were tested.



1. MATERIAL AND METHODS

1.2. Serology

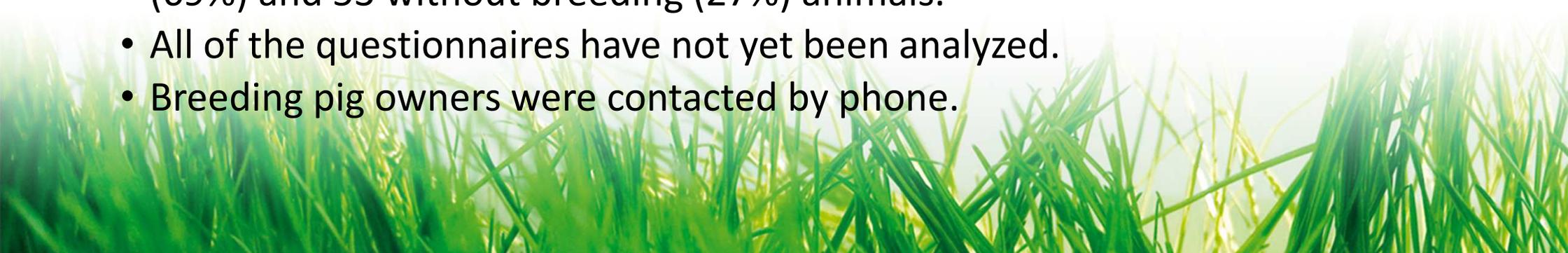
- An Elisa test (Idexx HerdCheck PRRS X3[®], USA) was performed for the detection of antibodies against PRRS on pig serum samples
- An individual result was considered negative if the s/p ratio was <0.4 ; a herd was considered positive if an S/P ratio ≥ 0.4 was obtained by at least one of its pigs.



