



ASF cross-sectional study in Neverland

Thailand

Pawares Panyasomboonying
Dhamonwon Luangtrakool
Piyanart Lekcharoensook

Objectives & Expected outcomes

Objectives

- To find the extent of disease by determine seroprevalence of ASF
- To find sources of virus introduction into the country and transmission routes between households, villages and regions.
- To know about contributing risk factors and which type of farms and regions are at higher/lower risk of infection.

Expected Outcomes

- Risk factors
- High/Low risk region and farm
- Source of virus introduction and Transmission route

Target group and case definition

- Target group : Pig farm from 15 administrative regions in September 2021
- Case definition at household level : The households that have pig with ASF clinical sign such as fever, bloody diarrhea ,distinct (red) area on skin of neck, chest, and extremities, cyanosis at the tips of ear or necrosis lesions on skin of the abdomen , neck and ears and test positive for ASF in past three months.
- Case definition at animal level : The pigs that have ASF clinical sign and test positive for ASF in past three months

Stepwise approach of investigation

- Establish team (Veterinarian from head quarter, laboratory staff, district level veterinarian, sub-district veterinarian)
- Define objective
- Create plan
- Preparing tools (Boots, gloves, disinfectants, laboratory tools)
- Collaboration with local people , farmer ,local vet
- Public awareness , control measures risk communication
- Collect the information
- Analyze results
- Report

Study size

- Total sample 214 farms for study risk factor will be divided into proportion in 15 region based on the pig population in each region and 969 samples for prevalence will also be divided based on the population of pig in each farm. (Probability to proportional to size sampling)
- Farm and household that have pigs around 2-250

Results and Live Interpretation

 Download

Assuming that 30% of the subjects in the population have the factor of interest, and a design effect (DEFF) of 3, the study would require a sample size of:

969

Risk factors associated with occurrence of African swine fever outbreaks in smallholder pig farms in four districts along the Uganda-Kenya border

Noelina Nantima • Michael Ocaido • Emily Ouma •
Jocelyn Davies • Michel Dione • Edward Okoth •
Anthony Mugisha • Richard Bishop

Using an estimated prevalence of ASF in pigs of 0.3 (Okoth et al. 2013), a sample size of 645 households resulted after design effect of cluster sampling was accounted for as indicated above. The methodology used to select households

Cohort and cross-sectional studies and clinical trials: Sample size, power and minimum relative risk

Please enter the ratio of the two sample sizes (group 1/group 2)	1
Please enter the estimated proportion in the reference group (group 2)	0.10000
Please enter the values for two of the following parameters, and ? for the parameter to be calculated	
Sample size (both groups combined)	?
Power	80.0 %
Relative risk to be detected	2.44
Type I error 5.0 Sides 2 To change these values return to Start	

Results	Total	Group 1	Group 2	
Sample size	214	107	107	Return to start
Power	80.0 %			
Minimum detectable relative risk>1	2.44	Maximum detectable relative risk<1		

Risk factors for African swine fever incursion in Romanian domestic farms during 2019

A. Boklund,¹ S. Dhollander,² T. Chesnoiu Vasile,³ J. C. Abrahantes,² A. Bøtner,^{4,5} A. Gogin,⁶
L. C. Gonzalez Villete,² C. Gortázar,⁷ S. J. More,⁸ A. Papanikolaou,² H. Roberts,⁹ A. Stegeman,¹⁰ K. Ståhl,¹¹
H. H. Thulke,¹² A. Viltrop,¹³ Y. Van der Stede,² and S. Mortensen¹⁴

Professional visit in HRP 544 113-343 003 3'08-12'0 5'86-00 ***

following the confirmation of outbreak in the matched outbreak farm. The required sample size for each herd type was estimated to 468 farms, based on an odds ratio of 2.5, a prevalence of exposure among control farms of 0.1, a power of 0.9 and a ratio of outbreak to control farm of 2. As this goal was reached

Stakeholder involved

- How are pig households and/or piggeries accessed (who is sampling, who administers a questionnaire)?
 - Para veterinarian group will collect the sample in this study (random blood sampling from > 6 months pigs)
 - Multistage sampling (random village > household > animals)
 - Veterinarian staff at administrative region will administer a questionnaire
- Who provides information, who are local people to be involved?
 - Farmer can provide the answer in questionnaire
 - Slaughterhouse provide the social network of farm
 - Animal trader provide trading information
 - Local veterinarian and para veterinarian provide the outbreak information

Source and transmission

- Risk factor
 - Location (how far from infected farm)
 - Introduction of new pigs from infected region
 - Feeding practice (swill)
 - Biosecurity
 - herd size
 - wild boar abundance around the farm
 - Sharing tools among farmer
 - Visit of professionals working on farms

Questionnaire

Which region is your farm/household located?

- ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10
☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15

Please provide latitude and longitude of your farm?

Did you bring in new animal in your herd (close or open herd)?

- ☐ Yes ☐ No

If yes, which region did you import?

- ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10
☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15

When is the last time you import (month)?

How many pigs in your farm/household?

- ☐ <50 ☐ 51-100 ☐ 101-250

How many pigs in each age group?

< 1 months :

1-2 months :

> 2 months :

Do you have visiting of professionals working on your farms?

- ☐ Yes ☐ No

How do you feed your pigs?

- ☐ commercial feed ☐ Swill ☐ Mix feed

Do you feed your pigs with swill feed ?

- ☐ Yes ☐ No

If yes, the swill is cooked or not ?

- ☐ Yes ☐ No

And how often do you feed your pigs with swill feed ?

- ☐ Everyday ☐ Every week ☐ Every month

Do you have any wild boar around your farm/household?

- ☐ Yes ☐ No

Did you share your tools with other farm/household?

- ☐ Yes ☐ No

Biosecurity checklist in your farm/household

- ☐ Changing cloth before/after work
☐ Daily disinfection tools and pens
☐ Boots dipping in disinfectant before/after working
☐ Having quarantine station

Production loss

- Develop criteria and questions to evaluate the production loss associated with mortality and morbidity due to ASF at the household level.

- Reproduction performance
- Mortality rate
- Pig weight
- Treatment cost
- Carcass disposal

Average newborn per sow in farm?

How many pig show ASF clinical sign and died in last 3 months?

Ask for production record from farmer such as pig weight.

Summary /discussion

- Proportion of positive/negative farm maybe different due to the outbreak in each region. (Effect to analysis of risk factor)
- Herd size may be different in each region, some may have only big farm or only small farm.
- Wild boar investigation should be conducted.
- Selection bias may occur due to misdiagnosis from similar clinical sign to PRRS/CSF and minimize by specific criteria of clinical sign and laboratory testing.