



中国动物卫生与流行病学中心
China Animal Health And Epidemiology Center



MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA
UNIVERSITY OF NEW ZEALAND

Cross-sectional Survey of African Swine Fever

China

Mengda Liu, Linlin Fang, Yang Li

Objectives & Expected outcomes

- Investigate where the ASFV has spread
- Figure out the sources of ASFV
- Understand the transmission routes
- Find the risk factors
- Assess the economic loss

Target group and case definition

Target group:

- Visit households or commercial piggeries; Interview local veterinarians or para-vet worker
- Sample pigs or wild boar among potential risks

Household level case definition:

- Pigs were seen as lethargy, diarrhoea, or acute haemorrhagic fever.
Most infected animals were dead.
- Survived infected pigs are positive in ELISA.

Stepwise approach of investigation

- Background investigate
 - Revisited the ASF outbreak sites (the cases in past and last 3 months)
- Case definition
- Control definition
 - No ASF signs; in the same village with recent case; farmers are willing to participate; randomly chosen
- Find Potential Risk Factors
- Make Questionnaire
- Evaluate Loss

Study size

- In the past outbreak site, **30** faeces samples of wild pigs near the village are collected.
- In the recent outbreak, the blood of pigs surrounding case farm (a radius of 1 kilometers) are collected to take ELISA. Randomly choose several pigs in each neighbor farm.

30 faeces samples of wild pigs near the village are collected.
- Considering the limited budget, the number of samples should be less than 1000.
- The PCR test are introduced to test the blood and faeces samples. It is because just infected pigs have not showed antibody response.

Stakeholder involved

- The farms, which are 1 kilometers around a case farm, should be sampling.
- The farms should administer a questionnaire around 3 kilometers from a case farm.
- The farmers, local vets, paravets and village heads had better all be involved in the investigation.

Source and transmission

Risk factors

- Pig movement: direct contact (including contact wild pigs)
- Pork products, like swill feeding
- Movement of vehicles or people
- Contamination of feed or environment
- Pets and pests

Source and transmission

Veterinarian questionnaire (only relevant information)

- Have any dead wild boars been found around recently? If yes, how was the body treated?
- Did you find any farm were reluctant to report dead cases in the last 3 months?
- Did you visit a farm within 2 days after visited a case farm?

Household farm or commercial piggeries questionnaire (only relevant information)

- Did you feed pigs with swill?
- Were vehicles disinfected before entering your farm?
- Did outsiders change their clothes and shoes before entering the breeding area?
- Did you have any freely-roaming animals?
- Did you control pests?

Production loss

Relevant household questionnaire

- After ASF outbreak, how many pigs were dead in your farm? How many pigs showed symptoms, but survived?
- How many pigs did you keep in your farm? The number of piglets, fattening pigs and adult pigs.

Evaluate the production loss

- According to the local pork price, estimated the production value of different pig groups
- Analyze how many affected pigs must be culled
- Count the number and grouping of affected pigs, evaluate the production loss of each farm

Summary /discussion

- A few ASF cases were reported in the past 2-3 years. Recently, 10 outbreaks occurred within 3 months. This may indicate that the ASFV has spread among wild boars and existed for a long time.
- Infected wild boars might affect household pigs by direct contact.
Or, indirect contact, like contaminant vehicles or pests.
- In household farms, the transmission of feeding swills should cause an attention.
- Cannot just cull symptomatic pigs.
- Most pigs might die before antibody response.