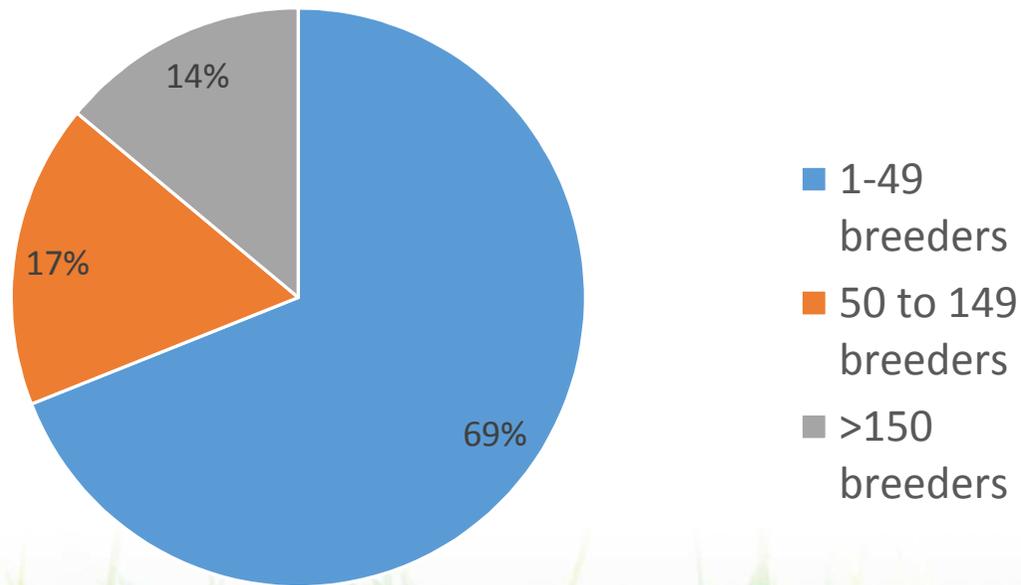
1. MATERIAL AND METHODS

1.3. Investigation

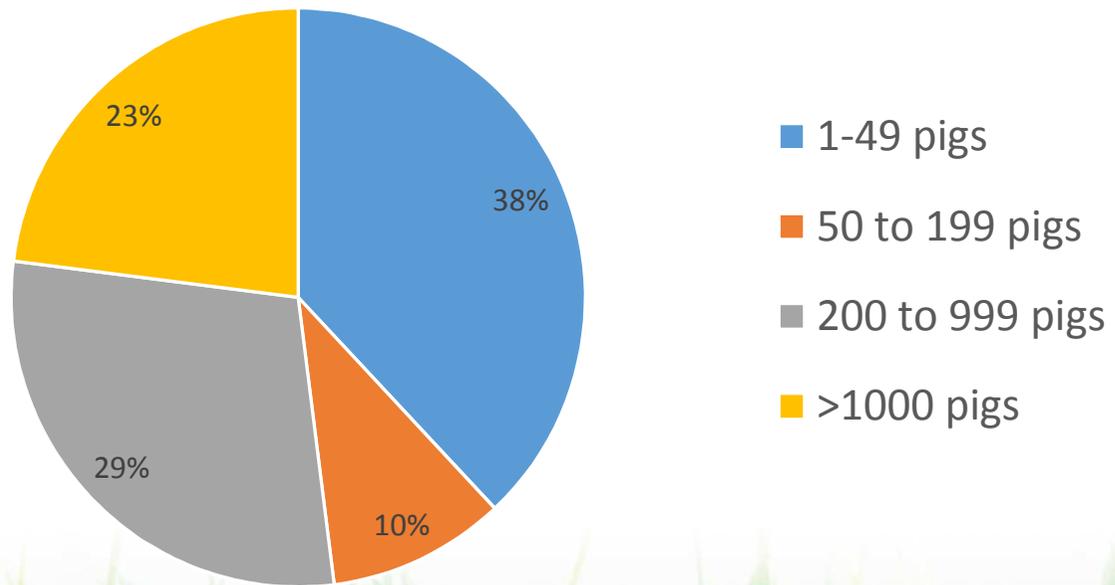
- A total of 1786 sera were tested: 585 sera from sows and 1201 sera from piglets or fattening pigs.
- A questionnaire was sent to each farm concerned by the study :
106 breeding pig owners (farrowing n=30, and farrow-to-fattening n=76) and 203 farms with piglets and/or fattening pigs.
- A total of 126 herds responded to the questionnaire: 73 with breeding (69%) and 53 without breeding (27%) animals.
- All of the questionnaires have not yet been analyzed.
- Breeding pig owners were contacted by phone.



The herd of breeding pig owners distribution (number of breeders)



The herd of piglets and/or feeder pigs distribution (number of pigs)



2. RESULTS AND DISCUSSION

- Of the individuals tested, 48% of fattening pigs (n = 1201) and 39% of sows (n = 585) were serologically positive.

The overall individual apparent prevalence was 45% (IC 95%: 43-47%).



Apparent individual prevalence

- For breeding pig farms with or without fattening, 30% of pigs for fattening (n = 324) and 39% of sows (n = 585) obtained a S/P ratio ≥ 0.4 . The individual apparent prevalence was 36% (IC 95%: 33-39%).
- For feeder farms, the individual apparent prevalence was 54% (IC 95% : 51-58%) (n = 877).

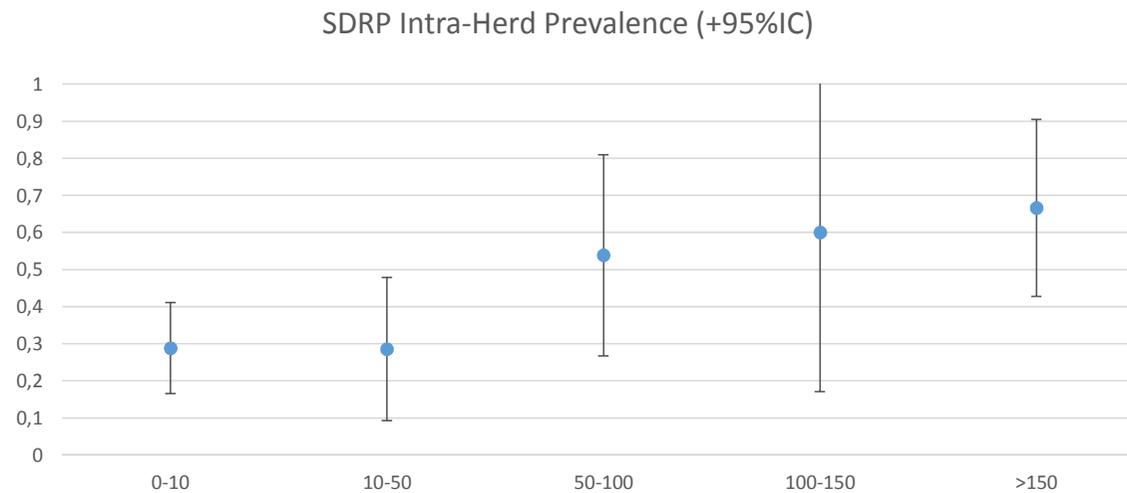


Apparent prevalence of herds

- The apparent prevalence of herds of piglets and/or fattening pigs was estimated at 67% (IC 95%: 61-73%).
- The apparent prevalence of herds with farrowing and farrow-to-fattening was estimated at 36% (IC 95%: 27-44%).



