

Exposure Assessment

Panel Discussion

How has disease monitoring/surveillance been conducted in free-ranging swine?

- Passive – most common – works well for detecting emerging disease with high mortality, i.e. ASF, CSF
- Active – used more for research or targeted surveillance
- Tools: hunter-kill, aerial/ground shooting, trapping/chemical restraint, meat inspection, feces, rope (oral fluids)
- Determining disease freedom difficult but with good surveillance, can determine prevalence to be less than a low percentage with strong confidence.

Have surveillance and monitoring contributed to understanding diseases in free-ranging swine?

- Yes. Especially for local situations. Complexity is an issue for broad application of findings.
- Examples:
 - ASF in Georgia
 - FMD in Israel
 - TB in Spain

Have surveillance & monitoring contributed to understanding potential for transmission?

- Yes. In wildlife, livestock and humans.
- Important to integrate wildlife and domestic animal surveillance (VS and wildlife personnel collaborate).

What types of evidence-based knowledge exist about the source of diseases in free-ranging swine?

- Genetic sequencing important new tool to understand source of disease.
- Examples:
 - FMD in wild boar in Bulgaria/Turkey
 - CSF, ASF in Georgia and subSaharan Africa
 - CSF from domestics to wild boar from feeding infected pig products to wild boar.

How do free-ranging swine maintain diseases of concern endemically?

- Dependent on many factors: environment, behavior, population density, aggregation, pathogen genetics, swine genetics, etc.

What impacts do diseases have on free-ranging swine populations?

- May have large impacts.
- Examples: Spain – TB significantly impacts mortality in young swine. Combination of disease factors may have large effect on piglet mortality. Dependent on location, density, etc.
- FMD may cause high or low mortality in wild boar depending on outbreak.

What is the current state of knowledge about disease spread from free-ranging swine to agricultural animals?

- Examples:
 - *Brucella suis* to cattle
 - ASF infection between wild boar and domestic pigs
 - CSF from wild boar to domestics – Germany
 - ASF from wild boar to domestics – Baltic countries
 - *Brucella* from wild boar to domestics - Australia

What is the current state of knowledge about disease spread from free-ranging swine to wildlife?

- Examples:
 - TB from wild boar to wildlife in Spain
 - Aujeszky's disease from wild swine to bears and wolves
 - Avian malaria increase due to habitat damage from wild swine
 - Wild swine serve as vector for plant pathogens
 - Aujeskys and leptospirosis from wild swine to domestics

What is the current state of knowledge about disease spread from free-ranging swine to humans?

- Examples:
 - TB from wild boar to humans
 - *Brucella suis* from free-ranging swine to humans
 - Trichinosis
 - Hepatitis E
 - Hydatid cysts
 - Coliforms (*E. coli* 0157 H7)

Lacking information and data with regard to transmission, spread, & disease ecology in free ranging swine populations globally?

- Numerous, including:
 - Contact rates between wild boar and domestic pigs
 - Role of ticks in ASF in wild boar
 - Behavior of wild boar
 - Meaning of serology
 - Carrier states for different diseases
 - Methods uniformity and “truthing” of new techniques with old
 - Impacts of other diseases and combination of diseases