Expert mission on African swine fever in Estonia

Standing Group of Experts on ASF
in the Baltic and Eastern Europe region
GF TADs – 3rd Meeting (SGE3)
Moscow, 15 – 16 March 2016

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SGE Experts

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- **Konstantine Gruzdev** *(FGBI, ARRIAH, Russia)*
- **Sergei Khomenko** *(FAO)*
- **Vittorio Guberti** *(ISPRA, Italy)*

Period of mission

28 Sept. - 2 Oct. 2015
Terms of Reference

- The experts should perform **on the spot visits** in order to gather data and be in a position to formulate recommendations on disease management.

- The experts should work with the Veterinary Services in order to determine the following aspects:
  - If African swine fever (ASF) is **occurring in domestic pigs** (both in commercial sector and the so called back yard sector) and extent of the areas of occurrence.
  - If ASF is **occurring in wild boar** and geographical distribution of ASF in wild boar.
  - Formulate hypothesis on the **drivers of ASF occurrence** for domestic pigs and back yards.

- **Propose measures** intended for the control and eradication of ASF under local conditions, in line with the OIE International Standards.
Modus Operandi
(a three steps working approach)

I. Understanding the national strategy for ASF control and eradication
   (discussions at central level)

II. Implementation of ASF strategy at regional level
    (visit of affected districts/regions, discussion at local veterinary service)

III. Implementation of ASF strategy at farm/hunting ground level
    (visit of commercial farm, backyard, hunting ground)

DOMESTIC PIG SECTOR
- Commercial sector
- Backyard sector

WILD BOAR SECTOR
- General management
- Specific control measures


**Places visited:**

- Central Veterinary Authority in Tallinn
  *(Central Veterinary Administration within the Ministry of Agriculture)*

- two regional veterinary administrations in Võrumaa and Järvamaa Counties

- two large pig commercial farms

- two backyard farms

- two hunting grounds
The first: 21.07.2015 in Valga County in a back yard holding with one pig. By the end of September 2015 18 outbreaks have been notified and over 22,000 pigs had to be culled. Passive surveillance played the major role; 17 out of the 18 outbreaks were detected by passive surveillance.

Estimated WB population: ~22,000 wild boar
The ASF statistics for 2014-2015 suggests that virus prevalence in hunted wild boar is relative high (3-4 %). This implies that wild boar carcass management and biologically secure handling (dressing) of shot animals are of paramount importance for prevention of ASF from entering into pig holdings and spread by hunters.

<table>
<thead>
<tr>
<th>Species</th>
<th>Number tested / number positive</th>
<th>PCR positiv</th>
<th>Ab-ELISA positiv</th>
</tr>
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<tbody>
<tr>
<td>Domestic pigs</td>
<td>3521/172</td>
<td>172</td>
<td>5</td>
</tr>
<tr>
<td>Wild boar</td>
<td>3649 / 390</td>
<td>354</td>
<td>49</td>
</tr>
<tr>
<td>Total</td>
<td>7170/562</td>
<td>526</td>
<td>54</td>
</tr>
</tbody>
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Outbreak farm: BYF, CF. All pigs are culled, cleaning and desinfection.

Protection Zone (PZ): 3 km. Stand still, clinical and laboratory investigations

Surveillance Zone (SZ): 10 km. Stand still, clinical and laboratory investigations

Restricted zones in connection with the disease in wild boar; additional measures concerning live animals and meat/meat products, etc...
Control strategy: regionalisation
Surveillance domestic pigs

In areas under ASF restrictions:
In commercial farms: 29 blood samples are taken every 4 months

In all other areas pigs are sampled and tested by PCR in case suspicion (disease with fever, mortality due to suspected infectious disease and suspicions during home slaughtering).

Additional infected areas around wild boar cases: at least 200 km².
All pig holdings within those areas are inspected ones a month. During the inspections biosecurity measures are evaluated, the pigs are counted and the health status of the herd is checked. In case of suspicion samples are taken. Home slaughtering must be notified to the local veterinary administration 48 hours prior slaughtering, so that ante and post mortem control can be carried out.

Large commercial farms play the major role in pig production in Estonia. At present (by August 2015) 330.440 pigs are kept in 586 farms. 70% of the farms raise 10 or less pigs. However, only 0.4% of the pigs are raised in these small holdings.
The surveillance approach for detection ASF in wild boar is both passive and active. The Estonian government subsidizes the detection and disposal of wild boar carcasses. People (most often hunters) who find carcasses receive 35 Euro for taking the carcass to a disposal container or 75 Euro if the carcass is buried on site. Dead wild boar are tested for ASF all across the country.

All wild boar shot in the restricted areas (infected areas and Part 2 and Part 3 areas according EC Decision 2014/709) are tested with PCR (and if relevant then with ELISA also).

All wild boar from Part 1 (Decision 2014/709) that are to be moved outside the area are also tested.

In the unrestricted part of the country 2 % of shot wild boar are tested for ASF with PCR and if relevant then also with ELISA.
Conclusions and recommendations

The veterinary service is well prepared, having a clear structure and organization at central and regional level ensuring fast reaction in case of a crisis.

The main key factors responsible for the spread of ASF in Estonia have been recognized by the veterinary service and have been addressed clearly.

Huge effort has been made to increase the biosecurity standard of the farms, respectively to close down farms which do not comply with the biosecurity requirements.

The epidemiological investigations are conducted professionally by the veterinary administration as well as by an independent expert team from the University of Tartu.

It is assumed that a huge virus pressure during the summer months due to the multiple ASF cases in wild boar and insufficient biosecurity in most of the affected farms facilitated the outbreaks.
Conclusions and recommendations

The monitoring and surveillance data for domestic pigs provide a realistic epidemiological picture of ASF in Estonia. However, some improvement is needed concerning the surveillance plan in commercial farms which at present is based on an expected disease prevalence of 10% with 95% confidence of detection. The present approach (10/95%) is one of the weakest points of the surveillance plan.

The surveillance and monitoring activities should be based on the biological characteristics of ASFV. Surveillance in domestic pigs should be focused on ASF early detection based on passive surveillance. Instead of testing 29 healthy animals in a commercial farm it would be better to test only animals which are suspicious for being infected.
Conclusions and recommendations

The surveillance for ASF in wild boar is capable of timely detecting the disease. However, testing of 2% of shot wild boar in ASF free areas is not likely to have much added value. ASF detection in the unrestricted (ASF free zones) through passive surveillance (finding dead animals) is much higher (and much more likely).

The way ASF cases are recorded and reported creates some confusion (i.e. using an index case to denote a new infected area and then reporting subsequent cases as if they were epidemiologically linked to the index case and amongst each other).

There is little evidence that ASF cases in Estonia are spatio-temporarily clustered (instead the disease seems to gradually diffuse northwards through the population and is detected rather randomly).

It is recommended that case reporting in wild boar should be based on individual locations.
Conclusions and recommendations

The high prevalence of ASF virus in wild boar populations in Estonia poses a significant risk of ASF introduction to pig farms with insufficient biosecurity. There is a room for decreasing these risks both on the side of farmers and hunters.

Ensuring higher biosecurity standards during hunting becomes a critical issue in ASF prevention and control.

The decisions to introduce a ban on supplementary feeding and to have a hunting bag with female to male ratio of 60/40% are reasonable management solutions which might lead to a substantial wild boar reduction (50%). However, these are midterm measures unlikely to give an immediate positive effect.