African swine fever virus spread in Estonia: the preliminary results of epidemiological investigations

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Vilnius, Lithuania
ASF in 2014

- the first confirmed ASF case in Estonia- **08.09.2014**

- the first confirmed ASF case in northern Estonia- **18.09.2014**

The first cases of ASF confirmed by EU countries:

- Lithuania 24.01.2014
- Poland 14.02.2014
- Latvia (southeast) 26.06.2014
- Latvia (northern) 18.07.2014
Origin of infection

- **Southern introduction:**
  mortality is high, a lot of cases are reported, where in one place more than one dead animal (even up to 16), most of cases lab result -ASFV (PCR) pos and ASFV ab neg

Origin- probably WB movement from Latvia.

- **Northeast introduction:**
  mortality is low, no cases reported, where is more than one dead animal, most of cases lab result- ASFV (PCR) neg and ASFV ab (strong) positive

Origin- probably human introduction:
Possible scenarios: Human introduction with infected meat/ABP-s
  from the south
  from the east
Probably has happened first –
  the first animal Ab pos – was infected already in first week of sept
ASF positive wild boar in 2015
January – August
Total: 371 ASF cases in 11 counties
ASF positive wild boar in 2015
January - December

Total: 1 095 ASF cases in 11 counties
ASF positive wild boar in 2016

SAK leiud metssigadel
- 24.-30. september 2016
- Varasemad

Maakonna piir
Jahipiirkonna piir
Wild boar cases 2014 – 2016 (up to 30.09)

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wild boar tested</td>
<td>1,056</td>
<td>9,565</td>
<td>11,322</td>
</tr>
<tr>
<td>found dead / killed</td>
<td>177</td>
<td>930</td>
<td>769</td>
</tr>
<tr>
<td>hunted</td>
<td>879</td>
<td>8,617</td>
<td>10,553</td>
</tr>
<tr>
<td>Wild boar cases</td>
<td>73</td>
<td>1,095</td>
<td>1,128</td>
</tr>
<tr>
<td>found dead / killed</td>
<td>65</td>
<td>686</td>
<td>640</td>
</tr>
<tr>
<td>hunted</td>
<td>8</td>
<td>409</td>
<td>488</td>
</tr>
<tr>
<td>only Ab positive</td>
<td>1</td>
<td>90</td>
<td>176</td>
</tr>
<tr>
<td>Ab + PCR positive</td>
<td>2</td>
<td>95</td>
<td>107</td>
</tr>
</tbody>
</table>

2,296 total number of ASF pos WB in Estonia starting from 2014
The virus circulating in Estonia

Belongs to the p72 genotype II

Circulating ASFV is 100% homologous with the virus isolated from wild boars and domestic pigs in Latvia, Lithuania and Poland in 2014, and with the ASF virus isolated in Belarus in 2013 (Bel13/Grodno)

New subgenotype II- Tartu

New central variable region (CVR) genetic variant found in Estonia: characterized by the deletion of three aminoacid tetramer repeats (CASMCADTNVDT)
## Domestic pigs herd structure

### September 2014

<table>
<thead>
<tr>
<th>Herd size category</th>
<th>No of herds</th>
<th>No of pigs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-99</td>
<td>792</td>
<td>5039</td>
</tr>
<tr>
<td>100-499</td>
<td>24</td>
<td>4035</td>
</tr>
<tr>
<td>&gt;=500</td>
<td>104</td>
<td>371 016</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>920</strong></td>
<td><strong>380 090</strong></td>
</tr>
</tbody>
</table>

### September 2016

<table>
<thead>
<tr>
<th>Herd size category</th>
<th>No of herds</th>
<th>No of pigs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-100</td>
<td>117</td>
<td>1302</td>
</tr>
<tr>
<td>101-499</td>
<td>17</td>
<td>4452</td>
</tr>
<tr>
<td>&gt;500</td>
<td>71</td>
<td>263 242</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>205</strong></td>
<td><strong>268 996</strong></td>
</tr>
</tbody>
</table>

1 herd/ 21 km² inhabited land  
~15 pigs/km²  
~ 2,2 small holder pigs/ 10 km²  

111 094 pigs less than in 2014
Pig industry in 2015

330,440 pigs
586 holdings
Pig industry in 2016

268,996 pigs
205 holdings (as of 30.09.2015)
Domestic pig outbreaks 2015 – 2016 (up to 05.10)

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of pig farms</td>
<td>920</td>
<td>450</td>
<td>205</td>
</tr>
<tr>
<td>Number of outbreak farms</td>
<td>0</td>
<td>18</td>
<td>6</td>
</tr>
<tr>
<td>backyards (1-15)</td>
<td></td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>small producers (100-500)</td>
<td></td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>producer (1 100-6 500)</td>
<td></td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Total number of pigs in outbreak farms</td>
<td>0</td>
<td>22 264</td>
<td>6812</td>
</tr>
<tr>
<td>Ab positive farms</td>
<td>0</td>
<td>6</td>
<td>4</td>
</tr>
</tbody>
</table>

Occurrence of outbreaks

- 27.06-3.07: 2
- 4-10.07: 1
- 11-17.07: 1
- 18-24.07: 1
- 25-31.07: 3
- 01-07.08: 4
- 08-14.08: 3
- 15-21.08: 2
- 22-28.08: 2
- 29.08-04.09: 1
- 05-11.09: 1
- 12-18.09: 1
- 19-25.09: 1
ASF outbreaks in domestic pigs in 2015 and 2016 (up to 05.10)
Some clinical and epidemiological observations

• **Moderate contagiousness**
  – Virus can remain in one pen or part of the building for 1-2 weeks or even more
  – Not all pigs in affected pen will be infected

• **First symptoms can be very mild and unspecific**—anorexia, unwillingness to stand, pigs of the affected pen are silent, no clear temperature reaction always
  – Severe disease was observed in ~50% of outbreaks
  – Often starts in sows (with piglets)

• Often low or very low morbidity and mortality

• Seasonality

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**Cause of outbreaks:**
- Biosecurity mistakes
- Contamination of feed

**Circulation of ASFV in wild boar population!**
Thank you!

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