GF-TADs
GLOBAL FRAMEWORK FOR THE PROGRESSIVE CONTROL OF TRANSBOUNDARY ANIMAL DISEASES

Food and Agriculture Organization of the United Nations

WORLD ORGANISATION FOR ANIMAL HEALTH

Standing Group of Experts on African swine fever in the Baltics and Eastern Europe Region under the GFTADs

Expert mission on African swine fever in **Russia**
REPORT[1]

- **Period:** 13 – 17 July 2015

- **SGE Experts:** Klaus Depner (team leader, Germany); Silvia Bellini (Italy); Konstantine Gruzdev (Russia), Vittorio Guberti (Italy)

- **Time schedule and places visited during the mission:**
  - 13 July: Arrival in Moscow
  - 14 July: Opening meeting in Moscow at Rosselkhoznadzor, the Central Veterinary Administration within the Ministry of Agriculture
    Departure to Smolensk Region (oblast)
  - 15 July: Visit of Smolensk oblast
    Morning – Meeting with officials from the regional veterinary service of Smolensk as well as with regional hunting authorities
    Afternoon – Visit of a commercial farm, a hunting ground and a district veterinary office (Vyazma District State Veterinary Service)
  - 16 July:
    Morning – Meeting with officials from the regional veterinary service of Smolensk
    Afternoon – Visit of an ASF affected back yard farm in Vyazma (Smolensk oblast)
  - 17 July: Final meeting at Rosselkhoznadzor in Moscow

On July 15, from 11.00 till 19.00, in order to save time and cope with the tight agenda, the mission split into two working groups, one interpreter per party. One group went to the hunting ground; the other group visited the commercial farm. Both interpreters kindly cooperated.

- **Terms of reference**

[1] Disclaimer: The views and recommendations expressed in this document are those of the independent experts and may not in any circumstances be construed as the official position of their organisation, nor of the EC, OIE or FAO

1. The experts should perform on the spot visits (as detailed in the Annex) in order to gather data and be in a position to formulate recommendations on disease management.
2. 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.
3. Propose measures intended for the control and eradication of ASF under local conditions, in line with the OIE International Standards.
4. The experts should report to the Standing Group of Experts on African swine fever in the Baltics and Eastern Europe under the OIE/FAO GF-TADs and to the Veterinary Services of the country being visited. A written report should be produced for each mission.

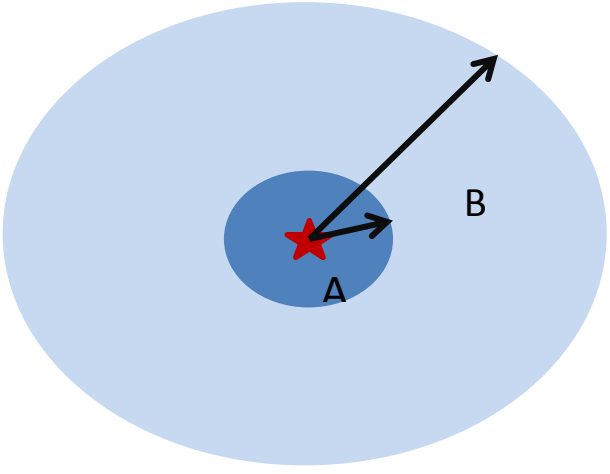
Details concerning the Terms of References and the persons who were met during the mission are in the Annex.

Findings of the mission

General principles of ASF control in the Russian federation

The procedures of control and eradication measures for ASF (as well as other transboundary animal diseases) in the Russian Federation are following the following principles:

- The place where a case or outbreak of ASF has been confirmed is declared as a ***Centre of Infection*** (CI). The CI can be a back yard holding, or an entire village, a commercial farm, as well as the place where an infected wild boar has been found. The area of a CI can have a radius up to 5 km. Within the CI all pigs are culled followed by cleaning and disinfection.
- Around the CI a so called ***1st Endangered Zone*** (1EZ) is established. The radius of this zone can vary between 5 and 20 km. All pigs within this zone will be slaughtered, no movement of pigs out or into the zone is allowed. The measures are applied for at least 7 months. Commercial farms which are located in 1EZ can be excluded from slaughtering if they have a high level of biosecurity (level 3 or 4).
- Around the 1EZ a ***2nd Endangered Zone*** (2EZ) is established. The radius of this zone can vary between 100 and 150 km. No movement of pigs out or into the zone is allowed without veterinary permission and pork products have to be heat treated.



