

# Monitoring trade patterns of different potential fomites and carriers of ASF-virus

## Risk assessment and risk mitigation

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- Draught in Denmark in 2018 - need for imports of grain
- Straw, silage, hay, wrap
- Soya, fats and oils



# Draght in Denmark in 2018

- Denmark is normally not importing grains (wheat, barley, corn/maize) for pig production
- Major potential suppliers were Russia, Ukraine and Eastern Europe – all had ASF in wild boar
- Need at least 1 mio. ton



# “Risk assessment”

- Very restricted data at that time
- Scott Dee (2017) – ASF – virus mixed into ingredients can survive for weeks to months
- No data on survival on whole grain.

- What to do?

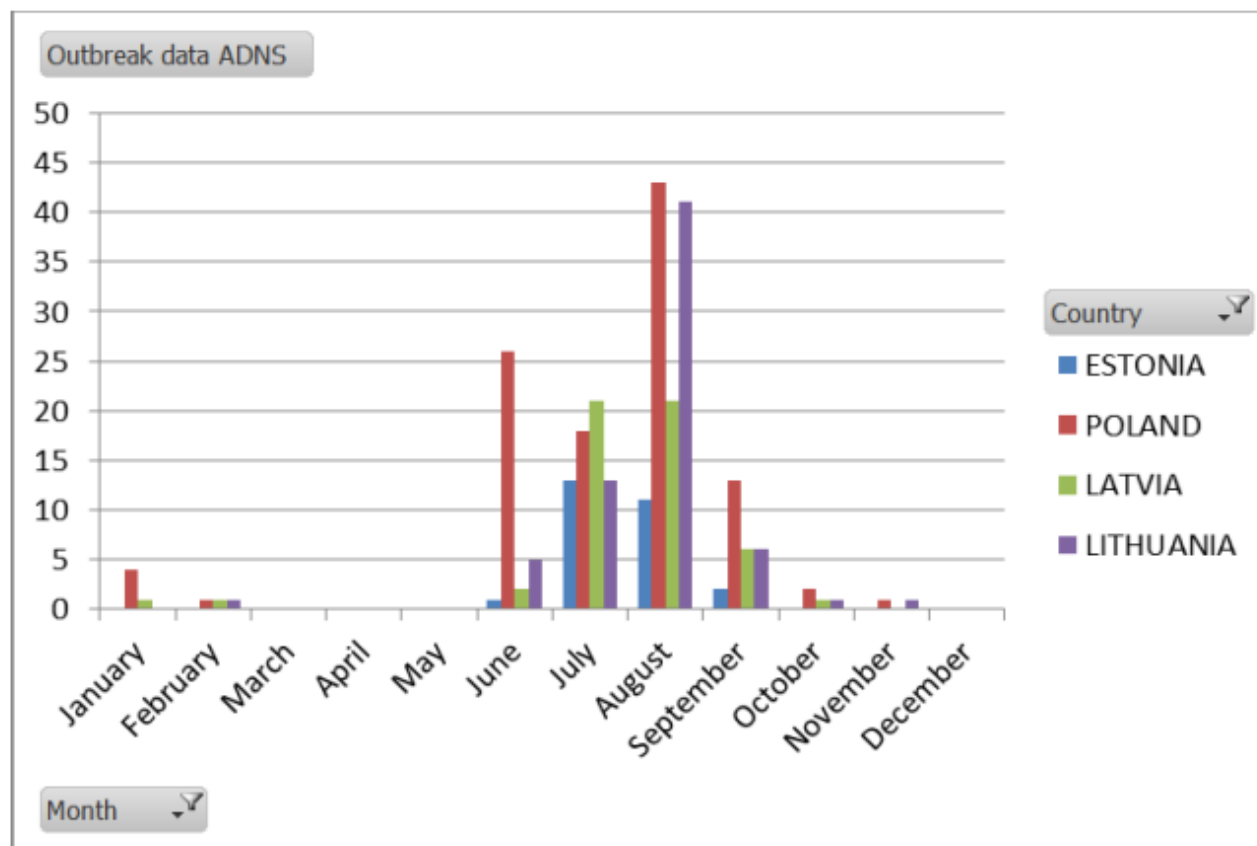
Estimated survival of ASFV (days)					
Sample type	Viable ASFV				
	Mean initial titre (TCID <sub>50</sub> )	Temperature			
		4°C	12°C	21°C	37°C
Faeces	$1 \times 10^{4.83}$	8.5	6.5	5.1	3.7
Urine	$1 \times 10^{2.94}$	15.3	7.5	4.8	2.9
Oral Fluid	–	–	–	–	–

# “Risk assessment”

- Very restricted data at that time
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- What to do?
  - Epidemiological observations



# Observations in affected countries



**Flour 2.** Udbrud i tamsvin fra 2014-2017. Inkluderer udbrud i baaårdsbesætninoer. Udtrukket fra EU-databasen af Sten





# Time-span

- Discussions with the feed mills
  - Minimum 4 weeks time span between harvest and arrival at Danish pig farm





# Conclusion

- Whole grain can be imported from areas with ASF
  - End of September very few new infections in domestic pigs in Eastern Europe
  - No introductions into Western Europe that could be attributed to import from Eastern Europe
  - 4 weeks between harvest and feeding

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## Stability of African swine fever virus on heat-treated field crops

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# BUT

- We realized, that we had to monitor shifting trade patterns
- Regular meetings with the feed mills to discuss changes as they happen
- Close contact to advisors, veterinarians and producers



# Straw, hay, wrap, silage

- Some import for horses
- Possibility of parts of wild boar in the product
- Danish product standard
  - No imported straw, hay, wrap, silage from ASF-affected countries is allowed on a Danish farm with pigs

# Soya from ASF-affected countries

- Organic soy is produced in Asia
- Long transport on land and sea
  - Possibility of cross-contamination
  - Long survival-time of virus (Scott Dee (2017) )
- Danish Product Standard
  - Has to be heat treated before it is used for pigs



# Summary

- Feed and feed ingredients have complicated and changing trade patterns
- As an industry we have to monitor changes in trade patterns
  - Close contact between all stake holders
- Sometimes risk assessments are difficult to do because of lack of data

