2011 Trip to Russia - ASF

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Fun facts about ASF

• Asfarviridae

• Swine-specific virus

• Very hardy in the environment
  – Can withstand wide range of pH
  – Resistant to certain disinfectants
  – Can be killed by high heat
How is it transmitted?

- Maintained in specific ticks

- Infected pigs, meat/scraps
  - Also infected equipment

- Feral pigs/wild boars
  - Can travel up to 400km
  - African warthog is not affected
What does it do to the pig?

- High fever (105-106 F; normal is ~ 101 F)
- Rapid death after infection (<7 days pi – high virulence)
- Looks like other diseases (PRRS, PCV, Salmonella)
How can it be controlled?

- Speedy diagnosis and euthanasia of sick pigs
- Burn/bury facilities (old with raw wood)
- Disinfection and downtime for modern facilities
- Aggressive biosecurity measures

- But...NO vaccine is available
So, why Go to Russia?
Why is ASF of concern?

• ASF is a Foreign Animal Disease
  – Never has been in the U.S.

• ASF research/development not been well-funded

• Has been ignored as a disease of Africa and not considered as a threat to the U.S.

• Looks like other diseases of swine with high fever
Why is ASF of concern?

• The Russian Federation has seen a dramatic increase in outbreaks since 2008

• Spread of ASF throughout the country has been dramatic!

• In 2011, looked for opportunities to learn about ASF and collaborate with researchers/scientists from Russia
Attendees for the trip to Russia...
Sites visited:

- Russian National Swine Breeders Union, Moscow
- National Center for Virology and Microbiology, Pokrov
- All-Russian Research Institute of Animal Health, Vladimir (also an OIE FMDV center)
So why is Russia having such a hard time controlling ASF?
Agricultural Production

46.40% - Private Households
7.70% - Peasant Private Farms
45.90% - Agricultural Enterprises

Rosstat
Pork

Per Capita Consumption 2010
Russia 48.4 lbs    USA 59.8 lbs

Production (MMT CWE) Russia
Consumption (MMT CWE) Russia

USDA PSD and Rosstat
Russian Pork Production

• Majority of production is small stakeholders/peasant farms

• Only have started to grow “commercial” operations within the last several years

• Many small farms house free-ranging pig with little to no biosecurity measures
Role of State

General
Implementing State Programs, e.g.:
- Development of Agriculture, 2008-12
- Development of Beef Breeding, 2009-12
- Food Security Doctrine

Spending $2.7 billion for interest rate subsidies out of $5.1 billion federal agriculture budget

Sorting out regulations with Customs Union members Belarus and Kazakhstan

Meat and Dairy
- Currently investing heavily in dairy, livestock, and poultry production
- Blocking Imports through Tariff Rate Quota’s (TRQ’s) and high tariffs for above quota imports
- 85% self-sufficiency target in poultry/meat and 90% in dairy production by 2020

Grains/Feed
- State Intervention Stocks stabilize grain prices
- Less active in promoting feed industry
- $105 million spent last year fighting drought, lack of seeds
- Frozen price of mineral fertilizers
Long Term Swine Production

Million Head

Graph showing the number of million head of swine production from 1988 to 2011.
Russia: 453,390 sq-mi of Arable Land
(United States: 637,092 sq-mi)
Top Pork Producing Areas

#1

#2

#3

#4

#5

#6
ASF Outbreaks
Possible Spread of African Swine Fever from Endemic Zone
What is the current status for ASF?

- Newest infection reported = Republic of Karelia (bordering Finland)
  - Reported on 2-27-12
  - Linked to waste feeding of contaminated hospital and school scraps to village pigs
  - At risk with populations of wild boar and on the seasonal edge of species distribution (i.e. they will move ...far away)
Impacts and Outcomes

• Impact for ASF in Russia:
  – Total damages ~ $3 billion roubles ($110 million US)
  – 50% decrease in # of large farms (compared to 2010)
  – Decrease of pigs by 35% between 2010-2012
  – Rosselkhoznadzor cancelled licenses of many producers
Impacts and Outcomes

• For the U.S.
  – Strengthen research on ASF
  – Develop/validate U.S. test kits
  – Focus on on-farm biosecurity
  – Focus testing on swill feeders (surveillance)
Outcomes for ASF

• Increased awareness of this damaging disease

• Increased focus and funding for ASF
  – Oral fluid testing
  – Genetic characterization of isolates
  – Potential vaccine development

• Increased collaboration with Russian researchers
Questions?