A: 1st Endangered Zone;
(radius of min. 5 km, max. 20 km)
B: 2nd Endangered Zone
(radius of min. 100 km, max. 150 km)

Similar measures are applied if ASF is detected in wild boar, the legislation does not differentiate between outbreaks in domestic pigs or cases in wild boar.

Pig production in the Smolensk oblast

The Smolensk oblast is located in the western part of the Russian Federation, bordering with Belarus and has a surface of about 49.000 km^2 of which about 42% are covered by forest (20.000 km^2 forests). About 1 million people are living in the region of which 370.000 in Smolensk city. Administratively the oblast is divided in 25 districts.

At present about 221.000 pigs are kept in Smolensk oblast in the following farm systems:

- 210.000 pigs in five large commercial farms
- 160 pigs in five small private farms (small commercial farms)
- 10.000 pigs in about 6000 back yard farms (households)
- 1100 pigs in prisons (penitentiary)

No outdoor keeping of pigs is practiced in the Smolensk oblast. The commercial holdings are categorized according to their biosecurity level in 4 categories (Cat. 1: no biosecurity; Cat. 4: very high biosecurity). Commercial pig farms which are not affected by ASF but which are located in an endangered zone can be excluded from slaughtering if they belong the biosecurity categories 3 or 4.

ASF in domestic pigs in the Smolensk oblast

So far 11 outbreaks of ASF were notified in Smolensk oblast: 5 outbreaks in 2013; 5 outbreaks in 2014 and one outbreak in January 2015. The first outbreak in the Smolensk oblast was notified in July 2013. All outbreaks occurred in back yard holding with only few pigs and poor biosecurity and almost all outbreaks were located in villages along the main road connecting Moscow with Minsk. No commercial farms were affected by ASF.

The ASF affected back yard holding in Vyazma village visited by the expert team had two pigs of which only one was infected. It was assumed that the low biosecurity of the holding and human failures were responsible for ASF virus introduction. After notification all pigs in the back yard holdings within a radius of 5 km were culled.

A scientific risk assessment (e.g. following OIE guidelines) for Smolensk oblast determining the main ASF risks for domestic pigs and wild boar has not been conducted so far. However, low biosecurity in back yards and human factors are considered to be the main factors for introduction and spreading of ASF. Since Smolensk is a transit region a huge risk of virus introduction is seen with vehicles (trucks, cars) which are on transit through Smolensk coming from neighbouring countries and oblasts.

Monitoring and surveillance programme for domestic pigs

The present ASF surveillance regime for domestic pigs conducted in Smolensk is set up by the federal administration (Rosselkhoznadzor). For each year the regional administration receives the

plan in which it is listed how many pigs have to be sampled and tested quarterly in each district. The plan is based on a disease prevalence assumption of 5% with 95% confidence of detection. The samples are taken randomly and are tested in specialized laboratories by PCR.

Additionally to this federal ASF surveillance plan, in large commercial farms 5% of each batch of the pigs going for slaughter are sampled (blood samples) and tested by PCR. Pigs from the backyard sector are so far not included in an ASF targeted surveillance or monitoring programme and their registration and census is not under the control of the veterinary services.

Wild boar and wild boar management in the Smolensk oblast

The Smolensk oblast is divided in 142 hunting grounds (registered as Individual Economic Entities) with an average size of about 30.000 ha (range 5.000 - 85.000 ha). Most of the hunting grounds are privately managed with few of them selling hunting quotas. However, 13.5% of the forested areas of the oblast is managed as Commonly Accessible Hunting Grounds in which all the citizen of the oblast with a hunting licence can hunt. The hunting season lasts all year. Each hunting ground has a management plan in which according to the characteristics of the habitat a sustainable minimum and maximum number of wild boar is calculated. The plan must be implemented in order to maintain the wild boar population between the minimum and maximum established figures.