Relationship between the seroprevalence of PRRS according to the size of breeding farms (number of sows)



Chi-square= 10,197 (P = 0,037)

2011-2012 versus 2016

Apparent prevalence	2011-2012 *	2016
at herd level	48% (IC 95%: 39 – 57%)	36% (IC 95%: 33 – 39%)
at animal level	32 % (IC 95%: 29 – 35%)	36% (IC 95%: 27 – 44%)

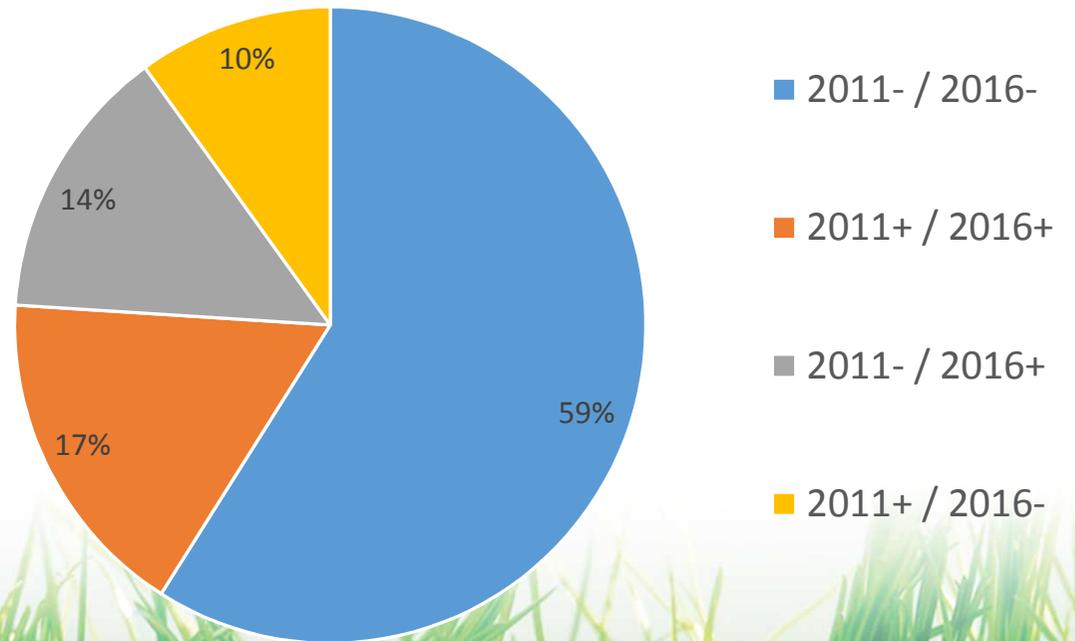
*Czaplicki et al, 2015)



2011-2012 versus 2016

58/106 farms with breeding tested in 2016 were already tested in 2011.

Comparing serological results obtained in the same farms in 2011 and 2016



Investigation: preliminary results

126 herds responded to the questionnaire:

73 with breeding animals (rate of participation: 58%)

53 without breeding animals (rate of participation: 42%)



Among the 73 farms with breeding pigs:

PRRS analyses (68 answers/73)

29% had already carried out analyses for the research of PRRS virus during the last 3 years on breeding animals, 10% said they had a positive result.

In the remaining 71% of farms, 11 farms vaccinate sows and 2 vaccinate piglets.



Among the 73 farms with breeding pigs:

Vaccination (64 answers/73)

