agriculture, land reform & rural development

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Compartmentalization: Challenges and pre-Requirements

Regional workshop on ASF compartmentalisation for Asia and the Pacific
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Challenges to implemt compartmentalization: Industry restructured

- Outbreaks of African Swine Fever (ASF) in China fundamentally restructured the entire hog/pork industry.
  - Larger producers, along with the development in applying `complete test and precision removal` after early outbreaks, have been able to quickly improve their biosecurity system and expand sow basis in their large, innovative, new facilities.
    - All top 5 producers have more than 1 million sows, the largest company has already owned 2.5 million sow, comparing the total number of sows was less than 2 million in top five companies even 3 years age.
    - Obviously, producers in this category must have learnt the knowledge of ASF prevention and maintain free status in the epidemic country.
  - Those producers that have not gain enough capability in ASF prevention.
    - early detection, differential diagnosis, quick and precise removal.
    - Sporadic outbreaks are inevitable .
- Implications: we will have much larger, compartment


员工生活区
配套完善
Super Large Farrow to Wean facilities
18000 PS sows
3000 sow GGP/GP
solid and liquid fertilizer













Bigger contract finishing sites, truck washers, centralized dispatching,

Many other affiliated facilities have almost daily contacts to pig farms

Challenges to implemt compartmentalization: Industry restructured

- Implications:
- we will be having much larger, complex, ever changing compartment !
- We will have to modify certification procedures and convince veterinary authorities to change accordingly.

Challenges to implemt compartmentalization: contaminated fomites

- Meat IS pork. When pork were contaminated, ASFV can easily reaches to kitchens in many family and then people could carry them to all places and products.
  - What about people packing your AI catheters, syringes, tools, … ?

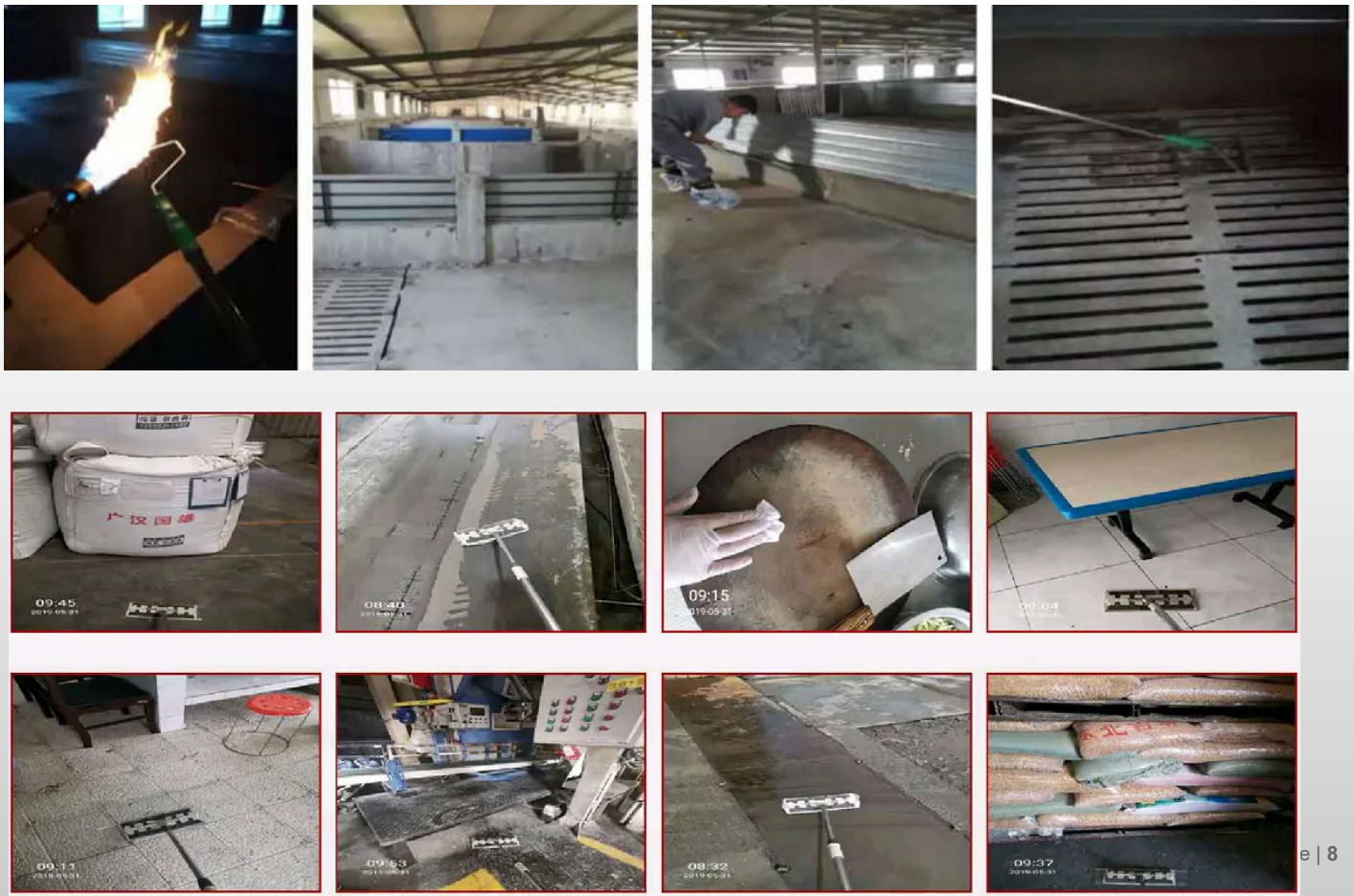
- Hair sampling case:
  - March 2021. regional company. Only hair swabs from all 86 employees. 3 questions asked (fresh pork contact? Live pig contact? Pig farm visit?)
  - Results:
    - 1st tests: 81% have directly contacted fresh pork; 6 visited pig farms. — 3 ASFV hair positives;
    - 2nd tests: 5 days later, same people. 83% fresh pork contact. — 2 ASFV hair positive.

Challenges to implemt compartmentalization: contaminated fomites

- Implications:
  - Almost all input materials coming into pig farms have to be disinfected
    - Normally twice to cut the possibilty of contamination.
  - Biosecurity facilities and procedures have to be strickly monitore to avoid pig - fomites contact without disinfection.
  - How long will a compartment be able to maintain ASFV free status?

Field verification trials: Field Sampling

- Oral, nasal, rectal, and surface swaps
- Pig pen surfaces, employee dormitories, feed mills swaps



Pre-Requirement

- Build ENOUGH your own qPCR testing capability
  - Yes your own lab if you want save as many pigs as possible and survive from ASF pandemic;
    - Do you have enough testing kitts in you regions?
- Be ready to test vast amount of swabs !
  - To stop ASFV-pig contact during outbreaks;
  - To stop within herd transmission during precision removal process;
  - To determine biosecurity emphasis and direction;
- Be ready to dispose large amount infected AND `possibly contacted` pigs!
  - We quickly realized a misdion to cull entire herd/farm impossible, we had to precisely remove only those positive and `possibly contacted` pigs.



Socio-Economic Challenges of ASF

- In poor and developing countries, families keep pigs for sustenance.
- Pigs are a cheap convertor of waste to protein.
- Lack of financial resources to buy commercial feed or to cook kitchen waste.
- Disposal
- Risk of other diseases and zoonosis



Cost of biosecurity measures

- Zoning vs Compartment – financial input for compartment is borne by the owner of the compartment.
- Infrastructure
- Training of workers
- Procuring disease free stock
- Auditing of compartments



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