The wild boar population density is estimated through line transects. In the oblast 926 line transects (length: 4.5-12 km) are checked during snow cover in January-February. Animal tracks are recorded including their precise location and direction. Based on each single record a specific algorithm (based on Formozov's formula) is used to estimate the density and the total number of animals. Before ASF was detected in Smolensk oblast (February 2013) the estimated wild boar population was 19.014 animals and the animal densities ranged from 0.5 to 1.9 wild boar/1000 ha. The post reproductive population is expected to increase by 80%.

Action foreseen after ASF detection in wild boar

When ASF is detected in wild boar, the ASF Commission establishes according to the epidemiological an environmental situation the infected area that might consist of a small part of the hunting ground, the entire hunting ground or several bordering hunting grounds. Sport and hobby hunting are banned and only shooting for monitoring purposes and depopulation is allowed. This activity is carried out by employees of the hunting ground(s) as well as by ad hoc recruited hunters and officers of the Regional Forest and Hunting Office. The regional office is also in charge of supervising and coordinating the hunting activities. The final goal is to reduce the wild boar density in order to achieve a regional average density of 0.09 wild boar/1000 ha (0.009/km^2). In some areas the density reached 0 animals/1000 ha. The maximum registered density is 0.25/1000 ha (0.025/km^2).

All shot animals are tested and are immediately destroyed independently from the test results. Movements of meat/trophies are illegal. The samples for ASF testing are taken by veterinarians employed by the hunting grounds and are sent directly to a specialized laboratory. Poor attention is given to carcass detection in the field and thus active surveillance (hunting/shooting) is the sole foreseen activity for virus detection.

Control measures are lifted once the planned density is reached and no cases have been detected during the previous 6 months.

Wild boar winter-feeding (about 1 feeding point/500 ha) is compulsory and aimed in reducing movements/dispersal. Targeted shooting of adult females is aimed since herds without leading females are more likely to remain in their natural home range.

ASF control and eradication in wild boar in Smolensk oblast

The region was affected by ASF in wild boar first time in June 2013 (45 cases). In 2014 51 cases were recorded, whereas no cases have been detected in 2015. Almost all cases have been detected through active surveillance (shooting for monitoring). Passive surveillance played a very minor role in ASF detection.

The ASF virus was firstly detected in animals found dead in the northeast part of the region, far from the index case in domestic animals. Movement of infected wild boar from the neighbouring infected oblast was considered the most likely source of infection. Then the virus spread south till reaching the highway road connecting Moscow with Minsk (M-1). However, in 2014 a cluster of wild boar cases was detected southeast, close to the border with Belarus. Again movements of infected wild boar were considered the most likely source of infection. During 2014 the virus could be detected in both previously infected areas in 2013 and south to the highway (M-1); most of the region being infected. Intensive depopulation has been carried out and in any infected district the wild boar density was reduced till reaching an average of 0.09 animals/1000 ha. At present the wild boar density is very low and no cases have been detected through active surveillance.

CONCLUSIONS

The veterinary service in Smolensk region composed of the Rosselkhoznadzor territorial office for Smolensk oblast and the regional veterinary service is well structured and is conducting the control and eradication of ASF in the region.

Publications on the Rosselkhoznadzor's web-site with the evaluation of the ASF epidemiological situation was found very useful also at field level (GOOD PRACTICE)

The regional veterinary services are controlling and providing biosecurity at large commercial pig farms. The pig commercial holding visited by the team is well conducted and has a high level of biosecurity.

In case of an ASF outbreak the veterinary service reacts promptly and immediate efficient measures are taken. Furthermore the veterinary service is well linked with other state bodies involved in disease control and eradication (e.g. police, local administrations, state hunting associations, etc.).

However, some essential improvement is needed in the area of surveillance and risk based prevention. So far the monitoring and surveillance activities for ASF are following recommendations issued by the federal veterinary service (Rosselkhoznadzor) but they are not taking into account the epidemiological particularities and regional risks factors posed by ASF.

The surveillance activities are not based on scientific grounds, which take into considerations the biology of ASF. Therefore, the monitoring and surveillance data for domestic pigs and wild boar do not reflect the real epidemiological situation in the Smolensk region.