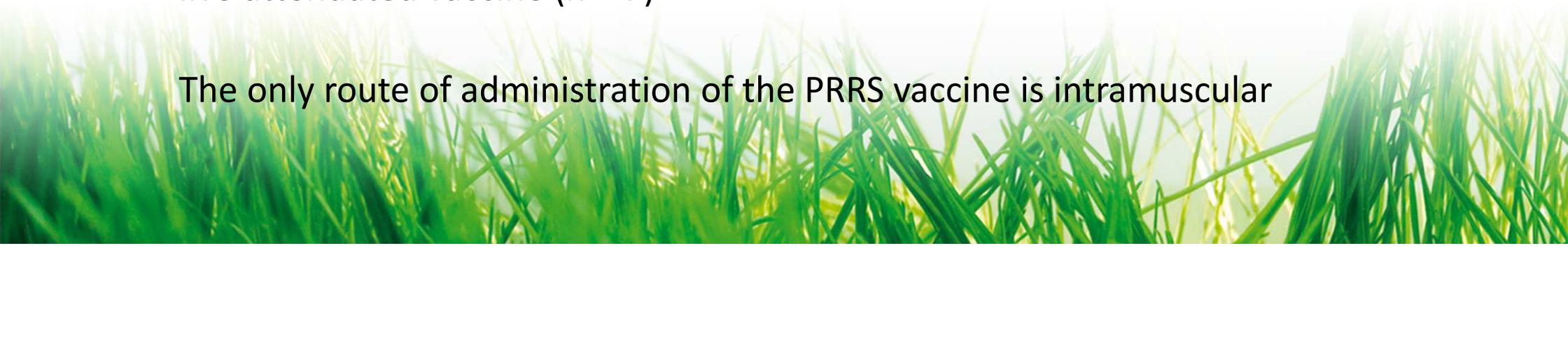
25% of breeders are vaccinated against PRRS with a live attenuated vaccine (n = 6) or an inactivated vaccine (n = 9) or a combination of both (n = 1)

In 2011-2016: 21% (n=113) of breeders were vaccinated against PRRS with a live attenuated vaccine (n = 11) or an inactivated vaccine (n = 13) or a combination of both (n = 1)*

In 5 this farms, the piglets/fattening pigs are also vaccinated.

10% of piglets/fattening pigs in the 73 farms are vaccinated against PRRS with a live attenuated vaccine (n = 7)

The only route of administration of the PRRS vaccine is intramuscular



Among the 73 farms with breeding pigs:

In the 54 breeding pig farms (with or without fattening) where no vaccination against PRRS is performed (neither sows nor piglets/slaughter pigs)

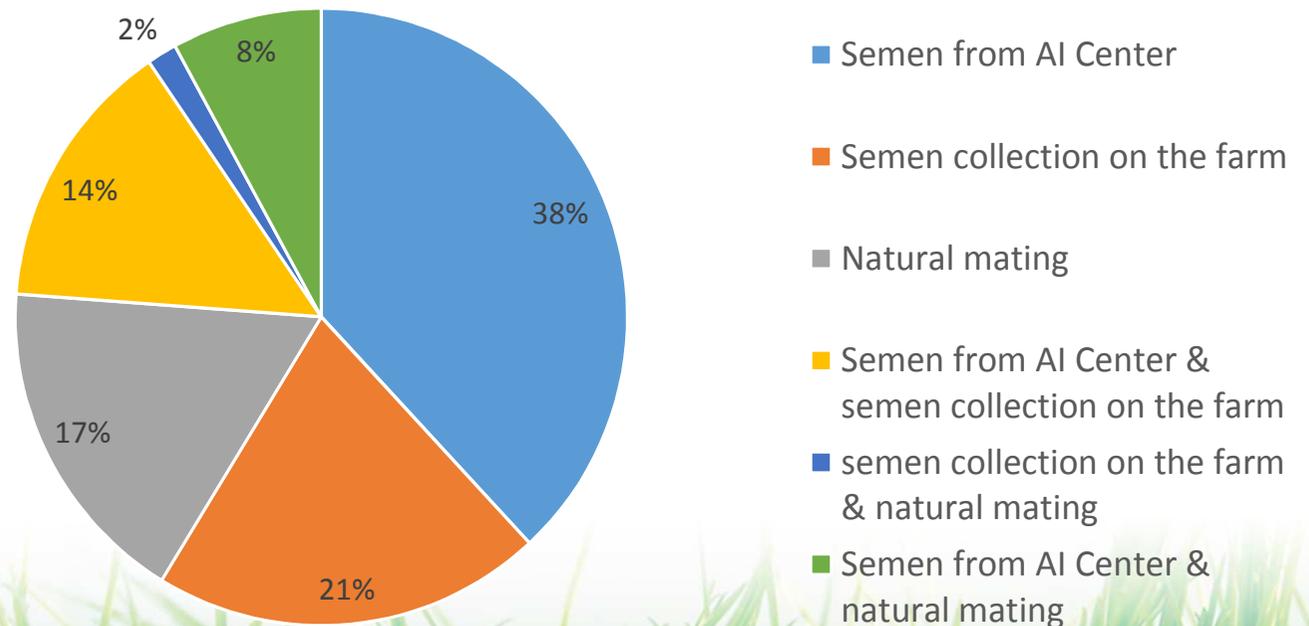
- The individual apparent prevalence was 23% (IC 95%: 19-26%), 18% of fattening pigs (n = 157) and 26% of sows (n = 257) obtained a S/P ratio ≥ 0.4 .
- The herd apparent prevalence was 33% (IC 95%: 21-45%)