The surveillance plan conducted at present is based on an expected disease prevalence of 5% with 95% confidence of detection. However, since sampling is stratified according to districts and trimesters the actual sampling intensity can detect only a prevalence which is much higher than 5%. The present approach (5/95%) is one of the weakest points of the surveillance plan. Under such premises ASF virus may only be detected if at least half of the district in a specific trimester will be infected.

RECOMMENDATIONS

It is strongly recommended that an independent expert group should be established to assist the Central and Regional Veterinary Authorities in the design of the relevant surveillance activities. The group should consist of epidemiologists, risk assessors, laboratory experts and wildlife experts. On the basis of the epidemiological situation and a properly conducted risk assessment following OIE guidelines, the group should define the appropriate:

- measures of surveillance/control;
- sampling scheme;
- testing regime for clinical and laboratory examinations.

It is strongly recommended that a scientifically based ASF risk assessment following OIE guidelines should be performed. The risk assessment should focus on: (i) possible risks of ASF virus spread, (ii) the best management options for domestic pigs and wild boar, both in infected areas and in the bordering risk areas, (iii) the suitability, effectiveness and the practical aspects of implementation of the main measures.

The advising scientific group should evaluate the epidemiological findings and laboratory results on a monthly basis. The proportionality and effectiveness of measures should be checked continuously.

The surveillance and monitoring activities should be based on the biological characteristics of ASF. Surveillance in domestic pigs should be focused on ASF early detection and thus considering sick/dead animals avoiding planning in advance the number of animals to be tested. In this regard risk areas should be defined based on a risk assessment and when active surveillance is in place a representative number of animals should be tested considering that any sampling strategy (i.e. 5/95%) cannot be stratified in time (trimesters) without losing its expected detecting capacity.

For wild boar passive surveillance (dead animals) should be enhanced in both infected and risk areas while maintaining the actual level of active surveillance (shooting for monitoring). In wild boar, passive surveillance has been proved to increase 50 times the likelihood of virus detection.
A better sampling regime for domestic pigs and wild boar based on scientific grounds aiming of improving ASF prevention efforts does not necessarily imply that more tests have to be conducted. Important is to test a representative number of relevant animals in due time.

The proportionality and effectiveness of the measures conducted within the 1st and 2nd endangered zone should be re-evaluated taking into consideration the epidemiological particularities of ASF as well as risk patterns.

ASF training courses for veterinary inspectors at regional level following OIE guidelines are recommended. In particular the epidemiological aspects of the disease should be discussed and elaborated in particular focussing on early detection and prevention.

Final remark: *The working atmosphere during the mission was very good. The colleagues from Smolensk region gave all their support and assistance to facilitate a fruitful mission. The SGE team wishes to thank all colleagues from Russian Federation for their support and help given. All requested information and explanations were promptly received by the SGE team.*
Furthermore the support given by the two interpreters, Mrs Murina and Mr Burdenkov was excellent and very professional.

SGE team 21.07.2015

Annex 1

Template for on the spot visits in Lithuania – Belarus – Poland – Russian Federation – Latvia - Ukraine – Estonia

The visit should include at least two separate field visits in two separate locations. In each of these locations the following aspects should be covered:

- Visit a local veterinary office dealing with field work for a discussion with the official veterinarians dealing with the pig sector. Figures should be provided to the experts on local pig production on both industrial and backyard farms together with biosecurity practices and an overview of activities by the veterinary services.
- Visit of 2 or 3 medium to large pig farms (without entering the premises, so just seeing the farm from the outside for biosecurity reasons) and discussion with the farm owner/manager outside the farm or in the administrative premises.
- Visit to 1 or 2 hunting grounds in the infected area and discussion with forestry management officials as well as one or two representatives from local hunting associations.

In addition to the above, a short opening and closing meeting with the central veterinary services should be foreseen so to allow discussing national practices and recommendations. Data should be provided to the experts on national biosecurity measures, population estimates, regionalisation, and surveillance being carried out in both domestic and wild boar.
In order to facilitate the mission, the following information should be provided to the experts, possibly one week before the mission:

- Domestic pig data:
  - Pig population and its structure
  - ASF situation
  - What kind of surveillance is applied, and results
  - Control measures adopted to mitigate the risk of spread (domestic and backyards), and results.

- Wild boar management in the country:
  - A map of the hunting grounds
  - ASF in wild boars eradication/control strategy applied for 2014/2015 and what will be planned for 2015/2016
  - Efficiency of surveillance
  - Country self-evaluation of the strategy applied
  - Problems encountered

- Wild boar data for specific hunting grounds:
  - Applied biosecurity measures when hunting;
  - Sampling procedures
  - Wild boar estimates and hunting bag planning and achievement (how many in reality have been shot)

Annex 2

Persons involved in the discussions during the GF-TAD mission in the Russian Federation from 13-17 July 2015

Name	Function	Organisation
Kick-off meeting at Rosselkhoznadzor (MOAF) on 14 July 2015		
Vladimir SHEVKOPLYAS	Head of Directorate	Department of Internal Veterinary Control Rosselkhoznadzor
Olga PANYSHEVA	Head of Unit	Supervision over Anti-Epizootic Activities
Marina ZHUKOVA	Chief Specialist	Supervision over Anti-Epizootic Activities, Rosselkhoznadzor
Nikita LEBEDEV	Head of Unit	Cooperation with WTO and other International Organizations, Rosselkhoznadzor
Svetlana KAIGORODOVA	Specialist	Foreign Economic Relations and Protocol Department
Valeria CHMOVZH	Press service	Rosselkhoznadzor
Vladimir ZOLOTOV	First Secretary	Department of Cooperation with European countries, MOFA, Rosselkhoznadzor
Anna STAROVA	Deputy Head of Unit	Cooperation with WTO and other International Organizations
Alexey IGOLKIN	Head of Laboratory	ASF Reference Laboratory
Smolensk and Province, 15 – 16 July 2015		
Antonina GAPEENKO	Deputy Head	Smolensk Regional Department of Rosselkhoznadzor
Alexey SHYTIKOV	Deputy Head	Smolensk Regional Department of Rosselkhoznadzor
Irina AMIROVA	CVI, Head of Main Veterinary Department	Smolensk Regional Department of Rosselkhoznadzor
Yuriy SHARIN	Head of Department	Smolensk Regional Forestry Use and Hunting Control
Andrey KARAMYSHEV	Head of the Veterinary Service	Smolensk Regional State Veterinary Service
Maria TSATNEVA	Chief Specialist	Main Veterinary Department, Smolensk Region
Elena ZHURAVLEVA	Deputy Head	Department of the Veterinary Supervision
Marina ZHUKOVA	Chief Specialist	Supervision over Anti-Epizootic Activities Rosselkhoznadzor
Ruslan PORFIRIEV	Director	Hunting Ground “Smolenskoye”
Alla KOVTUNOVA	Head	Smolensk Region Safonovo District Veterinary Laboratory
Gennadiy GORYNKIN	Managing Director	JSC “Troparyovo”, Troparyovo-Koidakovo Unit
Anna ANDREICHENKO	Deputy Head	Smolensk Region Safonovo District Veterinary Laboratory
Andrei SELIVANOV	Veterinarian	Hunting Ground “Smolenskoye”
Galina VOROBYOVA	Head of District Service	Vyazma District State Veterinary Service
Andrey KRAVCHUTA	Chief Specialist	Anti-Epizootic Activities and Control Unit
Final meeting at Rosselkhoznadzor on 17 July 2015		

Name	Function	Organisation
Vladimir SHEVKOPLYAS	Head of Directorate	Department of Internal Veterinary Control
Anna STAROVA	Deputy Head of Unit	Cooperation with WTO and other International Organizations
Marina ZHUKOVA	Chief Specialist	Supervision over Anti-Epizootic Activities Rosselkhoznadzor
Svetlana KAIGORODOVA	Specialist	Foreign Economic Relations and Protocol Department
Valeria CHMOVZH	Press service	Rosselkhoznadzor
Interpreters		
Natalia MURINA	*Team Leader*	*DG SCIC*
Vladimir BURDENKOV		*DG SCIC*