Among the 73 farms with breeding pigs:

Origin of semen

35% of the farmers answered to know the negative PRRS status of the semen supplier (n=43)



Among the 73 farms with breeding:

Gilts & Boar (64 answers/73)

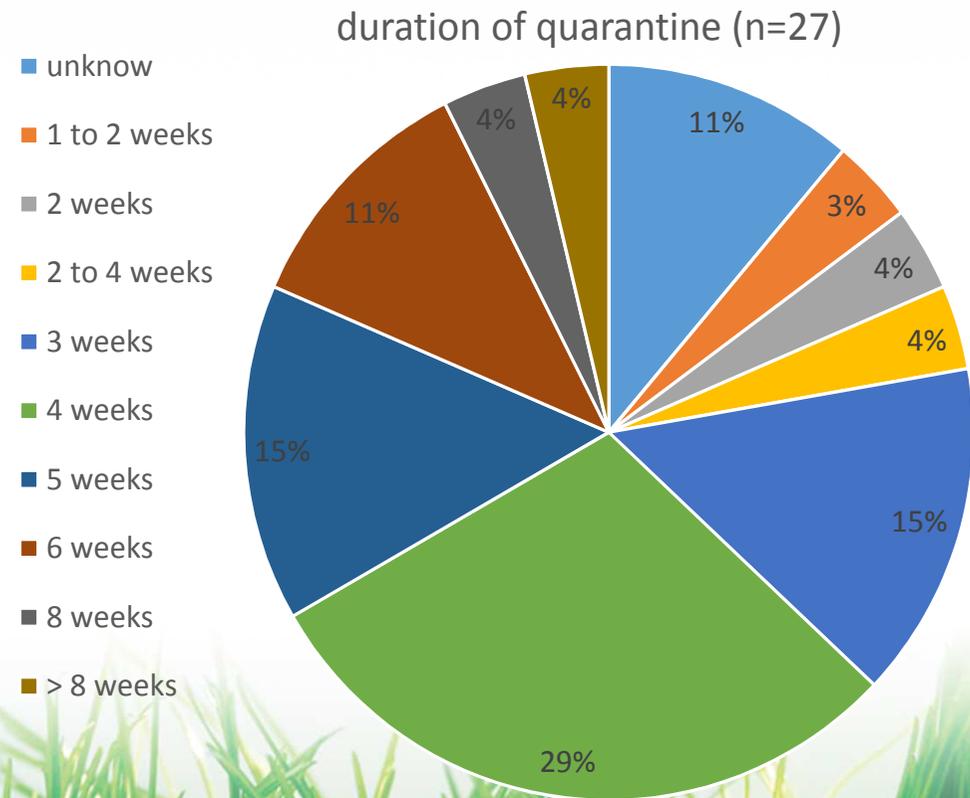
- 77% of farms practice self-replacement.
- 54% do not buy breeders (neither gilt nor boar).
- 34% of breeders indicated the origin of their supplier:
Wallonia n = 11, Flanders n = 6, Outside Belgium (Germany, Denmark) n = 5.
- To the question: “Take into account the PRRS status of the breeding gilts and boar(s)”, 39 farmers answered: never (62%), always (30%), sometimes (8%).



Among the 73 farms with breeding pigs:

Quarantine

- Presence of quarantine in 49% of farms (n=55)
- Duration of quarantine



Among the 73 farms with breeding pigs:

Intra-muscular injections

Only 30% of breeders answered the question (n = 22).

6/22 use single-use needles and only 3 of them use one needle per sow.



Among the 53 fattening pig herds:

- For the origin of pigs, only 26 farmers answered replied: 9 from several origins (Belgian) against 17 from a single origin (6 from The Netherlands)
- To the question: "Do you know the PRRS status of the breeder supplying piglets", the answers were : sometimes (n=1), always (n=3), never (n= 22).
- In 3/30 farms, the piglets are vaccinated against PRRSV



Conclusion

This study allowed to show the PRRS serological situation and evolution over 5 years in the Walloon pig farms .

It can serve as a basis for future perspectives.

Improve biosecurity measures and control risk farming practices



- In a region with a low density of pig production, a specific control plan must be considered in order to control, or even to eradicate, the disease in the long term.
- In a large number of negative farms (apparent herd prevalence: 36%) the priority is to confirm a negative status, and follow-up in a way to maintain it
- Adequate individual and collective measures to be taken so that negative farms remain negative



Thank you for your attention



THANKS

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